

## Memorandum

TO : The Commission  
Through: Sadye E. Dunn, Secretary  
Through: Margaret A. Freeston, Acting General Counsel  
Through: Stephen Lemberg, Assistant General Counsel  
FROM : Carole Roth, OGC  
DATE: JUN 17 1981

SUBJECT: Briefing Package on Sulfuric Acid Drain Cleaners;  
VOTE SHEET

The attached package requests Commission decision on whether or not to propose a ban under section 8 of the CPSA of sulfuric acid drain cleaners which are consumer products.

Please indicate your vote on the options below:

1. Do not propose a ban on sulfuric acid drain cleaners. (If this option is selected, the staff will prepare for Commission approval an appropriate Federal Register notice explaining the Commission decision.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

- a. Approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

\_\_\_\_\_  
(initials)

- b. Do not approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

\_\_\_\_\_  
(initials)

2. Propose a ban on sulfuric acid drain cleaners. Instruct the staff to make any necessary additions or revisions to the draft Federal Register notice and to recirculate the notice for further Commission consideration.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

NOTE: This document has not been reviewed or accepted by the Commission.  
Initial \_\_\_\_\_ Date \_\_\_\_\_

357

SUBJECT: Briefing Package on Sulfuric Acid Drain Cleaners;  
VOTE SHEET

3. Abstain.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

Attachments

Page 2 of 2

NOTE: This document has not been re-  
viewed or accepted by the Commission.  
Initial \_\_\_\_\_ Date \_\_\_\_\_

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/

17 JUN 1981

UNITED STATES GOVERNMENT

U.S. CONSUMER PRODUCT  
SAFETY COMMISSION

# Memorandum

The Commission

TO : Through: Sadye E. Dunn, Secretary  
Through: Margaret A. Freeston, Acting General Counsel  
Through: Stephen Lemberg, Assistant General Counsel  
FROM : Carole Roth, OGC

RECEIVED  
OFFICE OF THE SECRETARY

JUN 17 1 27 PM '81

DATE: JUN 17 1981

SAFETY COMMISSION

SUBJECT: Briefing Package on Sulfuric Acid Drain Cleaners;  
VOTE SHEET

The attached package requests Commission decision on whether or not to propose a ban under section 8 of the CPSA of sulfuric acid drain cleaners which are consumer products.

Please indicate your vote on the options below:

1. Do not propose a ban on sulfuric acid drain cleaners. (If this option is selected, the staff will prepare for Commission approval an appropriate Federal Register notice explaining the Commission decision.

R. David Pittle  
(Signature)

7/9/81  
(Date)

- a. Approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

RDP  
(initials)

- b. Do not approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

\_\_\_\_\_  
(initials)

2. Propose a ban on sulfuric acid drain cleaners. Instruct the staff to make any necessary additions or revisions to the draft Federal Register notice and to recirculate the notice for further Commission consideration.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

NOTE: This document has not been reviewed or accepted by the Commission.  
Initial \_\_\_\_\_ Date \_\_\_\_\_

## Memorandum

RECEIVED  
OFFICE OF THE SECRETARY

The Commission

Through: Sadye E. Dunn, Secretary

Through: Margaret A. Freeston, Acting General Counsel

Through: Stephen Lemberg, Assistant General Counsel

Carole Roth, OGC

CR

JUN 17 1 25 PM '81  
DATE: JUN 17 1981U.S. CONSUMER PRODUCT  
SAFETY COMMISSION

OSL

SUBJECT: Briefing Package on Sulfuric Acid Drain Cleaners;  
VOTE SHEET

The attached package requests Commission decision on whether or not to propose a ban under section 8 of the CPSA of sulfuric acid drain cleaners which are consumer products.

Please indicate your vote on the options below:

1. Do not propose a ban on sulfuric acid drain cleaners. (If this option is selected; the staff will prepare for Commission approval an appropriate Federal Register notice explaining the Commission decision.

Sam Zagoria  
(Signature)

7/9/81  
(Date)

a. Approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

SS  
(initials)

b. Do not approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

(initials)

2. Propose a ban on sulfuric acid drain cleaners. Instruct the staff to make any necessary additions or revisions to the draft Federal Register notice and to recirculate the notice for further Commission consideration.

(Signature)

(Date)

## Memorandum

The Commission

TO : Through: Sadye E. Dunn, Secretary  
Through: Margaret A. Freeston, Acting General Counsel  
FROM : Through: Stephen Lemberg, Assistant General Counsel  
Carole Roth, OGC CR

SUBJECT: Briefing Package on Sulfuric Acid Drain Cleaners;  
VOTE SHEET

The attached package requests Commission decision on whether or not to propose a ban under section 8 of the CPSA of sulfuric acid drain cleaners which are consumer products.

Please indicate your vote on the options below:

1. Do not propose a ban on sulfuric acid drain cleaners. (If this option is selected, the staff will prepare for Commission approval an appropriate Federal Register notice explaining the Commission decision.

Eitz B. Hoa  
(Signature)

July 9, 1981  
(Date)

- a. Approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

EBH  
(Initials)

- b. Do not approve staff participation with industry on a voluntary program to address risks presented by sulfuric acid drain cleaners.

                      
(initials)

2. Propose a ban on sulfuric acid drain cleaners. Instruct the staff to make any necessary additions or revisions to the draft Federal Register notice and to recirculate the notice for further Commission consideration.

                      
(Signature)

                      
(Date)

UNITED STATES GOVERNMENT

# Memorandum

U.S. CONSUMER PRODUCT  
SAFETY COMMISSION  
WASHINGTON, D.C. 20207

JUN 4 1981

TO: The Commission  
THROUGH: Margaret Freeston, Acting General Counsel  
THROUGH: Richard A. Gross, Executive Director  
THROUGH: Bert G. Simson, Director, OPM *Bert G. Simson*  
FROM: Virginia A. White, Program Manager, Acute Chemical and Environmental Hazards Program, Office of Program Management *VAW*  
SUBJECT: Briefing Package on Proposal to Ban Sulfuric Acid Drain Cleaners

Attached, for your convenience, are copies of supplemental materials that are referred to in the June 3, 1981 subject briefing package. These materials are available to the public in the Office of the Secretary.

Attachments

NOTE: This document has not been reviewed or accepted by the Commission.  
Initial \_\_\_\_\_ Date \_\_\_\_\_

U.S. CONSUMER PRODUCT  
SAFETY COMMISSION

JUN 5 3 08 PM '81

RECEIVED  
OFFICE OF THE SECRETARY

Briefing Package on Proposal to Ban Sulfuric  
Acid Drain Cleaners

Supplemental Materials

- Tab A - Correspondence from Hercules Chemical Company, Inc.
- Letter from Thomas O. Hentleff, Counsel for Hercules Chemical Company Inc. to Alan Ehrlich, Ph.D., CPSC. January 10, 1980.
  - Letter from Thomas O. Hentleff, Counsel for Hercules Chemical Company Inc. to Bert Simson, CPSC. July 25, 1980.
- Tab B - Correspondence from Ad Hoc Association of Chemical Producers
- Letter from Robert J. Steele, Attorney for the Ad Hoc Association of Chemical Producers to Bert Simson, CPSC. June 10, 1980.
  - Letter from Robert J. Steele, Attorney for the Ad Hoc Association of Chemical Producers to Bert Simson, CPSC. November 20, 1980.
- Tab C - Correspondence from Other Sulfuric Acid Drain Cleaner Manufacturers
- Letter from Malcolm W. Carroll, President, Carroll Company to Virginia White, CPSC. June 18, 1980.
- Tab D - Final Report on Product/Industry Profile and Economic/Environmental Impact Analysis of Proposed Ban on Sulfuric Acid Drain Cleaners, Battelle. May 31, 1979.
- Tab E - NEISS System A Estimator Equations, The University of Texas. November 1, 1971.
- Tab F - Transcript of CPSC Public Meeting on Sulfuric Acid Drain Cleaners. June 6, 1980.
- 2

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VINCENT A. KLEINFELD  
ALAN H. KAPLAN  
ROBERT H. BECKER  
THOMAS O. HENTLEFF  
RICHARD S. MOREY  
PETER O. SAFIR  
F. KAID BENFIELD  
GLENN E. DAVIS  
MARC H. SHAPIRO  
NANCY SINGER

LAW OFFICES  
**KLEINFELD, KAPLAN AND BECKER**  
1200 SEVENTEENTH STREET, N. W.  
WASHINGTON, D. C. 20036

TELEPHONE  
(202) 659-2155

January 10, 1980

Mr. Alan Ehrlich  
Consumer Product Safety Commission  
Room 420  
5401 Westbard Avenue  
Bethesda, Maryland 20207

Re: Hercules Chemical Company, Inc: Petition to  
ban from interstate commerce sulfuric  
acid drain cleaners intended for use in  
or around the household; HP 78-1

Dear Mr. Ehrlich:

At the December 20, 1979 meeting between CPSC personnel and representatives of Hercules Chemical Company, Inc. concerning the above-referenced petition, you requested that we provide you with documentation of Hercules' longstanding efforts to restrict distribution and use of CLOBBER, its brand of sulfuric acid drain cleaner, to professionals and to prevent the diversion of CLOBBER into nonprofessional household use channels. In response to your request, I enclose the following documents:

- A. CLOBBER bottle label copy.
- B. CLOBBER carton layout and copy.
- C. CLOBBER Danger Tag - Printed in red on manila stock with plastic clip to hold the polyethylene bag which surrounds CLOBBER bottle.
- D. CLOBBER Catalog Sheet.
- E. Internal Sales Bulletin - sent to all sales representatives.
- F. Letter sent to all Hercules customers.

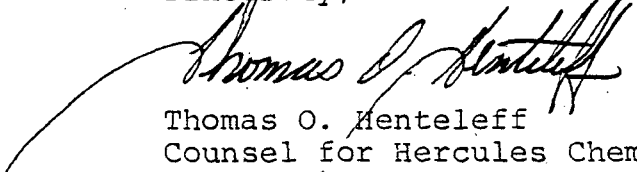
KLEINFELD, KAPLAN AND BECKER

-2-

- G. CLOBBER Seller's Notice - Placed inside the top flap of every CLOBBER carton. The printing of the Notice is exposed when carton is opened.
- H. Continuing CLOBBER Letter-This letter accompanies every customer invoice for CLOBBER.
- I. "Important Notice" Leaflet - This leaflet is sent with each letter (see H above). It is also made available to customers at no charge for them to mail or distribute to their customers.
- J. CLOBBER Certificate - Sent periodically to customers who order this product in substantial quantities.

We trust that you will agree that the foregoing represents a thorough and conscientious effort by Hercules to prevent the diversion of CLOBBER to lay household use. Unfortunately, this effort by Hercules has not been completely successful in eliminating diversion of its product to household use. Moreover, other manufacturers and distributors of sulfuric acid drain cleaners have not undertaken a similar program. Accordingly, in the absence of a ban imposed by CPSC upon the household use of sulfuric acid drain cleaners, a significant amount of sulfuric acid drain cleaners will continue to be diverted to household use with the potential result of serious injury to a significant number of lay household users. Thus, we again request that CPSC exercise its responsibility by promptly publishing a proposal to ban sulfuric acid drain cleaners for household use and by implementing the ban as expeditiously as possible.

Sincerely,



Thomas O. Henteleff  
Counsel for Hercules Chemical  
Company, Inc.

cc: J. W. Fidler, President  
Hercules Chemical Company, Inc.

TOH/vel

Enclosures





**TENNESSEE DEPARTMENT OF AGRICULTURE**  
**Division of Foods & Dairies**

Ellington Agricultural Center  
Box 40627, Melrose Station  
Nashville, Tennessee 37204

May 21, 1980

Mr. J. W. Fidler, President  
Hercules Chemical Company, Inc.  
Eighty-Four Fifth Avenue  
New York, NY 10011

Dear Mr. Fidler:

Today I was referred your letter of May 5 to Ann Eaden of the Consumer Affairs Division regarding sulfuric acid drain cleaners. The Food and Dairy Division of the Tennessee Department of Agriculture enforces the Hazardous Substances Act and therefore has regulatory jurisdiction for products such as drain cleaners.

The Department saw a need to address the hazard presented by acid type drain cleaners in early 1971 and established a regulation effective June 21, 1971 which banned sulfuric acid drain cleaners in concentrations exceeding 10% for consumer use.

This Department had been concerned about the use of acid type drain cleaners for several years but an incident causing injury to two people on March 16, 1971 in Memphis prompted our actions to establish regulations on this product. I have enclosed a copy of the accidental injury investigation on this particular case for your information as requested. The product used in this incident was sulfuric acid drain cleaner.

Informal surveys were made with many retail sources of such products to determine the number and variety of sulfuric acid cleaners on the market in Tennessee in 1971. A list of the available products is attached. Other mishaps were related by establishments selling such drain cleaners, however, no injury data was available.

A hearing was held in conjunction with this regulation being established shortly after its promulgation at the request of one manufacturer of acid type drain cleaners. The regulation was upheld as promulgated, a copy of which is attached. Also, please find copies of two testimonies given at that hearing which relate the need for control of this product.

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COPY

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Read All Cautions and Directions Before Using

## DIRECTIONS

Remove standing water from the facility. Slowly pour a small amount of CLOBBER (less than 1/4 pint) DIRECTLY INTO DRAIN OPENING. Keep face and hands away from opening. If no "bubbling" or back-up occurs, add rest of dosage slowly and carefully. DO NOT splash or spill CLOBBER outside drain opening.

| Facility                                                                                                                                             | Dosage                                    | Allow to Stand                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------|
| SMALL DRAINS<br>WASTE LINES & TRAPS<br>3" & 4" LINES<br>6" & 8" LINES<br>URINALS                                                                     | 1/2 pint<br>2 pints<br>1/2 gal.<br>1 pint | 5 to 15 min.<br>15 to 30 min.<br>15 to 30 min.<br>15 min. |
| FROZEN LINES Repeat as needed                                                                                                                        |                                           |                                                           |
| GREASE TRAPS Use Grease Dissolving Hercules WHAM                                                                                                     |                                           |                                                           |
| TOILET BOWLS Do not use CLOBBER                                                                                                                      |                                           |                                                           |
| Flushing Directions<br>Add one quart cold water after recommended standing time. Wait 5 minutes. If line is clear, flush thoroughly with cold water. |                                           |                                                           |

Above dosages will open most lines and drains. If stoppage persists, repeat dosage. CLOBBER will not harm septic tank systems when used as directed. CLOBBER contains effective corrosion inhibitors and fast activating and penetrating agents. CLOBBER is for emergency use by professionals to open clogged lines. For sluggish drains, grease traps, septic tanks, cesspools and odor problems, use Hercules WHAM.

1/2

1 PINT

1/2



HERCULES®

# Clobber®

THE EMERGENCY DRAIN LINE OPENER

FOR PROFESSIONAL USE ONLY  
NOT FOR HOUSEHOLD USE

DISINTEGRATES ORGANIC MATTER—MELTS GREASE

**ANGER & POISON**

Contains Concentrated Inhibited Sulphuric Acid  
CAUSES SEVERE BURNS. DO NOT GET IN EYES, ON SKIN OR  
CLOTHING. USE ONLY WITH ADEQUATE EYE PROTECTION.  
KEEP OUT OF REACH OF CHILDREN  
Before Use, Read All Cautions & Directions—

NET CONTENTS: 32 FL. OZ. (1 U.S. QT.) (946L)

STOCK NO.  
20-205

Read All Cautions and Directions Before Using

**ANGER & POISON**

CAUSES SEVERE BURNS—CONTAINS SULPHURIC ACID  
KEEP OUT OF REACH OF CHILDREN

**CAUTIONS**

Do not get in eyes, on skin or clothing. Do not add water or any other chemical to CLOBBER or violent reaction may occur. Do not use CLOBBER where other drain chemicals, hot water, or bleach are present. Stand clear of drain opening and protect face (especially eyes) and skin while pouring. Wear face shield or protective glasses and gloves. Use with adequate ventilation. Use from this container only — do not transfer to any other. Never use plunger when CLOBBER is in the drain. CLOBBER must not contact non-acid resistant enamel, stainless steel, chrome, aluminum and some plastics.

Avoid backup from drain opening by closing all connecting drains until CLOBBER is flushed from the system. When container is completely empty, rinse carefully with cold water before discarding to prevent accidental burns. Avoid spilling CLOBBER — it will attack all organic matter. Wipe up spills immediately, carefully handling and disposing of wiping material. Do not apply CLOBBER through garbage disposals. Keep tightly capped. Do not drop CLOBBER container.

**FIRST AID**

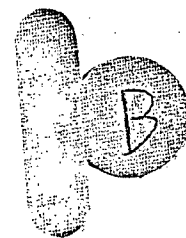
**EYES:** Flood with water for 15 minutes and call doctor immediately.

**EXTERNAL:** Flood with water immediately. Remove affected clothing and flush area again. Get medical attention.

**INTERNAL:** Drink large quantities of water or milk. Follow with milk of magnesia, beaten eggs or vegetable oil. Call doctor immediately. Do not induce vomiting.

HERCULES CHEMICAL COMPANY, INC.  
NEW YORK, N.Y. 10011, U.S.A.

JRDZ



(B)

|                                                                                                                                                       |                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>DO NOT OPEN UNTIL TELLER</b></p> <p><b>HANDLE WITH CARE</b></p> <p>CONTAINS SULFURIC ACID</p> <p>WATER CANS BECOME REMOVED JARS FROM CARTON</p> | <p><b>THE HANDLE WITH CARE</b></p> <p><b>DO NOT DROP</b></p> <p><b>KEEP AWAY FROM HEAT</b></p> <p><b>STORE AT FLOOR LEVEL</b></p>       |  | <p><b>RIGHT 20-2000</b></p>  <p><b>clobber</b></p> <p>THE EMERGENCY DRAIN LINE OPERATOR</p> <p>DO NOT OPEN UNTIL TELLER</p> <p>WATER CANS BECOME REMOVED JARS FROM CARTON</p>   |
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CAUTION: CHECK THIS MINIATURE CAREFULLY FOR COPY, COLOR REFERENCE, SIZE AND GENERAL LAYOUT. OUR RESPONSIBILITY ENDS WITH THE REPLACEMENT OF ANY INCORRECT DIE OR MINIATURE.

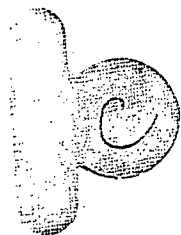
mark/trêce, inc.

*Printer Designers - Manufacturers of Printing Plates*

806 RACE ROAD WEST, BALTO. 21, MD

PHONE (301) 687-5252

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C

1.4t

# 182 DANGER!

CONTAINS SULFURIC ACID  
KEEP AWAY FROM CHILDREN  
READ BOTH SIDES OF THIS TAG  
BEFORE LIFTING CONTAINER

Contents of this container is acid and can burn skin, eyes and clothing. Keep away from children. NEVER tilt container by its cap. Always get a secure grip on the handle and lift only by the handle on the jug. Before opening the plastic bag, carefully inspect inner container. Do not carry or transport container if there is evidence of any leakage, avoid contact using extreme care. After removing jug from plastic bag (lift by jug handle) do not transport jug without checking cap to be sure it is on tightly.

STORE AND TRANSPORT CONTAINER  
ONLY IN UPRIGHT POSITION  
READ ALL CAUTIONS AND DIRECTIONS  
ON CONTAINER BEFORE USING  
CLOBER IS FOR USE BY PROFESSIONALS ONLY  
— IT IS NOT FOR HOUSEHOLD USE.

Made and printed in U.S.A.

# DANGER!

CONTAINS SULFURIC ACID  
KEEP AWAY FROM CHILDREN  
READ BOTH SIDES OF THIS TAG  
BEFORE LIFTING CONTAINER

No emplee CLOBER sin la traduccion de todas las instrucciones y advertencias.  
Non adoperare CLOBER senza la traduzione di tutte le istruzioni e avvertenze.  
Ne pas utiliser CLOBER sans avoir la traduction de toutes les instructions et les precautions a prendre.

CLOBER IS FOR USE BY PROFESSIONALS  
ONLY — IT IS NOT FOR HOUSEHOLD USE  
HERCULES CHEMICAL CO., INC.  
New York, N.Y. 10011 U.S.A.

Form No. 20-200-2

JR02





**HERCULES®**

**clobber®**



### **SPECIAL NOTICE**

This powerful chemical may cause serious injury or damage in the hands of unskilled people. Therefore, it is Hercules' strict policy that CLOBBER may not be sold to any user who is not a Professional: that is, anyone who is not regularly engaged in the maintenance of drain lines as a function of his/her occupation.

**Rapidly clears clogged drains and waste lines; thaws frozen lines. Disintegrates paper, rags, sanitary napkins, lime and scale deposits, food scraps and other organic matter. Melts grease quickly.**

**THE PROFESSIONAL'S FAST SOLUTION TO EMERGENCY WASTE LINE STOP-PAGES— NO MECHANICAL EQUIPMENT NEEDED.**

CLOBBER is a heavy-duty, sulfuric acid drain solvent formulated specifically for emergency use by professionals.

CLOBBER speedily dissolves paper towels; sanitary napkins; rags; cigarette butts; coffee grounds; tea bags; grease; food scraps; and other organic materials.

CLOBBER is manufactured with concentrated virgin sulfuric acid.

CLOBBER is fortified with scientific, protective, corrosion inhibitors and quick penetrating activating agents. They inhibit corrosive action, and their proven protective superiority has been attested to by a leading independent laboratory.

CLOBBER will not harm septic tanks, cesspools, drainage fields and leaching systems when properly used according to directions.

CLOBBER saves time and effort—and simplifies tough jobs. Emergency stoppages can be promptly eliminated in the shortest time—cleanly—without the use of mechanical equipment.

**PERFECT FOR EMERGENCY JOBS INVOLVING REMOVAL OF ORGANIC WASTE—IN SCHOOLS, HOSPITALS, MOTELS, HOTELS, CLUBS, APARTMENT & OFFICE BUILDINGS, PLANTS & FACTORIES, PUBLIC BUILDINGS, RESTAURANTS, INSTITUTIONS, FARMS, CAMPS, AND HOMES.**

See back for directions and precautions.

**HERCULES CLOBBER  
THE EMERGENCY DRAIN LINE OPENER**

Stock No. Series 20-200

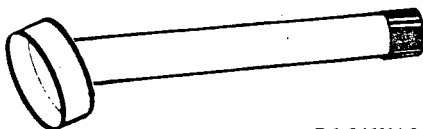


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**CLOBBER** comes in molded-handle plastic jugs with child-proof caps that help prevent accidental openings. Each jug packed in a sealed plastic bag with warning tag attached. Jugs are packed in D.O.T. approved cartons with sure-grip handles.



**SAF-T-POR Spout** is provided free with each 1/2-gal. jug of CLOBBER—permits safe, easy pin-point application without hazardous splashing. The spout, with the graduations on the jug, insures precise dosages. The spout has its own cap: screw it to the jug and it's always ready for immediate use.



| STOCK NO. | SIZE         | PACKING |
|-----------|--------------|---------|
| 20-205    | 1 qt. jug    | 12      |
| 20-211    | 1/2 gal. jug | 6       |

## HERCULES® CLOBBER®

Utilizes its Tri-phase synthesis to direct 3 powerful forces against the stoppage.

**Exothermic Reaction:** CLOBBER generates great heat in contact with water and the blockage. It literally melts grease and disintegrates organic obstructions. (This reaction makes CLOBBER especially effective for frozen lines).

**Exothermic Hydrolysis:** The combination of heat and vigorous chemical action will "un-plug" drains where other "openers" fail.

**Directional Migration:** CLOBBER is twice as heavy as water and travels through it to "find" the obstruction. Special wetting agents cause it to penetrate the trouble area deeply and fast, allowing its powerful agents to clear the drain in minutes.

### HOW TO USE IT:



SAF-T-POR Spout, shown above, is used to pour CLOBBER into trap filled with rags, sanitary napkins, coffee grounds, butts and grease. Action begins immediately and matter disintegrates (2nd view from right). Then water is flushed through the cleared trap. Entire process takes about seven minutes.

**Strictly adhere to directions on label for desired results. Allow CLOBBER time to work—then thoroughly flush as directed. Typical recommended quantities below.**

### RECOMMENDED QUANTITIES:

| FACILITY                         | DOSAGE  | FACILITY          | DOSAGE              |
|----------------------------------|---------|-------------------|---------------------|
| Small Drains, Waste Lines, Traps | 1/2 pt. | 6 to 8 inch Lines | 1/2 gal.            |
| 3 to 4 inch Lines                | 1 qt.   | Frozen Lines      | 1/2 pt. to 1/2 gal. |

For septic tanks and cesspools use HERCULES grease-dissolving WHAM.

### CAUTIONS:

1. CLOBBER is for Professionals only. It should not be sold to or used by non-professionals.
2. CLOBBER is the fastest known emergency chemical treatment for clearing organic matter from clogged drains. Used properly it has minimal effect on ferrous metals and virtually none on copper and brass. Because of the many technological developments in plastics, and other materials for plumbing and drainage systems, users should carefully investigate effects of sulphuric acid on any particular materials before use.
3. CLOBBER should not be applied to a clogged

drain if caustic or lye are in the line or if there is a mechanical blockage caused by inorganic material, plastic or rubber.

4. CLOBBER should not be used to remove a stoppage due to sand, stone, cement, or plaster (USE HERCULES SIZZLE).

5. CLOBBER is a powerful acid—packaged for safe handling and application. It must always be handled with care, and label directions and precautions must be strictly observed. HERCULES CLOBBER is packaged in compliance with the Federal Hazardous Substances Act and the Poison Prevention Packaging Act of 1970.

### CLOBBER IS LESS CORROSIVE TO METALS

An effective chemical complex of inhibitors incorporated in CLOBBER checks its action on metals and is your guarantee that properly used CLOBBER will not harm piping.

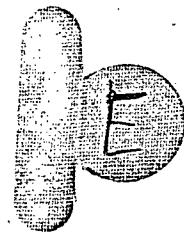
Laboratory tests of a leading independent laboratory prove conclusively that CLOBBER is superior to similar type products in preventing corrosion. "Hercules CLOBBER has the least corrosive effect on ferrous metals...and substantially no corrosive effect on copper."

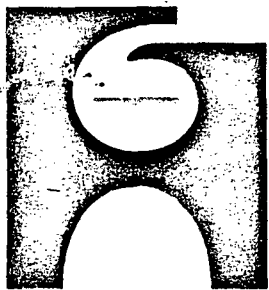
Copies of lab report available on request.



**HERCULES®**  
**CHEMICAL**  
**COMPANY**  
INCORPORATED

EIGHTY-FOUR FIFTH AVENUE  
NEW YORK, NEW YORK 10011  
TELEPHONE: (212) 989-0200  
CABLE ADDRESS: HERCHEMCOM





Sales Bulletin



**HERCULES**® CHEMICAL COMPANY, INC. - 84 Fifth Ave., N.Y.C. 10011, 212 989-0200

April 8, 1977  
Bulletin #20-77

IMPORTANT - READ CAREFULLY & COMPLETELY

TO: ALL HERCULES REPRESENTATIVES

SUBJECT: Hercules CLOBBER

From the first day we started marketing CLOBBER, we have recommended that this product be sold for "Professional Use Only", and have always stated this on the face of each package, on each carton, and on our literature.

Because CLOBBER has done such an excellent job in emergency clearing of clogged drain and waste lines, product sales have grown substantially over the years.

We have advertised CLOBBER in a very limited way only to the Plumbing Industry through our trade publications, and via direct mail. Never have we promoted or advertised the sale of this product in any consumer media.

Now we are finding, in spite of our warnings to the contrary, that acid drain cleaners are finding their way into many households, and there are signs that CLOBBER's solid reputation with the professional users (plumbers, industrial, maintenance, etc.) is being capitalized upon by wholesalers and dealers who may be selling acid drain cleaners to homeowners and other unqualified users.

Because of the chemical composition of the product and its inherent danger if used incorrectly, we must continue to prevent the sale of CLOBBER to non-professionals. Therefore, the following action is being taken:

1. CLOBBER CONTAINERS - The polyethylene quarts and  $\frac{1}{2}$  gallons continue to be the only sizes in which we pack the product. These containers are the best in terms of chemical and impact resistance. Each will continue to be capped with an approved child-resistant safety closure. Such closures are only required for consumer products, but we believe that the additional precaution is justified to help eliminate the possible risk of child injuries.

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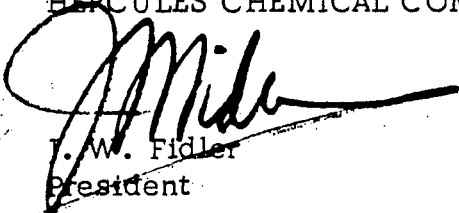
- A. LABELS - The labelling (printed on the container) has been carefully reviewed and remains essentially the same as before. We have emphasized that CLOBBER is not for use by non-professionals by adding "NOT FOR HOUSEHOLD USE" to the front of each label.
  - B. PLASTIC BAGS & TAGS - We will continue to provide a poly bag for each plastic container and to furnish a warning tag closing the top of each bag. As you know, this tag highlights warnings and also states in three languages (Spanish, Italian, French) that the product should not be used if the user can't read the directions and cautions on the container. To our best knowledge, no one who markets this kind of product provides the prospective user with such complete and clear warnings to help avoid misuse.
2. CLOBBER CARTONS - The same Dept. of Transportation-approved carton will be used. Some slight modification will appear in the printing on the carton to coincide with the label additions referred to above. Further, there will be:
- A. NEW INSERT - In every carton which we ship, a "SELLER'S NOTICE" will be placed which will be seen by anyone who opens a carton of CLOBBER (presumably, the carton is opened where the product is to be sold to the user). A copy of this notice is enclosed for you to read and to show to your customers (extra copies are available on request). We think you'll agree it needs no further description.
3. GUSTOMER NOTIFICATION - To assure the fact that every Hercules customer who buys CLOBBER is fully aware of the steps we are taking to reinforce our policy of selling this product for professional use only, the following procedure is to be adopted:
- A. HERCULES CUSTOMERS - An explanatory letter is being sent by us to every customer telling them the steps we are taking to restrict the use of CLOBBER to professionals, explaining why, and enclosing a copy of the SELLER'S NOTICE.
  - B. HERCULES SALES PERSONNEL - Everyone selling Hercules products must call to the attention of every customer who buys or will buy CLOBBER the steps we are taking to prevent our product from being sold to and used by non-professionals. We believe that the overwhelming number of firms and people we sell are responsible and responsive, and we believe that it is in everyone's best interests to adopt the policies we are advocating, if they haven't already done so.

At the top of this Bulletin, we've asked you to read carefully and completely. The information contained in this Bulletin is for your use. If you have any questions or comments, we certainly welcome them. But under no circumstances are you to reproduce this Bulletin in whole or in part, or to give this copy to anyone for any purpose. If you feel you need additional copies, tell us why and for whom.

We shall continue to make and sell CLOBBER. We fully believe that this product fills an important professional need in the maintenance of drain and waste lines. Your usual cooperation in carrying out our stated policies and in selling Hercules products in the manner which befits a respected businessperson is all we ask. We shall expect your unwavering and continuing efforts with respect to CLOBBER sales through the channels of distribution which we believe are most appropriate for this product.

Yours very truly,

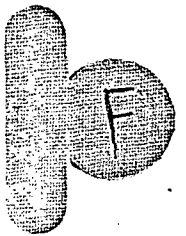
HERCULES CHEMICAL COMPANY, INC.



J. W. Fidler  
President

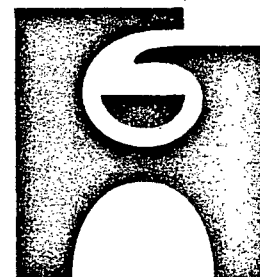
JWF:sd  
Enc.

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April 11, 1977



**HERCULES**  
**CHEMICAL**  
**COMPANY**  
INCORPORATED

EIGHTY-FOUR FIFTH AVENUE  
NEW YORK, NEW YORK 10011  
TELEPHONE: (212) 989-0200  
CABLE ADDRESS: HERCHEMCOM

In your best interests, Dear Customer --

--this letter will advise you about steps being taken by Hercules which we ask you to read carefully.

Within the next few weeks, every carton of Hercules CLOBBER shipped from our factory or from regional warehouses will contain the attached SELLER'S NOTICE. In conjunction with the insertion of this notice, outer cartons will call attention to it (on the top flap).

We believe, as we have from the first day we introduced CLOBBER, that it is a very useful and effective product for professionals whose work entails the emergency clearing of clogged drain lines. Because the product is a strong acid, we have always recommended that it should be used by professionals only; have never advocated or advertised it for consumer use; and have taken every known step to assure its proper use and handling.

A number of products containing sulphuric acid for clearing drains have appeared in the market place since CLOBBER was introduced 14 years ago. Some of these products have been offered through consumer outlets, and early cautions appear to have eroded as users found these acid products far more effective than the liquid caustics which became widely available through consumer outlets.

The dangers of sulphuric acid are well known. We think you should be particularly aware that acid cleaners, in the hands of unskilled users, are very dangerous. So we are alerting you and the people to whom you sell our products that:

1. Hercules CLOBBER should continue to be sold only for professional use.
2. Hercules CLOBBER should not be sold, offered, displayed or advertised to homeowners or any other category of unqualified users.

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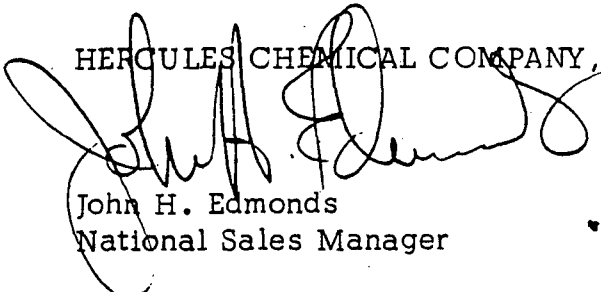
3. A SELLER'S NOTICE (copy enclosed) will be inserted in every carton of CLOBBER and will caution the purchaser who buys it in carton quantities.
4. We reserve the right to discontinue selling CLOBBER to any customer who clearly ignores the intent of our advice.

At least one state has already banned the retail sale of acid drain cleaners. We think others will, or that there may soon be a Federal ban on the retailing of acid drain cleaners. We recommend to you, whether or not you sell Hercules products exclusively, that you do not offer any acid drain cleaner for sale to non-professionals, or to outlets which will resell such a product to homeowners.

Please don't hesitate to contact us if you have any questions on this matter. We stand ready, as always, to serve you.

Yours very truly,

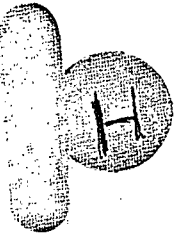
HERCULES CHEMICAL COMPANY, INC.

  
John H. Edmonds  
National Sales Manager

JHE:sd  
Enclosure

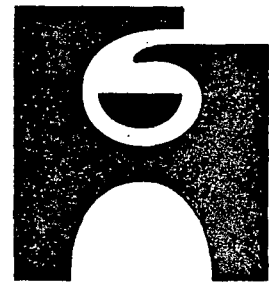
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(H)



**HERCULES  
CHEMICAL  
COMPANY**  
INCORPORATED

EIGHTY-FOUR FIFTH AVENUE  
NEW YORK, NEW YORK 10011  
TELEPHONE: (212) 989-0200  
CABLE ADDRESS: HERCHEMCOM

TO ALL HERCULES CUSTOMERS

Our records indicate that we have discussed with your company our sales policy relative to Hercules CLOBBER; and these records show that a person in authority at your company has pledged to notify the people to whom you sell, that CLOBBER should be sold to and used by professionals as defined in our carton insert and the accompanying leaflet -- and to avoid selling CLOBBER to outlets which will sell to homeowners and other non-qualified users.

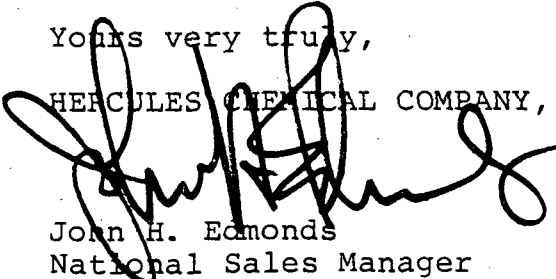
This note is simply a reminder to you, as a partner in distribution, to continue your diligent support of our established policy.

If you detect any change in your own sales pattern which might signal a loosening of this strict sales policy, we urge you to take all appropriate steps to restore restrictive measures, and to notify us if we can help with any major distribution problems which may have occurred.

We're grateful for your continuing diligence.

Yours very truly,

HERCULES CHEMICAL COMPANY, INC.

  
John H. Edmonds  
National Sales Manager

JHE:dym  
Enc.

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JDE

# SELLER'S NOTICE

## TO ALL SELLERS OF HERCULES CLOBBER

This product is a powerful chemical compound recommended for emergency use in clearing clogged drains by PROFESSIONALS ONLY. That is, persons whose business includes the maintenance and cleaning of clogged drain lines and who possess the knowledge and skill required to do so. Because of its unusual effectiveness, some sellers may be tempted to recommend it for use by non-professionals, or to place it for self-service sales in places easily accessible to unqualified users.

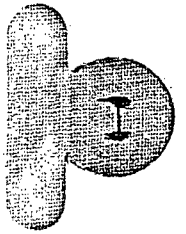
The principal ingredient in Hercules Clobber is sulphuric acid which burns and destroys human tissues on contact, and which dissolves organic matter. Unsuspecting, inexperienced users may sustain personal injuries if proper precautions which appear on every container are not followed in using this product.

Therefore, this notice is intended to advise the seller that Hercules prohibits the sale of this product to anyone who is not regularly engaged in the maintenance of drain lines as a function of his/her occupation, and Hercules further warns that Clobber should not be stored or displayed at a place within easy access to persons not qualified to use the product, and that Clobber should never be advertised for sale without the express written permission of Hercules Chemical Co., Inc.

Clobber is sold on the express agreement of the purchaser to resell it only to professionals, as that term is defined above. Anyone breaking this agreement will be held liable for any damages suffered by the user.



HERCULES CHEMICAL COMPANY, INC. 2525 RICHMOND AVENUE, NEW YORK, N.Y. 10023



①

IMPORTANT  
NOTICE  
FOR MANAGEMENT

*This notice should be carefully read by all persons in your company who are responsible for distribution and sales policies covering the products your company buys. Any appropriate action should be taken at once. It is intended to protect your interests and those of the people to whom you sell — all partners with us in the proper and safe distribution and use of Hercules products.*

**W**e believe, as we have from the first day CLOBBER was introduced, that it is a very useful and effective product for professionals, that is, people whose business is or includes maintaining and clearing clogged drain and waste lines and who possess the knowledge and skill required to do so. Because the product is a strong acid, we have always recommended that it should be used only by professionals as so defined. We have never advocated or advertised it for consumer use, and have taken every known step to assure its proper use and handling.

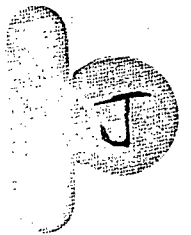
A number of products containing sulphuric acid for clearing drains have appeared in the market place before and since CLOBBER was introduced in 1963. Some of these products have been offered intentionally through consumer outlets. Others, including CLOBBER, were recommended for non-consumer applications. Cautions appear to have become eroded and overlooked as non-

professional users gradually found these acid products far more effective than the liquid alkalis which are widely available through consumer outlets.

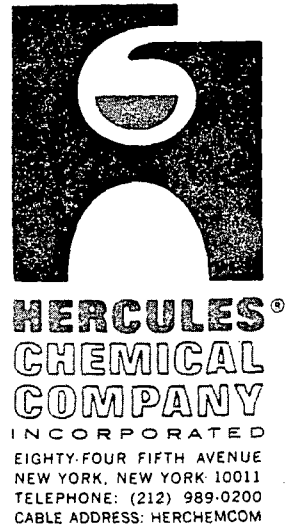
The dangers of sulphuric acid are well known. We think you should be particularly aware that acid drain cleaners, in the hands of unskilled users, are very dangerous. Therefore, we are again alerting you and the people to whom you sell our products that:

1. Hercules CLOBBER should continue to be sold only for use by professionals, as defined above.
2. Hercules CLOBBER should not be sold, offered, displayed or advertised to homeowners or to any other category of unqualified users.
3. A SELLER'S NOTICE is inserted in every carton of CLOBBER which warns the purchaser who buys in carton quantities, to whom this product should be sold and to whom it should not be sold, and why.
4. We reserve the right to discontinue selling CLOBBER to any customer who clearly ignores the intent of our advice; and to hold such seller liable for any damages suffered by us.

We recommend to you, whether or not you sell Hercules products exclusively, that you do not offer any acid drain cleaner for sale to non-professionals, or to outlets which will or may



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I, the undersigned, am fully aware of Hercules' policy relating to the distribution and sale of Hercules Clobber.

I acknowledge that I receive a letter reiterating that sales policy from Hercules with every invoice on which Clobber appears, and fully understand and endorse the contents of that letter (copy attached).

I further state that the customers to whom we sell Clobber are reminded of Hercules' continuing policy and that we continue to take all appropriate measures for the proper sale and use of Hercules Clobber.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_

By: \_\_\_\_\_  
(Type or Print Name)

Company: \_\_\_\_\_

City & State \_\_\_\_\_

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VINCENT A. KLEINFELD  
ALAN H. KAPLAN  
ROBERT H. BECKER  
THOMAS Q. HENTELFF  
RICHARD S. MOREY  
PETER O. SAFIR  
F. KAID BENFIELD  
GLENN E. DAVIS  
MARC H. SHAPIRO  
NANCY SINGER  
PETER R. MATHERS

LAW OFFICES

**KLEINFELD, KAPLAN AND BECKER**

1140 NINETEENTH STREET, N. W.

WASHINGTON, D. C. 20036

RECEIVED

JUL 25 3 54 PM '80

TELEPHONE  
(202) 223-5120

OFFICE OF PROGRAM

July 25, 1980 MANAGEMENT

Mr. Bert Simson  
Director  
Office of Program Management  
Consumer Product Safety Commission  
Room 426  
Westwood Towers Building  
5401 Westbard Avenue  
Bethesda, Maryland 20207

Re: Hercules Chemical Company, Inc.,:  
Petition To Ban From Interstate  
Commerce Sulfuric Acid Drain Cleaners  
For Use In Or Around The Household;  
HP 78-1

Dear Mr. Simson:

On June 6, 1980, representatives of a group styling itself the Ad Hoc Association of Chemical Producers met with Commission staff concerning the above-entitled petition. At the meeting, as well as in a written statement dated June 5, 1980, the representatives expressed the opposition of the Association's members to Hercules' petition. Hercules now respectfully submits these comments in response to the Association's opposition to the petition and in further support of the petition.

The Inherently Hazardous Nature of  
Sulfuric Acid Drain Cleaners

In both its oral and written presentations, 1/ the ACP attempts to downplay the inherently hazardous nature of sulfuric acid by citing what it deems the "statistical inadequacies" of the record to date. These efforts by ACP are for one purpose: to further delay the administrative proceeding initiated by Hercules' petition to ban sulfuric acid drain cleaners. The ACP would, to the public's detriment, have the Commission overlook (1) the

1/ References to the transcript of the June 6, 1980 public meeting between CPSC staff members and representatives of the Ad Hoc Association of Chemical Producers ("ACP") will be to "Tr. \_\_\_\_." References to the written statement submitted by the ACP to CPSC on June 5, 1980 will be to "Statement, at \_\_\_\_."

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extremely hazardous nature of sulfuric acid, and (2) the fact that sulfuric acid is an industrial chemical which does not belong on hardware store shelves or in the hands of untutored consumers.

The highly corrosive and explosive attributes of sulfuric acid drain cleaners are well known to qualified scientists and experts. The reaction of the members of CPSC's own Toxicological Advisory Board at its November 1979 session was that there is no way to label sulfuric acid drain cleaners so as to eliminate the unreasonable hazard inherently associated with them in the hands of consumers. In fact, it was the consensus of the TAB members that Hercules' petition to ban the consumer use of sulfuric acid drain cleaners should be promptly and positively acted upon by the Commission.

By letter dated April 24, 1980, Hercules submitted information confirming that severe injuries can be and have been associated with the use of sulfuric acid drain cleaners by consumers. Further confirmation of the hazardous nature of such products is contained in the rulemaking record compiled by the Tennessee Department of Agriculture in 1971 when that Department administratively banned sulfuric acid drain cleaners for retail sale in Tennessee. From that record, Hercules herewith submits copies of:

1. A letter dated May 21, 1980 from Robert M. Reeves, Director of the Tennessee Department of Agriculture, Division of Foods and Dairies, setting forth the regulatory history of the Tennessee ban;
2. A Tennessee county health department report of an investigation concerning persons injured through use of a sulfuric acid drain cleaner;
3. The text of the Tennessee ban; and
4. Several important statements from the public record presented at the hearing on the proposed ban on July 7, 1971.

See Exhibit A. As noted in Mr. Reeves' letter, it took but one incident involving a consumer to convince the State of Tennessee to ban these products from consumer outlets. A review of the investigation report of this incident indicates why this was so. The investigation report states in part:

One of the victims had poured the substance into a washing machine drain pipe when the mixture exploded. He said it felt like an atomic blast; he added that it sounded like both barrels of a

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double barreled [sic] shotgun going off at once and that the explosion shook the entire house. The exploding mixture covered [the victim]; he sustained severe, possibly total, damage to both eyes, third degree burns to the major part of his forehead, right shoulder, and right arm, second degree burns to his face, left arm, and right arm, and first degree burns to his back and chest. [The victim's spouse], who was preparing dinner at the kitchen stove was not seriously injured although she too was burned on both arms.

This report is eloquent evidence of what can and has occurred when these products are left in the hands of non-professionals. This report alone, Hercules submits, justifies prompt action on the petition.

It is worth noting that the ACP members themselves recognize the hazards associated with consumer use of sulfuric acid drain cleaners. For example, Venus Laboratories, Inc. stated in one of its promotional pieces in 1976:

It was the early 1950's. A new product for opening up drains appeared. It was the first sulfuric acid based drain opener.

It dissolved paper, cloth and other organic obstructions dramatically. Unfortunately, thousands of people were hospitalized with serious burns from using it.

Exhibit B (emphasis added). 2/

A major problem with consumer use of this product is, as Venus Laboratories states in its literature, that of a "blowout" or "blowback." Mr. Jack Siegel of Instant Plumber describes this as an "eruption." Tr. 42:15-16. But no matter how it is described, the action of sulfuric acid combining with water (which Mr. Siegel describes as "always sitting in the trap under your sink," Tr. 12:21-22) has the potential of forcing the corrosive acid-water

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2/ The statement goes on to claim that in 1974 Venus eliminated the "injury" and "blow-back" problem with the new formula of its "Tempered" product. This is doubtful, however, as it is impossible to render sulfuric acid harmless to skin and mucous membranes without eliminating or significantly reducing the quality for which it is used, i.e., the ability to dissolve organic matter.

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combination up the drainpipe and back onto the eyes, face, hands, or body of the unwary consumer. It is this serious problem which, Hercules submits, poses an "unreasonable hazard" to consumers and which, as Mr. Marozzi of the CPSC points out (Tr. 43:3-6), the ACP has not addressed.

### Economic Impact Of The Ban

Under Section 9(c) of the CPSA, 15 U.S.C. §2058(c), the Commission will consider the economic impact as part of any proceeding to ban a consumer product. The ACP representatives contend that a ban on consumer use of sulfuric acid drain cleaners will be disruptive of their businesses. The economic impact cannot, contrary to the ACP's assertions, be measured in terms of an absolute ban but should be considered in terms of shifts from a consumer/industry market to an industry market exclusively. Indeed, several of the ACP members already sell to industrial and professional outlets. Of the six ACP members, at least Venus Laboratories, San Teen, and Roto sell to industrial outlets in addition to consumer outlets. See, e.g., Venus and Roto catalogs (attached as Exhibits B and C).

The statement that a ban will cause a "Total shut-down" (Statement, at 13) of Venus and Roto if a ban is promulgated is questionable. The accuracy of these descriptions is belied by the Venus and Roto promotional literature. The Venus catalog (Exhibit B) lists no less than 174 products other than sulfuric acid drain cleaners which are sold by Venus. Similarly, the Roto promotional literature (Exhibit C) describes a number of products in addition to sulfuric acid drain cleaners sold by that company. Likewise, an assessment of the economic impact upon Instant Plumber of a consumer ban of sulfuric acid drain cleaners must take into account (a) the fact that Instant Plumber is but one division of Scotch Manufacturing Company, and (b) the fact that in addition to sulfuric acid drain cleaners it sells several other products (see Exhibit D). The prospects are that the other ACP members also market non-sulfuric acid products which would enable them to continue to operate even if, which is unlikely, they were forced to discontinue totally their marketing of sulfuric acid drain cleaners. Thus, it is unlikely that the economic impact on the ACP members of a consumer ban of sulfuric acid drain cleaners will be as great as the ACP statements would lead the Commission to believe.

Also, it should be noted that the post-ban professional market will expand and companies presently involved solely or primarily in the distribution to consumers should be able to adjust their methods of distribution to capture a share of the expanded market.

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Moreover, economic dislocation does not prevent the Commission from banning a product when the product presents an unreasonable risk of personal injury. For example, in the preamble to the Commission's ban on consumer patching compounds containing respirable free-form asbestos, the Commission noted that a number of commenters had alleged that the ban would have an adverse economic impact upon industry. There, as here, it was alleged that certain firms would go out of business if the ban were promulgated. The Commission responded:

As is indicated in the proposal, the Commission is aware that economic impacts of varying degrees will occur as a result of the ban on inhalable asbestos containing patching compounds and emberizing materials containing respirable free-form asbestos. Also, the Commission is aware that technology for producing asbestos-free patching compound formulations is becoming more generally available. The economic impact will tend to be reduced over time as non-asbestos formulation technology becomes more widespread and as existing recent formulations are improved by manufacturers.

42 Fed. Reg. 63354 (Dec. 15, 1977). The manufacturers of sulfuric acid drain cleaner will no doubt similarly adapt and adjust to the ban just as other segments of industry have adapted to bans in the past.

Even if the ACP's predictions of economic dislocation were to come true, this does not mean that a ban is foreclosed. As the U.S. Court of Appeals for the District of Columbia Circuit ruled in an analogous situation:

...We find that a severe impact on the industry would be a relevant factor but would not be conclusive.

One of the primary motivations for the enactment of CPSA was the perceived failure of the market mechanism to reflect adequately the costs of injuries associated with consumer products and thus provide the incentive necessary if industry were to improve product safety without government regulation. In economic parlance, manufacturers and distributors were externalizing some of the social costs associated with consumer products, a toll in physical injury and human suffering that was only imperfectly recompensed by the payments associated with existing tort law and insurance.

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One of the principal functions of CPSA is to promulgate safety rules that have the effect of compelling the internalization of these costs to the extent required to meet performance and other safety standards. Internalization of costs previously disregarded by manufacturers will likely result in a rise in cost and price, and may constrict or eliminate the demand for a particular product as consumers substitute products that offer the desired utility at the lowest price. Such an outcome would not be contrary to the intent of Congress so long as the agency has given reasoned consideration to all the pertinent factors and has made the requisite findings supported by substantial evidence. A severe economic impact on an industry, or on a significant segment of an industry, would be a material factor in appraising the reasonableness of a rule, but it cannot, in and of itself, be held to render a safety rule unreasonable.

ASG Indust. v. Consumer Product Safety Commission, 593 F.2d 1323, 1337 (D.C. Cir.), cert. denied sub nom. Flat Glass Assn. of Japan v. CPSC, 100 S.Ct. 133 (1979) (footnote omitted). In summary, Hercules submits that the economic impact of a consumer ban of sulfuric acid drain cleaners will be relatively minimal and that the real and substantial hazards associated with these products dictate that they be banned from household use despite the potential for some economic dislocation.

The Likelihood And Severity Of Injuries Outweigh  
The Minimal Economic Dislocation Which May Occur

Regardless of whether the Commission finds that the economic impact will be serious or minimal, it is submitted that the likelihood of continuation of injuries to consumers, as well as the serious nature of such injuries, far outweigh any economic impact.<sup>3/</sup> The Commission need not, of course, conduct a cost-benefit analysis under the Act. See Aqua Slide 'N' Dive v. Consumer Product Safety, 569 F.2d 831, 840 (5th Cir. 1978); D.D. Bean & Sons v. Consumer Product Safety Com'n, 574 F.2d 643, 648 (1st Cir. 1978); H.R. Rep. No. 1153, 92d Cong., 2d Sess. 33 (1972). Nevertheless a "balancing" is relevant in proceedings such

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3/ Even the ACP concedes that the nature and severity of injuries are crucial factors to be considered in determining whether a risk is unreasonable. See Statement, at 8.

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July 25, 1980  
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as the instant one where opponents of the Commission's proposal allege (e.g., Tr. 7) that the risk of injury is not an unreasonable one.

As Congress noted in enacting the CPSA:

An unreasonable hazard is...one which the effect on the product's utility, cost or availability is outweighed by the need to protect the public from the hazard associated with the product.

H.R. Rep. No. 1153, 92d Cong., 2d Sess. 33. Here, the proposed ban would not deprive the public of the utility or availability of the product as it will still be available through professionals. The ACP alleges that cost increases will occur because consumers will be compelled to use plumbers instead of using the products themselves. While Hercules does not gainsay this, it nevertheless submits that the frequency and severity of injuries associated with sulfuric acid drain cleaners in the hands of consumers far outweigh the increased costs to consumers.

The ACP attempts to downplay both the likelihood and frequency of injuries by alleging a "low" statistical incidence of injuries. The statistics on injuries presently before the Commission (including those submitted by Hercules) amply demonstrate the existence of several injuries associated with consumer use of sulfuric acid drain cleaners. Moreover, the severe nature of the injuries associated with consumer use of sulfuric acid must also be considered. For example, in Aqua Slide, supra, the Court stated that the Commission's discovery of only 11 injuries over a six year period would (in the absence of other record infirmities) have sufficed to support a safety standard because of the severe nature of the injuries involved. 4/ Aqua

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4/ The Aqua Slide Court stated:

Remote risks have been found "unreasonable," but the context was one in which the safety standard promised to eliminate the danger entirely. United States v. General Motors Corp., 183 U.S. App. D.C. 30, 561 F.2d 923 (1977)(risk of Cadillac steering defect unreasonable under National Traffic & Motor Vehicle Safety Act of 1966, 15 U.S.C.A. §1391(1)), petition for cert. filed, 46 U.S.L.W. 3262 (Oct. 18, 1976); United States v. General Motors Corp., 417 F. Supp. 933 (D.D.C. 1976) (risk of carburetor fire); see Bunny Bear v. Peterson, 473 F.2d 1002 (1st Cir. 1973)(risk of crib mattress

(cont.)

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Slide, supra at 840. Here, a reading of the 1971 Tennessee accident investigation report's description (see supra) of the terrible mutilation suffered by one victim suffices to indicate the serious risk posed by "blowouts" of sulfuric acid in drains. The severity of the accidents, together with their frequency, thus clearly outweigh the putative costs of the proposal.

Impact On Consumers

The utility of sulfuric acid drain cleaners is not an issue here. All agree that the product is highly effective for certain drain stoppage problems. However, the ACP seems to imply (Statement, at 10-11) that sulfuric acid is the drain cleaner of first choice and that it can be routinely used by consumers. In this, the ACP fundamentally misconstrues the utility of these products and thus overstates the impact which a consumer ban will have.

The proper use of sulfuric acid drain cleaners is in "emergency" type situations. If sulfuric acid drain cleaners were, as advocated by ACP, routinely used in lieu of alkali drain cleaners, this could result in a very deleterious effect on plumbing and pipes, particularly on the cast iron and steel pipes (see Exhibit F). Thus, banning consumer use of these products could actually be beneficial in terms of sparing those persons who may be misusing the product the high expense associated with replacing plumbing and drain pipes.

Further Comments Relating To The ACP Presentation

In addition to those points noted above, the ACP oral and written statements contain several other statements or propositions which are inaccurate or misleading. For example, during his presentation Mr. Siegel of Instant Plumber stated:

...the heat is dissolving the grease and the hair and you can't get hair out of trap unless you get heat in there.

---

fires, Flammable Fabrics Act, 15 U.S.C.A. §1193).

Id. at 840. In the present case, even assuming that the risk is "remote" as the ACP contends (Statement, at 4), there is no question that the rule will substantially reduce the hazard to consumers.

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Tr. 13:18-20. This is simply an incorrect statement. Hair can be chemically dissolved, e.g., by a calcium or sodium hypochlorite/sodium hydroxide drain cleaner. In this regard, it is significant that Mr. Siegel's company promotes its alkali drain cleaner product which it markets under the trade name "Instant Dry Drain Opener" as having the following characteristics:

Opens drains instantly...grease, hair, soap, other organic obstructions.

See Exhibit E (emphasis added).

Additionally, Mr. Stan Remeneski of Chemical Services and Equipment stated:

So from a safety standpoint, I feel that the caustic [drain cleaner] is more dangerous than the acid.

Tr. 22:5-7. This statement is controverted by leading texts and experts in the field. Mr. Remeneski's conclusion is apparently based on the premise that alkali drain cleaners are "very slimy" (Tr. 22:1) and therefore difficult to wash off. Yet even this statement is contradicted by Mr. Siegel (the man who touched the sulfuric acid during the demonstration) who says of sulfuric acid: "It's greasy." Tr. 14:12.

As for the demonstration by Mr. Siegel of the "safety" of handling a sulfuric acid drain cleaner (Tr. 12-14), several comments are in order. It must be noted that the potential for injury associated with the highly corrosive nature of sulfuric acid is influenced by several factors, including the toughness of the skin which is exposed to sulfuric acid (e.g., mucous membranes are more susceptible to burns than callous skin), the duration of the exposure to sulfuric acid, and the presence of moisture (sulfuric acid activates more readily in the presence of moisture). Accordingly, it is not surprising that Mr. Siegel could hold his finger, which he carefully dried immediately before exposure, in sulfuric acid for a relatively short time without being burned. However, the picture would dramatically change if moisture were present, if the time period of the exposure were extended, or if the exposure were to more sensitive skin or to a mucous membrane. It is not surprising that this point does not come across in Mr. Siegel's demonstration.

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Having Granted Hercules' Petition, The Commission Should Now Propose The Ban And Should Not Reconsider The Granting Of The Ban

The entire thrust of the ACP's presentation is that the agency should now (for some inexplicable reason) refrain from proceeding with publishing its proposal. Representatives of ACP indicate their willingness to "work out an agenda of research and recommendations" (Tr. 45:24-25), yet offer no explanation for why they appeared at the eleventh hour to attempt to derail a regulatory process set in motion almost three years ago. Nor do they explain why they made no presentation or objection at the Commission's December 1978 public meeting at which the petition was granted. Hercules submits that their efforts are too little and came too late, and that it would now be legally inappropriate for the Commission not to proceed with publication of the proposal.

Section 9(a)(1)(B) of the Consumer Product Safety Act ("CPSA"), 15 U.S.C. §2058(a)(1)(B), indicates (when read in conjunction with 16 CFR §1110.12(b)) that, once the Commission has voted to grant a petition, the procedure is for it to proceed expeditiously with the proposal and to reconsider granting the petition only after the period of public comment. For example, Section 1110.12(b) states in relevant part:

A decision as to the issuance, amendment or revocation of a rule must be made on the basis of all available information developed in the course of the rulemaking proceeding, including information obtained during the period for comment provided under section 9 of the CPSA (15 U.S.C. 2058).

(emphasis added). This regulation indicates clearly and unambiguously that the proper procedure now is to go forth with a proposal in the Federal Register, and if sufficient information is gathered which indicates that these products should not be banned, the agency could withdraw the proposal, but only after it has the public's (and not just the ACP's) comments before it.

The Commission Is Obligated To Publish A Proposal To Ban Sulfuric Acid Drain Cleaners For Consumer Use

While it is the ACP's position that the Commission should delay further before publishing a proposal, it remains Hercules' position (as stated at its December 20, 1979 meeting with CPSC and in subsequent communications) that the Commission should proceed to publish the proposal as expeditiously as possible. In fact, Hercules submits that any further delay in this matter would be

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unreasonable and a violation of the provisions of both the CPSA and the Administrative Procedure Act ("APA").

Hercules first submitted its petition to CPSC in October 1977. It took the Commission until December 1978 to grant this petition. At that time, it directed the staff to prepare forthwith a briefing package, including a Federal Register notice proposing a ban. To date, there is still no firm date for publication of the proposal in the Federal Register. Hercules is unaware of any other petition initiated by a person outside the agency which has been pending as long as the instant one. Indeed, other consumer-initiated bans have taken nowhere near as long from initial proposal to publication of the ban.

For example, the petition to ban unstable refuse bins was filed with the CPSC on January 3, 1975 and granted October 7, 1976. Thereafter, the proposal to ban such products was published for comment on January 7, 1977 and the final ban published on June 13, 1977. See 42 Fed. Reg. 30296 (June 13, 1977). The petition to ban extremely flammable contact adhesives was filed on March 12, 1976. The petition was granted and the proposal published on July 13, 1977, and a final ban was published in the Federal Register on December 19, 1977. See 42 Fed. Reg. 63731 (Dec. 19, 1977). The Commission is thus clearly capable of completing action upon petitions to ban hazardous products in as little as 21 months. This should be contrasted with the 33 months which have elapsed since Hercules submitted its petition, and yet the Commission is yet to publish even a proposal.

Section 10(d) of the CPSA, 15 U.S.C. §2059(d), provides in part:

If the Commission grants such petition, it must promptly commence an appropriate proceeding under Section 2056 or 2057 of this title.

(emphasis added). 5/ See also 16 CFR §1110.12(a). Section 6 of the APA, 5 U.S.C. 555(b), provides:

...within a reasonable time, each agency shall proceed to conclude a matter presented to it.

Additionally, Section 10(e) of the APA, 5 U.S.C. §706, provides that the district courts shall

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5/ Although the petition was filed under the Federal Hazardous Substances Act, it was granted under the CPSA whose terms are therefore applicable to subsequent proceedings.

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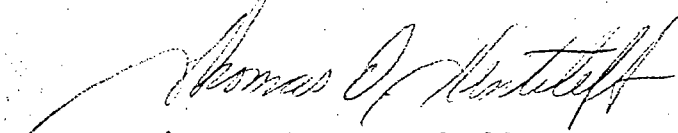
KLEINFELD, KAPLAN AND BECKER

Mr. Bert Simson  
July 25, 1980  
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compel agency action unlawfully withheld or  
unreasonably delayed.....

In light of the increasingly convincing evidence before the  
Commission which supports the ban, Hercules submits that further  
delay in this matter would be violative of the three statutes  
quoted above.

Very truly yours,



Thomas O. Henteleff  
Glenn E. Davis

Counsel for Hercules Chemical  
Company, Inc.

Enclosures

cc: Virginia White  
Carol Roth, Esquire

TOH/GED/mhs

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# **VENUS**

Laboratories, Incorporated



**WESTERN DIVISION**

**18903 SOUTH MAIN**

**GARDENA, CALIFORNIA 90248**

**(213) 770-4900**

**CENTRAL DIVISION**

**855 LIVELY BOULEVARD**

**WOOD DALE, ILLINOIS 60191**

**312-595-1900**

Mr. J. W. Fidler  
Page 2  
May 21, 1980

Although the regulation did not completely eliminate the product from the marketplace, it has virtually removed it from consumer use. Professional plumbers and maintenance personnel may still purchase and use the product provided the container meets labeling requirements. We have maintained a high degree of compliance by surveillance of hardware stores, groceries, variety stores, and other locations where retail purchases are made. Since sulfuric acid drain cleaners have not been available for retail sale since 1971, we do not have injury data concerned with this product either as a result of consumer use or professional use. We have observed injury data in both NEISS participating hospitals and others during our investigations.

I trust the information provided will be of assistance to you.

Yours truly,

*Robert M. Reeves*

Robert M. Reeves  
Director

RMR:mhs

Enclosures

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Sulfuric Acid Drain Cleaners sold in Tennessee

- |                                                                                                                                    | Type of Bottle              |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 1. "Drain Lax" "Solder Seal Brand"<br>Manufactured for: Radiator Specialty Co.<br>Charlotte, N. C. 28201                           | 1/2 gal. PVC                |
| 2. "Johnny on the Spot" Drain Opener<br>Davis-Weil Manufacturing Co., Inc.<br>219 Scott St., Memphis, Tenn.                        | 1 qt. PVC<br>No handle      |
| 3. "Instant Plumber" Liquid Drain Opener<br>Scotch Manufacturing Co.,<br>P. O. Box 4466, Dallas, Texas 75208                       | 1 qt. PVC                   |
| 4. "Drain Snake"<br>Chloroben Chemical Corp.<br>Kearney, N. J.                                                                     | 1 qt. polyprop<br>No handle |
| 5. "Liquid Fire" Long Distance Drain Cleaner<br>Chemical Waste Removal, Inc.<br>6216 Strawberry Lane, Louisville, Ky. 40214        | 1 qt. poly<br>No handle     |
| 6. "Mule Kick" Brand Drain Cleaner<br>J. A. Sexauer Mfg. Co.<br>White Plains, N. Y.                                                | 1/2 gal.<br>poly bottle     |
| 7. "Down and Out"<br>San-Mar Labs.<br>P. O. Box 93188, Martech Sta., Atlanta, Ga. 30318                                            | 1 qt. PVC<br>No handle      |
| 8. "Master-Kleer"<br>Hysan Products Company<br>Chicago 9, Ill.                                                                     | 1 qt. PVC<br>No handle      |
| 9. Superior Drain Opener-Industrial<br>American Chemical Company<br>1426 Silver St., Wickliff, Ohio                                | 1 qt. plasti                |
| 10. Drain Cleaner<br>The Feldkircher Company<br>1001 2nd Ave., South, Nashville<br>Mfg. by Frank Miller & Son<br>Chicago, Illinois |                             |

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- |     |                                                                                                             |                            |
|-----|-------------------------------------------------------------------------------------------------------------|----------------------------|
| 11. | Hercules "Clobber"<br>for Professional Use<br>Hercules Chemical Co.<br>84 5th Ave.<br>New York, N. Y. 10011 | 1 qt. & 1/2<br>gal plastic |
| 12. | KenCo Miracle Drain Cleaner<br>Kenco Chemical and Mfg. Co., Inc.<br>P. O. Box 6246, Jacksonville, Fla.      |                            |
| 13. | Dyno-Drain<br>Skosol<br>Box 13088<br>Webster Groves, Missouri                                               | 1 qt. plastic<br>No handle |
| 14. | Mister Plumber (old formulation)<br>National Solvent Corp.<br>Cleveland, Ohio                               |                            |

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TENNESSEE HAZARDOUS SUBSTANCES ACT  
LABELING REQUIREMENTS FOR DRAIN CLEANERS  
AND OTHER PRODUCTS CONTAINING SULFURIC ACID

I. Requirements of Section 53-3713 (o) (1) and (2)  
"Misbranded Hazardous Substances"

The package containing this hazardous substance, Sulfuric acid, shall not fail to bear a label (1) which states conspicuously the following statements and (2) on which these required statements are located prominently and are in the English language in conspicuous and legible type in contrast by typography, layout, or color with other printed matter on the label:

Requirement A. the name and place of business of the manufacturer, packer, distributor or seller, the statement of the place of business to include the street address, city, state, and ZIP Code.

Requirement B. the chemical name SULFURIC ACID of the hazardous substance or of each component which contributes substantially to the hazard (on principal label).

Note: the common name "oil of vitriol" is obsolete and should not be used.

Requirement C. the signal word "DANGER" on principal label of this substance which is corrosive and highly toxic.

Requirement D. the signal words "Warning" or "Caution" are not applicable to sulfuric acid products.

Requirement E. an affirmative statement of the principal hazards: (on principal label)

DANGER ! CAUSES SEVERE BURNS.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING

DO NOT ADD WATER TO CONTENTS WHILE IN A CONTAINER  
BECAUSE OF VIOLENT REACTION.

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Requirement F. precautionary measures describing the action to be followed or avoided: (on principal label) "USE ONLY WITH ADEQUATE EYE PROTECTION" and "READ ALL DIRECTIONS (CAUTIONARY INSTRUCTIONS) CAREFULLY BEFORE USING"; and clearly worded cautionary directions for safe handling which stress the necessity for complete eye protection and the wearing of protective clothing, which warn the user to stand well clear of the drain opening and not to pour product into standing water (not to use if drain is completely clogged), with affirmative statements of the corrosive effects of sulfuric acid on metals and other materials, and to include the statements "NOT FOR HOUSEHOLD USE" and "FOR INDUSTRIAL USE ONLY" (or "FOR USE BY QUALIFIED PERSONNEL ONLY").

Requirement G. instruction for first aid treatment: (on principal label)

IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN OR EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES; FOR EYES GET MEDICAL ATTENTION.

and additional detailed instructions (antidote statements) to include "If taken internally (swallowed); Call a physician immediately. Give at once large amounts of water to reduce the concentration. Do not attempt to induce vomiting. Give milk of magnesia or white of eggs beaten with water; avoid carbonates."

Requirement H. the word POISON, on principal label, for this hazardous substance defined as highly toxic.

Requirement I. instructions for handling and storage of bulk shipments and packages which require special care in handling or storage: to include "Sulfuric acid in its higher concentrations may cause ignition by contact with combustible materials . . . Safeguard against mechanical injury of containers . . . Do not store with combustible materials or with such products as bleach agents, nitrates, carbides, chlorates, and metal powders."

Requirement J. the statement KEEP OUT OF THE REACH OF CHILDREN. (on principal label).

NOTE: The statement of the net volume of the contents shall appear as a distinct item within the bottom 30 percent of the area of the principal label panel.

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II. Additional Requirements of Regulation 102 "Misbranded Hazardous Substances", Section 102.1 (A) and (B). Sulfuric Acid Products and Labeling Requirements, Effective June 21, 1971; and Regulation 101.1 "Banned Hazardous Substances".

101 Banned Hazardous Substances

101.1 That Liquid Drain Openers (Drain Cleaners) containing sulfuric acid and any preparation or product containing sulfuric acid in a concentration of 10 percent or more, intended or packaged in a form suitable for use in households, are declared to be banned hazardous substances and are to be removed from commerce within the State of Tennessee.

102 Misbranded Hazardous Substances

102.1 (A) Sulfuric Acid or any preparation or product containing free or chemically unneutralized sulfuric acid ( $H_2SO_4$ ) in a concentration of 10 percent or more, intended for use by business or service establishments; unless packaged in containers suitable for safe-handling of this corrosive substance; such containers shall be made of materials resistant to the contents, with closures adequate to prevent leakage, and of such design or rigidity to prevent expulsion of the contents when container is grasped; and unless labeled according to the requirements of Chapter 37 Section 53-3713 (o) and the following additional labeling requirements necessary for the protection of the public health and safety, are declared to be misbranded hazardous substances and are to be removed from commerce.

This regulation shall not apply to sulfuric acid or sulfuric acid solutions intended for use in laboratories and chemical or drug manufacturing, provided that the containers are labeled to conform with the precautionary Labeling requirements set forth in Manual L-1, "Guide to Precautionary Labeling of Hazardous Chemicals" published by the Manufacturing Chemists Association.

102.1 (B) Labeling Requirements For Sulfuric Acid and Preparations Containing Sulfuric Acid in a Concentration of 10 Percent or More.

The label shall conform to the appropriate requirements of Section 53-3713 (o) (1) and (2) with the additional requirements for a substance classified both as corrosive and highly toxic.

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The principal label shall consist of the following:

| Section 53-3713 (o)                                                                                                                                                                                         | Minimum Type Size |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Req. B (contains) SULFURIC ACID .                                                                                                                                                                           | 12 pt. caps       |
| Req. C DANGER! CAUSES SEVERE BURNS                                                                                                                                                                          | 18 pt. caps       |
| Req. E DO NOT GET IN EYES, ON SKIN, ON CLOTHING                                                                                                                                                             | 12 pt. caps       |
| Req. F USE ONLY WITH ADEQUATE EYE PROTECTION                                                                                                                                                                | 12 pt. caps       |
| Req. G In Case of Contact, Immediately flush skin or eyes with plenty of water for at least 15 minutes; for Eyes get medical attention.                                                                     | 12 pt.            |
| Req. E DO NOT ADD WATER TO CONTENTS WHILE IN A CONTAINER BECAUSE OF VIOLENT REACTION                                                                                                                        | 12 pt. caps       |
| Req. H  POISON<br>Call A Physician  | 18 pt. caps       |
| Req. J KEEP OUT OF REACH OF CHILDREN                                                                                                                                                                        | 12 pt. caps       |

Such information shall appear together on the main panel and distinctively apart from other wording or designs. The signal word DANGER! CAUSES SEVERE BURNS and the word POISON shall be in capital letters or not less than 18 point type; and the statements of the contents and principal hazards shall be in capital letters of not less than 12 point type. The label shall contrast with the background by use of distinctive typography or color.

The entire label shall be resistant to attack by the acid contents.

There shall also appear on the container detailed cautionary information as to safe handling and usage of the product and first aid measures. No words or statements may appear that in any manner negates or disclaims any of the required statements of hazards.

June 10, 1971

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*State of Tennessee*  
**DEPARTMENT OF AGRICULTURE**

ELLINGTON AGRICULTURAL CENTER  
Box 40627, Melrose Station  
Nashville, Tenn. 37204

Winfield Dunn, *Governor*  
Gil F. Thornton, *Commissioner*  
Bill Walker, *Deputy Commissioner*

**Hearing On Banning of Sulfuric Acid Drain Cleaners**  
**July 7, 1971**

I am Eugene H. Holeman, Food and Drug Director and State Chemist. I graduated from the public schools of Shelby County, Tennessee, completed two (2) years at Union University, Jackson, Tennessee and three (3) years with a B.S. in Chemistry from the University of Tennessee.

I have taken short courses in Chemistry at Vanderbilt University, U.S. Army Chemical Warfare Extension courses and served in the Chemical Warfare Service. I have worked as a chemist in the Tennessee Department of Agriculture and in drug manufacturing. I have held my present position since 1950.

Statement

Sulfuric Acid,  $H_2SO_4$ , is a hazardous and toxic chemical in its concentrated form (92-96%), specific gravity 1.82-1.84. Since the Banning Order which became effective June 21, 1971 was on sulfuric acid of greater than 10% concentration, I will not discuss the hazards and toxicity at lower concentrations.

The colorless (dark or discolored) commercial product has a toxic hazard rating as follows:

- (1) Acute Local: Irritant 3; Ingestion 3;  
Inhalation 3.
  - (2) Acute Systemic U.
  - (3) Chronic Local: Irritant 2; Inhalation 2.
  - (4) Chronic Systemic: U.
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The Toxic Rating Code; N. Irving Sax, Dangerous Properties of Industrial Materials is as follows:

0 = None;      1 = Slight;      2 = Moderate;  
3 = High;      U = Unknown

Therefore, the acute local irritant is high, ingestion is high and inhalation is high.

It has been my personal experience that even in the hands of educated or experienced handlers that contact with the body will result in destruction of tissue, severe burns, slow and difficult healing and extensive scar tissue. A brother of mine was drenched from the waist down when the bottom of a bottle of concentrated sulfuric acid which he was lifting to a shelf collapsed. Even though he was given immediate first aid treatment with plenty of water washings; he was hospitalized for many days and was permanently scarred.

I have myself burned my clothes and skin with sulfuric acid when working in the laboratory and have seen several metals and alloys disintegrate under the corrosive action of the acid.

The investigations I have made in connection with the injuries which occurred in Memphis, Shelby County, Tennessee, our survey of the field by personal contact and through our inspection and technical staff, has convinced me that concentrated sulfuric acid should be banned from the home, and that strict labeling directions and container construction should be required for the continued use of sulfuric acid in industrial establishments.

Following our investigations and promulgation of the proposed regulation by Commissioner Thornton, on May 21, 1971, I notified all the known manufacturers (38) or distributors of sulfuric acid drain openers in Tennessee sending them a copy of the banning order on concentrated sulfuric drain openers and instructions on labeling and packaging construction. To date, July 7, 1971, we have had letters from eleven (11) manufacturers or distributors in which they have submitted copies of their labels or have sent containers requesting our comments on this material for compliance with the Tennessee Hazard Substance Act and Regulations. None of these inquiries requested permission to sell their product for household use. All of these establishments are selling to businesses or service establishments. One company, in addition to the above eleven, the Scotch Manufacturing Company of Dallas, Texas, requested a hearing, which is now being held, asking permission to continue their production of "Instant Plumber" for household use.

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I recommend that Regulation 101 as issued by Commissioner of Agriculture, Gil F. Thornton, which became effective on June 1, 1971 for the purpose of prohibiting the sale of sulfuric acid for home use, and which set up labeling and container specifications for concentrated sulfuric acid for industrial uses, be maintained.



Eugene H. Holeman

Food and Drug Director

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**State of Tennessee**

**DEPARTMENT OF AGRICULTURE**

ELLINGTON AGRICULTURAL CENTER  
Box 40627, Melrose Station  
Nashville, Tenn. 37204

Winfield Dunn, Governor  
Gil F. Thornton, Commissioner  
Bill Walker, Deputy Commissioner

**Hearing On Banning of Sulfuric Acid Drain Cleaners  
July 7, 1971**

I, Russell Creveling Campbell, have been an organic chemist for twenty years. Both my undergraduate and graduate studies in chemistry and chemical engineering were performed at Vanderbilt University. I have been employed by the State of Tennessee for 7 1/2 years, until recently as Industrial Hygiene Chemist and Toxicologist in the Department of Public Health.

I have many years of experience working with sulfuric acid, having used the concentrated acid as a reaction medium for kinetic studies while in graduate school and subsequently as a reagent of almost daily usage. I am very familiar with the hazards and the necessary cautionary measures of handling concentrated sulfuric acid in the laboratory, as well as with its toxicity and hazards in industrial and professional use.

**Statement**

Sulfuric acid,  $H_2SO_4$ , is a hazardous substance classified both as corrosive and highly toxic, and requires the signal word DANGER to correctly describe the hazards. Due to its corrosive, oxidizing and sulfonating properties, sulfuric acid produces rapid destruction of tissues and severe burns on contact with bodily tissues of any kind. Contact with the eyes very rapidly causes severe damage which may be followed by total loss of sight. Swallowing may cause severe injury or death.

It is thus seen that sulfuric acid is doubly dangerous, especially to the untrained and the unwary. Safety in handling and usage of this acid depends upon the effectiveness of education, proper training in safe practices, and the use of safe equipment and personal protective equipment, all under intelligent supervision. The safe handling of sulfuric acid is not a self-taught skill.

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average person possess, or have access to, the required personal protective equipment to insure adequate eye protection. The handler of this substance must be fully informed as to first aid measures, and have immediate access to an eye-wash or drinking fountain and safety-shower.

The poisoning hazard of sulfuric acid in the home is extremely great due both to the corrosive and highly toxic nature of the substance and to the fact that the consumer is often not aware of the inherent danger. A small child could very easily pick up an "innocent looking container" of a dark, sometimes pink, odorless, syrupy liquid and drink a swallow or spill the contents on himself. The tragic effects of such actions, even should proper emergency measures be applied immediately, are easily foreseen.

In view of the degree and nature of the hazards involved in the presence or usage of sulfuric acid in households, it is considered that this substance cannot be safely used by the householder, even when the product is labeled with all required cautionary information. Sulfuric acid and all products containing more than 10% sulfuric acid should be banned from the household use market in the interest of the public safety.

There are not less than thirty-five (35) brands of sulfuric acid drain cleaners on the market in Tennessee, as revealed by investigations of the Food and Drug Division. All manufacturers or distributors of these products, except one, state that their products are sold only for professional use by plumbers, maintenance, and service personnel, and most brands have been found to be so labeled.

None of the brands of sulfuric acid drain cleaners, whose labels have been examined, meet the labeling requirements of the Tennessee Hazardous Substances Act of 1970, which are identical with the requirements of the Federal Hazardous Substances Act (1966). It is thus seen that manufacturers, who readily acknowledge the hazardous nature of their drain cleaners and recognize the necessity for limiting the distribution to qualified personnel, market products in packages with labels which fail to prominently display the required statements of the signal word DANGER, the principal hazards, protective and emergency measures and the words POISON and KEEP OUT OF REACH OF CHILDREN.

My investigation of the marketing and use of liquid drain cleaner has disclosed a number of mishaps in the handling and use of these products. There were an alarming number of instances reported of "flash-backs" or "blowouts", the geysering effect after the cleaners

July 7, 1971  
Page 3

wearing adequate eye protection and protective clothing is very poor. Many tradesmen have reported to the suppliers accounts of attack by the acid upon enamel, concrete floors, metal piping and clothing.

The Public Works Department, State of Tennessee, restricted the usage of these cleaners solely to the staff plumbers, after several instances in which acid-filled and still stopped drain lines had to be disconnected; all usage of acid drain cleaners has been discontinued.

Based upon all the above findings, I conclude that sulfuric acid drain cleaners are not only inherently dangerous and unsafe to use, but are of doubtful effectiveness.

*Russell C. Campbell*  
Russell C. Campbell  
Chemist

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#### References

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2. Chemical Toxicology of Commercial Products, Gleason, Gosselin, and Hodge, Williams and Wilking Compnay.
3. Dangerous Properties of Industrial Materials, N. Irving Sax, Reinhold Publishing Corporation
4. "Consumer Reports", August 1970, pp. 481-484.

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ALL PRODUCTS F.O.B. OUR PLANTS WOOD DALE, ILLINOIS/GARDENA, CALIFORNIA  
EXCEPT ON 10,000 to 24,000 - VENUS SPLIT CHARGES 50/50; 24,000 LBS. UP - PREPAID  
MINIMUM SHIPMENTS \$25.00, OTHERWISE A SERVICE CHARGE OF \$3.00 ON EACH ORDER UNDER \$25.00

ONE TIME CHARGE \$25.00

**INITIAL ORDER FOR EACH PRODUCT OF \$500.00 NO CHARGE**

**UNDER \$500.00 A ONE TIME CHARGE OF \$25.00**

ALL ART WORK TO BE SUPPLIED BY PURCHASER

**TERMS: 1% 10 DAYS - NET 30 DAYS**

**FOR RETURNS THERE IS A 15% REPROCESSING CHARGE**

**PRICES SUBJECT TO CHANGE WITHOUT NOTICE**

|     |                                                                              |
|-----|------------------------------------------------------------------------------|
| 401 | ALUMINUM CLEANER-DE-RUSTER                                                   |
| 621 | ANTI-VANDALISM REMOVER - THICK                                               |
| 701 | AUTO & BUS SPRAY CLEANER 1-100                                               |
| 106 | BOWL & PORCELAIN CLEANER - THICK                                             |
| 517 | CARBURETOR CARBON & BAKED ON GREASE - DIP TYPE                               |
| 301 | CARPET SPOT REMOVER - ALL PURPOSE                                            |
| 412 | CHROME, STAINLESS STEEL, COPPER & BRASS ABRASIVE                             |
| 507 | CONCRETE FLOOR DEGREASER & TIRE MARK REMOVER - EMULSIFIABLE                  |
| 514 | COSMOLINE REMOVER FOR ALL CARS, TRUCKS                                       |
| 408 | DESCALER & DELIMER FOR BOILERS, POOLS AND ENGINES                            |
| 403 | DUST REMOVER                                                                 |
| 115 | DRAIN & SEWER CLEANER - SINKS, TOILETS, SUMP PUMPS, - TEMPERED SULFURIC ACID |
| 503 | ELECTRIC MOTOR & EQUIPMENT CLEANER - 26,000 VOLT CAPACITY                    |
| 509 | ENGINE DEGREASER DILUTABLE WITH FUEL OIL OR KEROSENE - EMULSIFIABLE          |
| 107 | ENZYMATIC CLEANER                                                            |
| 305 | FAST CARPET CLEANER - 30 MINUTES                                             |
| 902 | GERMICIDAL CLEANER PHENOL COEFFICIENT 43                                     |
| 903 | GERMICIDAL CLEANER PHENOL COEFFICIENT 20                                     |
| 407 | HAND CLEANER (LOTION TYPE) PINK - THICK                                      |
| 413 | HAND CLEANER WATERLESS HEAVY DUTY                                            |
| 517 | IMMERSION CLEANER                                                            |
| 515 | INDUSTRIAL SAFETY SOLVENT EXTRA HEAVY DUTY SOLVENT TYPE - EMULSIFIABLE       |
| 900 | LEMON ODOR DISINFECTANT CLEANER                                              |
| 226 | MACHINERY WALL & HARD SURFACE CLEANER                                        |
| 227 | NEUTRAL HEAVY DUTY ALL PURPOSE CLEANER                                       |
| 636 | PAINT STRIPPER - DIP TYPE                                                    |
| 609 | PAINT STRIPPER - BRUSH ON TYPE                                               |
| 303 | RUG & CARPET CLEANER - DRI FOAM                                              |
| 835 | SEWER & CESSPOOL CLEANER & DEODORANT - HEAVY DUTY                            |
| 504 | STEAM CLEANER - REGULAR                                                      |
| 508 | STEAM CLEANER - HEAVY DUTY                                                   |
| 608 | TAR & ASPHALT REMOVER - EMULSIFIABLE                                         |
| 207 | WAX REMOVER & FLOOR STRIPPER                                                 |
| 406 | WINDOW & GLASS CLEANER                                                       |

|     |                                                        |
|-----|--------------------------------------------------------|
| 815 | ASPHALT PATCHING COMPOUND                              |
| 814 | CONCRETE PATCHING COMPOUND                             |
| 501 | ELECTRICAL EQUIPMENT, METAL PROTECTOR                  |
| 202 | FLOOR FINISH ACRYLIC 20%                               |
| 225 | FLOOR FINISH METALLIC 20%                              |
| 404 | MULTI PURPOSE POLISH - WOOD, MARBLE, FORMICA AND GLASS |
| 216 | POLYURETHANE TYPE CONCRETE FLOOR FINISH 35%            |
| 222 | POLYURETHANE TYPE WOOD FLOOR FINISH 45%                |
| 512 | SNOW PLOW WAX                                          |

## **BOWL CLEANERS, DRAIN & SEWER OPENERS**

- 101 POWDER DRAIN & SEWER OPENER - SULFURIC ACID BASE, 40 lb. PAILS (USDA Approved)**  
Organic sewer digester and cleaner will dissolve sanitary napkins, root debris, paper, cloth foliage, food scraps and other organic obstructions.  
101 is a blend of highly active, but inhibited acids in a time capsule for time release. It works by releasing the acids in a safe manner and attacking almost all kinds of organic material. Safe for all types of sewer lines, fittings, packings, septic tanks, and sewerage treatment plants. Excellent for drains over 4".
- 103 LIQUID DRAIN OPENER - CAUSTIC SODA (USDA Approved)**  
A non-fuming, odor-free, no boil back drain pipe opener that quickly frees drains of hair, oil, grease, soap and other organic materials. No poison label required.
- 104 BOWL CLEANER - 20% PHOSPHORIC ACID (E.P.A. Registered-USDA Approved)**  
Deodorizes and cleans toilets, urinals, and bedpans. No poison labels. Excellent for women. Especially formulated for institutions that do not permit the use of any hydrochloric acid base product.
- 105 BOWL CLEANER - 23% HCL (E.P.A. Registered)**  
Recommended for heavily stained units and extremely hard water areas. Average usage 1 oz. per unit.
- 106 BOWL CLEANER, VISCOUS - 9½% HCL (E.P.A. Registered)**  
A viscous pink bowl cleaner that works on toilet bowls and urinals as effectively as the heavy acid bowl cleaner. Product does not damage any surface by spillage. A pleasing sassafras odor and ease of use. Makes a sometimes nasty problem a pleasure. Use on all toilet bowls and urinals. When used as directed, it is safe on sinks, shower walls and other bathroom fixtures.
- 107 ENZYMES DRAIN OPENER - (USDA Approved)**  
A combination of bacteria cultures and enzymes, as well as nutrients. Used to keep drains and sewers open safely and odor-free nature's way by consuming obstructions before they are formed.
- 108 LIQUID ENZYMES**  
A drain pipe opener in liquid form to replace the powders. Fast acting.
- 110 LOW ACID BOWL CLEANER - 9½% HCL**  
Cleans urinals and bowls completely, yet competitively priced for bids.
- 111 LOW ACID BOWL CLEANER - 9½% HCL (FASHION)**  
Extra high viscosity, clings and cleans beautifully. Pleasantly scented.
- 114 ENZYME DRAIN OPENER - LOW COST**  
A combination of bacteria cultures and enzymes as well as nutrients formulated for low budgets.
- 115 LIQUID DRAIN & SEWER OPENER, PARTIAL SULFURIC ACID BASE (Patent applied for)**  
A partial sulfuric acid base drain opener that breaks down organic obstructions. It is heavier than water and sinks to the point of trouble. Inhibited to protect pipes and fittings by a protective coating from rust and corrosion. The safest of all sulfuric drain openers. Takes one minute before burning skin.  
Usage: Toilet bowls, urinals, sinks, bath tubs, shower stalls, and small drains.
- 120 SUPER ENZYMES**  
50% stronger than #107.
- 6150  
1X

## CLEANERS, DEGREASERS, & FLOOR COATINGS

**200 ACRYLIC FLOOR FINISH 12%**

A semi buffable high luster floor finish that is competitively priced for the bid market.

**201 ACRYLIC FLOOR FINISH 16% SOLIDS**

An acrylic semi buffable floor finish that will not yellow or powder the floor. Extremely durable. It is self leveling and easy to apply. Use on all floor surfaces, including wood or ceramic floors. When diluted with water, it makes an excellent spray-buff solution, or it can be mopped on the floor to remove light dirt and restore walked-off floor finish.

**202 ACRYLIC FLOOR FINISH 20% SOLIDS**

An acrylic floor finish that is semi-buffable. Develops a very hard coat. Repeated layers will not yellow the floor. Anti-slip, anti-stain, and anti-heel marking. Very durable. Resists black marks and scuff marks.

**203 GENERAL PURPOSE CLEANER, PINK VISCOUS, NEUTRAL**

A pink viscous concentrated floor and all purpose cleaner. Contains no soap, leaves no film and is effective in hard water. A free-rinsing product that is non-caustic and non-toxic. Use on painted walls, ceramic tile, brick, kitchen stoves, canopies, hoods, and all floor surfaces. Phosphate NTA free.

**204 FLOOR SEALER ACRYLIC 13% (USDA Approved)**

Seals and acts as an undercoater for all floors. Use on concrete, wood, tile, rubber, vinyl, vinyl asbestos, ceramic, baked clay and other surfaces.

**205 FLOOR SEALER ACRYLIC 20%**

One coat of our 20% is all that is necessary to seal or prime any type of floor.

**206 HEAVY DUTY MULTI PURPOSE BUTYL CLEANER (USDA Approved)**

Extra-heavy-duty, fast-working wax stripper and cold degreaser. Phosphate and NTA free. Excellent for cleaning surfaces that must be maintained with liquid cleaner. Removes grease, oil, wax, gum, carbon and ink.

**207 AMMONIATED STRIPPER, STRIPS ALL FLOOR FINISH (USDA Approved)**

The maximum in wax stripper. Quick emulsifying quality, mildly alkaline, plus ammonia. Provides a stripper with real power for doing the real tough jobs.

**208 NEUTRAL CLEANER PH 7 (USDA Approved)**

Eliminates the need for high alkali cleaners that leave a dull film on your floors. Low foaming reduces the need for excessive rinsing, and is loaded with emulsifiers to break down the most stubborn soils. Use an all purpose cleaner to clean all washable surfaces.

**209 SPRAY BUFF FLOOR CLEANER & FINISH**

Spray lightly in front of your buffing machine with a buffing spray buff pad to pick up soil and re-deposit adequate floor finish. The floor can be polished to a glass like finish that will not cause slipping.

**210 CROSS, LINKED, INTERLOCKED METALLIC FLOOR FINISH**

Produces an extremely high gloss coupled with excellent slip resistance. Colorless and odorless. Excellent resistance to water spotting, scuff & black heel marking and detergent scrubbing. The spray-buff method can produce a glass-like effect, when properly applied.

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## CLEANERS, DEGREASERS, & FLOOR COATINGS (cont.)

- 211 NON-BUTYL WATER BASE DEGREASER CONCENTRATE**  
Fast working stripper and cold degreaser. Excellent for cleaning hard surfaces, machinery, walls. Can be used on all surfaces where you can use water. Non-toxic-contains no chlorinated solvents - low foaming - free rinsing.
- 212 SCUM REMOVER**  
Contains no corrosive chemicals, yet easily removes metallic deposits from mosaic floors, resilient floors, lavatories, drinking fountains, bath tubs, shower stalls, terrazzo, marble travertine, terra cotta, magnesite, concrete, etc. Restores soiled areas to original color and brightness. Add to soap or rinse water for a bright floor.
- 216 POLYURETHANE SEALER (USDA Approved)**  
Hard durable film that cures and hardens concrete and leaves a glossy film on the surface.
- 220 JELLY SOAP**  
A fine blend of soap and other detergents with a pleasant fragrance.
- 222 POLYURETHANE WOOD FINISH**  
This Wood Finish incorporates the latest developments in the area of floor coating chemistry. Unlike most other products on the market, this finish can be used inside or outside without discoloration. This product is recommended for all wood floors. Coverage: 300 to 500 sq. ft. per gallon. Drying time: one hour.
- 225 SUPER GLOSS METALLIC FLOOR FINISH 22% SOLIDS (USDA Approved)**  
An entirely new concept in floor finishes. A detergent resistant acrylic polymer that dries to extreme hardness, has beautiful luster with minimum of scuffing, and perfect leveling under all application conditions. High Gloss, durable polymer finish 22% solids is recommended for finishing asphalt tile, vinyl, vinyl asbestos, seamless rubber, linoleum, sealed wood, terrazzo, concrete, masonite and cork floors. For use on all types of floors. Coverage: 1500 sq. ft. per gallon. Drying time: 15 - 30 minutes.
- 226 SUPER BUTYL CLEANER (USDA Approved)**  
Super Butyl Cleaner for machinery, motors, garage floors, etc.: Floats away grease, oil, printing inks and dyes from heavy machinery, tools, all metal surfaces. Removes grease, oil wax, gum, dye, light carbon, etc. Phosphate and NTA free. Highest solids.
- 227 SUPER NEUTRAL CLEANER (USDA Approved)**  
Super Neutral Cleaner is a heavy duty concentrate. Removes all traffic dirt, cleans and conditions surfaces, leaves no greying film and maintains original luster. Use on asphalt, vinyl, terrazzo, mastic, linoleum, composition, marble, ceramic, sealed wood and formica. Highest solids.

## CARPET AND FABRIC MAINTENANCE PRODUCTS

- 301 CARPET SPOT REMOVER**  
A solvent based spotting cleaner that is sprayed or brushed on. Allow to dry. Brush or vacuum the powder residue. Grease, oil and dirt is absorbed into the powder.
- 302 RUG SHAMPOO 16/1**  
A neutral rug shampoo. Cannot cause browning or hazing on carpets or rugs. Will brighten and safely clean properly all types of carpets, both natural & synthetic.
- 303 RUG SHAMPOO 40/1 (USDA Approved)**  
For professional rug cleaners. This is a thick viscous liquid that is really concentrated and does a tremendous job. Contains optical brighteners. The thick suds dry to a powder for easy vacuuming. Dilute with up to 40 parts water.
- 152

## CARPET AND FABRIC MAINTENANCE PRODUCTS (cont.)

### **304 SOIL RETARDENT**

Repells dirt by putting a protective shield over the surface without harming the fabrics. Lengthens the time between shampooing. Apply lightly with a conventional sprayer.

### **305 INSTANT RUG CLEANER**

Takes care of soiling on carpets that builds up between shampooing. Dries in 15 to 45 minutes. As easy as damp-mopping a resilient floor.

### **306 ANTI-STATIC FOR SHOCK PREVENTION**

Eliminates static electricity from carpets and other surfaces. Use one part of our material to 3 parts water and spray directly on surface using conventional spraying equipment. One pint of solution will treat approximately 15 square yards of carpeting.

### **307 CHEWING GUM AND TAR REMOVER**

For removing chewing gum, crayon, ink, lipstick, tar, grease, oil and many other hard to remove stains. Apply by brushing, wiping or pouring on the stained surface (carpet, desk, woodwork, formica, molding, etc.) Allow to set a minute, then scrape or brush up the debris. Do not use on air dried plants. Use as is.

### **310 CARPET STEAM CLEANER**

Specially formulated to be used with steam cleaning carpet machines.

### **312 DEFOAMER FOR STEAM-CARPET CLEANING MACHINES**

Water soluble foam controller. May be mixed with detergents to reduce foam. Does not effect the detergency of the product.

## MISCELLANEOUS ACID CLEANER AND HARD SURFACE POLISHES

### **400 SUPER ALUMINUM CLEANER**

Hydrogen fluoride, butyl and phosphoric acids. Cleans, polishes and protects not only aluminum, but stainless steel, chrome, brass and copper. No hard rubbing necessary.

### **402 ALUMINUM AND CHROME RUST REMOVER (USDA Approved)**

A viscous safe rust remover for all types of metals. High concentration of safe acid removes completely deep rust layers. Prepares surface for painting.

### **403 MAGNETIC DUST TRAP**

Will not damage or stain resilient floors. Puts a protective wax-like coating on the floor while picking up 97% of the dust.

### **404 MULTI-PURPOSE WHITE EMULSION POLISH ON WOOD, MARBLE, ETC.**

Product has silicones and waxes in it to enhance the beauty of all surfaces. Apply in normal manner and buff to as high a gloss as desired.

### **405 STAINLESS STEEL AND WOOD POLISH**

Versatile fast working, pleasantly scented conditioner. Cleans, polishes and eliminates scratches and blemishes on finished surfaces. May be safely used on all wood surfaces as well as stainless steel, chrome and marble.

### **406 WINDOW CLEANER**

Dust resistant. Leaves no film, wax-free, stays cleaner longer. Concentrated, cleans and shines all glass, mirrors, show cases and all other glass surfaces. Can be used in below freezing weather if not diluted.

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## MISCELLANEOUS ACID CLEANER AND HARD SURFACE POLISHES (cont.)

- 407 LIQUID HAND CLEANER - CREAMY PINK (USDA Approved)**  
Will not clog dispensers, because of its excellent flow properties. Pleasant odor, rose color, will not be damaging to any part of the body. Contains glycerin and lanolin.
- 408 DESCALER & DELIMER FOR BOILER, SWIMMING POOLS, ETC. (USDA Approved)**  
A fast-acting solvent for dissolving lime & calcium scale. It is formulated with a high acid content, wetting agents, and inhibitors which enables quick penetration of scale with safety to metal. Use in pipes, water heaters, dish washing machines, air conditioners, etc. Use only when water is cool.
- 409 CALCIUM SOLVENT**  
A high acid cleaner to clean lime and scale from boilers, air conditioners, and water towers. Use with care.
- 410 LIQUID HAND DISH WASH, POT & PAN CLEANER, NEUTRAL PH**  
A highly concentrated pink liquid for washing dishes, glasses, pots and pans by hand. Excellent for hand washing woolens, nylons, other synthetic fibers and your favorite pet. Effective in hard or soft water. Easy on the hands. Contains no soap or alkalis.
- 411 RINSE AWAY DISHWASHER ADDITIVE**  
A high liquid concentrate that is added to the rinse water in dishwashing machines by rinse injector. Eliminates the problem of water-spotting on china, glassware and silverware.
- 412 CREAM POLISH REPLACES KITCHEN CLEANER (USDA Approved)**  
A sophisticated blend of solvents to clean and brighten without the harmful abrasive action of powdered cleansers. Brightens all surfaces including chrome, stainless steel, copper and brass.
- 413 WATERLESS HAND CLEANER**  
A modern formula waterless hand cleaner. Completely emulsifies oil and grime on hands. Can be wiped off with towel or rinsed with water. Low PH insures no skin irritation.
- 414 MARBLE & TERRAZZO CLEANER, VISCOUS**  
A non-acid cleaner for lifting rust, dirt and stains from terrazzo and marble floors. Cleaning action like muriatic acid, but is non-acid. Restores surface to a clean new look. Viscous enough to cling to vertical surfaces.
- 415 CLEANS LIME, SCALE FROM SINKS, COFFEE POTS, WALL & CERAMIC TILE (USDA Approved)**  
Unsurpassed for removing scum and excess lime deposits on most surfaces and glassware, rubber-baseboards, ceramic tile, plastic wall tile, chrome, porcelain, stainless steel, shower stalls, bathroom fixtures, milkstone in dairies and defatting dishes.
- 417 INDUSTRIAL STRENGTH LIQUID HAND SOAP**  
Has extra strength but is gentle to the hands. Excellent for removal of heavy soil and dirt from the hands and body.
- 419 CONCRETE RELEASE**  
Makes removal of concrete from mixing machines easy.
- 420 VINYL LUSTRE**  
Cleans and protects vinyl surfaces.
- 154 X

**MISCELLANEOUS ACID CLEANER AND HARD SURFACE POLISHES (cont.)**

- 423 OVEN CLEANER (USDA Approved)**  
Eliminates the most baked on carbon from ovens, grills and frying pans.
- 424 STONE, BRICK AND MASONRY CLEANER**  
Is a non-flammable product that cleans the surface without destroying the grout. Apply to surface and scrub slightly. Flushes off with water.
- 425 TILE KLENZ**  
A safe, very effective, easy to use, mildly acidic tile and porcelain cleaner.
- 426 LIQUID HAND SOAP: 15%**  
A blend of coconut oil and glycerine to make an excellent sudsing product.
- 427 CUTS RUST REMOVER - LOW COST (USDA Approved)**  
Low cost, safe all-purpose rust remover.
- 428 SILICONE GLASS CLEANER**  
A window cleaner made with silicones to give a high lustre on all glass surfaces.
- 430 CONCRETE CLEANER**  
Removes rust and stains and cleans grout. Prepares for sealing and/or painting.
- 432 EMULSION FURNITURE POLISH**  
Thick and creamy. The best of all.
- 434 LIQUID WATERLESS HAND CLEANER**  
Cleans hands without water. Rub hands dry with towel.
- 435 INHIBITED HYDROCHLORIC ACID 18% BAUME - DESCALER AND DELIMER**  
A super concentrated form of muriatic acid. Efficient and economical. Use with care.
- 436 PHOSPHORIC ACID 75%**  
**METAL RUST REMOVER:** A super concentrated form of phosphoric acid to be used for removal of rust and corrosion. Phosphortizing all metal parts. Do not use on active metals such as magnesium. Use with care.
- 437 COIL CLEANER AND BRIGHTENER**  
Removes algae, lime, etc. from all coils. Do not use on aluminum.
- 155  
X

## DEGREASERS, SAFETY SOLVENTS AND PROTECTIVE COATINGS

### **501 ELECTRICAL EQUIPMENT METAL PROTECTOR**

Used on all metal exposed to weather. Puts a coated barrier between the metal and the elements. Apply by spraying, brushing, or immersion. Easily removed for painting or in-service use.

### **502 IRON & STEEL DERUSTER**

Contains 10% HCL plus inhibitors to clean out all rust and restore material to service.

### **503 SAFETY SOLVENT CLEANER AND DEGREASER (USDA Approved)**

A cold degreaser that allows you to clean electric motors while they are in operation. Displaces condensation. Use to clean machinery while running. Will resist 25,000 volts. A blend of chlorinated solvents and mineral spirits. No flash.

### **504 LIQUID STEAM CLEANER**

Designed to do a very effective job on all types of metal. Helps to prevent lime build-up in the coils. Contains metasil to inhibit corrosion.

### **505 SUPER SAFETY SOLVENT NON COMBUSTIBLE**

Used where flame hazard exists. No film of any type remains after air spraying or wiping off. Use as vapor degreaser and cold tank cleaner.

### **506 HEAVY DUTY METAL & EQUIPMENT CLEANER**

Water-based cleaner will take care of the most obstinate grease, oil and other films from most surfaces. Dilute up to 1-100 times.

### **507 WATER SOLUBLE CONCRETE FLOOR DEGREASER AND TIRE MARK REMOVER**

Apply to concrete by spray, machine, scrub, or mop. Allow to penetrate, scrub and then flush off with water.

### **508 SUPER HEAVY DUTY STEAM CLEANER**

Highly caustic to steam clean the most stubborn of baked on grease and grime.

### **509 ENGINE DEGREASER**

Mix with 10 parts kerosene or fuel oil to clean engines and other metal parts.

### **512 SNOW PLOW WAX**

Reduces friction, prevents piling, protects against rust and corrosion. For dump trucks, snow plows, etc.

### **514 COSMOLINE REMOVER - NON FLAMMABLE**

Removes protective temporary coating from foreign cars, trucks, etc.

### **515 INDUSTRIAL SAFETY SOLVENT DEGREASER**

Heavy duty degreaser for the removal of heavy greases, preservative coatings, asphalt tile and fuel oil spills. Use on greasy floors. High alkali tolerance.

### **516 NON FOAMING FILTER AND EQUIPMENT CLEANER**

For dip type and pressure spray applications. Dilute 1 to 40.

### **517 SUBMERGE DEGREASER**

A high density, powerful cleaner to be used in conjunction with a top layer of water acting as a lead to eliminate solvent evaporation. Non flammable. For baked on carbon.

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## DEODORANTS, ICE MELTER AND SPECIALTY PRODUCTS

- 600 <sup>TM</sup> UNIBOL (Patent Applied for)**  
For maintaining toilet bowls around the clock for a whole month. Easy to install. It deodorizes air by releasing an odor neutralizer and flower oil fragrance. Unibol cleans toilets and some urinals automatically by special acid and detergent action. It releases a faint blue coloring to show how long the product keeps working. An entire month of continuous cleaning and deodorizing yet hidden unobtrusively under the rim of the bowl.
- 601 DEODORANT GRANULES**  
Kills germs and odors. It's safe, fast and economical. Problem odors are killed immediately and just swept up. Absorbs vomit and mal odor spills on contact.
- 602 SUPER WINDSHIELD WASHER SOLVENT**  
May be used in freezing weather. Easily removes road film, bugs and other debris from windshields without streaking or filming the windshields.
- 603 TIME RELEASE ICE MELTER - ACID FREE (USDA Approved)**  
Release multi-colored ice-melting compound at time intervals. Will not damage sidewalks or road beds. Is safe up to 50° below and is safe for pets. Packaged in 100 lb. containers. Is safe to store from year to year.
- 604 LIQUID ICE MELTER**  
Harmless to concrete and asphalt. Generates no heat. Non-corrosive. Leaves no residue. Prevents freezing on walks, driveways, intersections, culverts, bridges, steps, ramps, loading docks, or other places where ice and snow may be a problem.
- 606 REMOVES SMOKE ODORS DUE TO FIRE**  
Brushed or sprayed on any burned surface or area. Immediately removes smoke odors from the premises.
- 607 ANTI VANDALISM REMOVER**  
Quickly efficiently and effectively removes lipstick, ball point pen marks, pencil, marker inks, etc., from all types of surfaces. Aids in removing grease and tars from automobiles, buses and other vehicles.
- 608 TAR REMOVER EMULSIFIABLE**  
A petroleum-based product to remove heavy duty deposits of grease and oil from equipment or garage floors. Used cold either by spraying, wiping or immersion. Completely rinsable with water. Capable of replacing steam cleaning, where proper equipment is not available. A dilution of 8 parts solvent (kerosene) to one part of #608 will remove most soils and still rinse freely.
- 609 LIQUID PAINT STRIPPER**  
Non-flammable and viscous enough to cling to vertical surfaces. Paint, varnish and seal remover for all surfaces.
- 611 DEFOAMER**  
Removes foam from water, detergents and other solutions. A light spraying of defoamer quickly settles all foam without changing the structure of the material sprayed.
- 612 BOILER COMPOUND FOR BOTH HIGH AND LOW PRESSURE BOILERS**  
Stops corrosion, prevents pitting and scaling. No priming or foaming allows smooth blow down. Protects steam and condensation lines. Removes dissolved oxygen.
- 613 HAND LOTION**  
Pleasantly scented. No drying or cracking of skin. Has oil of mink as the base and is
- 68  
137

DEODORANTS, ICE MELTER AND SPECIALTY PRODUCTS (cont.)

- 616 **ORANGE DEODORANT**  
Orange scented to remove obnoxious odors from sewage systems, washrooms, etc.
- 617 <sup>TM</sup> **UNITABS - URINAL SCREEN BLOCKS (U.S. PATENT NO. 3,824,633 - E.P.A. Registered)**  
A complete urinal maintainer with screen and chemical block bonded together. Keeps drain open, odor conditioning, easily disposable. Lasts 30 to 40 days. Packed 12, 36, 144 to a case.
- 618 **LIQUID PAINT STRIPPER, DIP TYPE**  
For dip tank in assembly line applications.
- 619 **GREEN GRANULES**  
Pleasantly scented. Used in schools, hospitals, and industry for absorbing vomitus and odorous liquids fast and effectively.
- 620 **BOWL TABS**  
Concentrated. Bowl Cleaner in tablet form to be hung on toilet bowl rim for 24 hour bowl cleaning and deodorizing.
- 621 **SUPER VANDALISM REMOVER, VISCOUS**  
Cling on type. For removing pencil, pen, crayon, lipstick marks from painted walls. Use with care and proper ventilation.
- 625 <sup>TM</sup> **LARGE SIZE UNITABS, URINAL SCREEN BLOCKS (U.S. PATENT NO. 3,824,633 - E.P.A. Registered)**  
A complete urinal maintainer with screen and chemical block bonded together. It is a concentrated acid bowl cleaner, dehydrated to be activated with moisture coming in contact with it. Keeps drains open, deodorizes air space, and protects surface by depositing wax coating. Easily disposable. Fits all urinals. Lasts 30 to 40 days and is packed 12, 24, 36, 72 and 144 to a case.
- 627 **ODOR COUNTERACTANT #1 FOR USE INDOORS**  
Concentrated odor counteractant to neutralize and convert foul odors to pleasant fresh air. Used in garbage chutes, wash rooms, sinks, etc.
- 628 **ODOR COUNTERACTANT #2 LOW COST FOR USE IN SEPTIC TANKS, SEWERS**  
Used in city dumps, sludge beds, drainage ditches, tank trucks, chemical toilets, garbage cans, refuse areas. Similar to #408 but lower in cost.
- 630 **LEMON-LIME DEODORANT**  
Lemon-lime scented, eliminates odors from all types of surfaces.
- 633 **HARD JEL ODOR COUNTERACTANT**  
A jel type deodorant used by itself or in cabinets. Leaves no residue.
- 158  
67

## AUTOMOTIVE SPECIALTIES

### **701 SPECIAL AUTO, BUS, AND TRUCK SPRAY WASH**

A quality product used with pressure spray units. Effective in hard or soft water. Safe on all surfaces. May be used in high pressure washer units. Dilute up to 1 to 100.

### **702 SPECIAL STEAM CLEANER FOR BUSES, TRUCKS & AUTOS**

A liquid that is designed for the specific use in automatic car wash. Removes all soils from the auto and leaves the windows and windshield free of streaks.

### **705 NEUTRAL NON-CAUSTIC WHITE SIDEWALL TIRE CLEANER**

Will not damage any known automotive tire surface. No harmful effect to the hands. May be diluted with water. Fast working. Can be sprayed or wiped on the tire.

### **706 PENETRATING OIL - WATER BASED**

Neutralizing type.

### **710 DRYGAS**

Dry-cleans your engine and prevents gas line freeze, also fights air pollution.

## MUNICIPAL PRODUCTS

### **802 SAND & SILT REMOVER**

Fluffs sand & silt so it can easily be removed with high pressure water.

### **803 TRACING DYE**

For use in municipal sewer systems when the flow of liquid must be traced.

### **804 FLOCCULANT**

For precipitating sludge and silt in sewage treatment facilities, lakes, ponds, lagoons, rivers and streams.

### **806 WATER SLIP**

Increases flow capacity of piping systems. Increases efficiency of fire fighting equipment.

### **807 SUPER WET**

Makes water wetter for fire fighting, lawn and turf conditioning, and dust control.

### **809 HOMOGENIZER AND SOLUBILIZER**

The formula that enables oil and water to mix. Solves oil and grease pollution problems. Makes oil and grease bio-degradable.

### **814 CONCRETE PATCHING COMPOUND**

It is a scientific blend of special aggregates fortified with superior bonded chemical resins. To be used for filling cracks in concrete, repairing old masonry or for setting marble or slate.

### **815 ASPHALT PATCHING COMPOUND**

A special blend of asphaltic materials chemically reacting to combine with regular asphalt substrate. Usage: To fill holes and cracks in asphalt.

### **816 FUEL DETERGENT SUPPLEMENT**

It emulsifies tar and sludge from the bottom of the tanks and burns it along with the fuel.

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## MUNICIPAL PRODUCTS (cont.)

### **818 TANK SAVER AND PUMP LUBRICANT**

Is a special chemical formulation for use by fire departments in booster tanks, storage tanks, and sprayers of all types. Prevents rust, scale and corrosion.

### **819 GREEN FOOD SUPPLEMENT**

A preventative aid due to eliminate lack of iron in turf.

### **821 LIQUID FERTILIZER**

Food for lawns, grass, trees, shrubs, and plant growth. Contains 15% nitrogen, 10% phosphorus, 5% potassium plus necessary trace elements. Easy to apply. Use 1 gallon per 2000 sq. feet.

### **823 CUTTING OIL**

A synthetic cutting oil to lubricate all machined parts, odor free, non corrosive, non flammable and is long lasting.

### **834 LIFT STATION CLEANER (USDA Approved)**

High cleaning power. For lift station and emergency use.

### **835 835 SOLVENT**

Sewage grease and waste solvent for cess pools & septic tanks. Non-polluting. Industrial strength.

### **836 SPECIAL FORMULA #43**

Deodorizes, degreases & repels insects, sewage & garbage control, non-pollutant. For dumpsters, garbage cans, sewerage, and garbage trucks.

## DISINFECTANTS, PESTICIDES, WEED KILLERS (E.P.A. Registered)

### **900 LEMON ODOR DISINFECTANT CLEANER (E.P.A. Registered)**

Cleans as it disinfects. Phenol coefficient of 43.

### **901 PINE ODOR DISINFECTANT CLEANER (E.P.A. Registered)**

Cleans as it disinfects. Phenol coefficient of 43.

### **902 MINT DISINFECTANT (E.P.A. Registered)**

A quaternary germicidal cleaner with excellent cleaning ability. Phenol coefficient of 43.

### **903 GERMICIDAL CLEANER, MINT (E.P.A. Registered)**

Quaternary disinfectant. Phenol coefficient of 20.

### **905 LIQUID RESIDUAL SPRAY INSECTICIDE (E.P.A. Registered)**

Kills all crawling and flying insects. Can be used around food.

### **906 FOGGING INSECTICIDE (E.P.A. Registered)**

A very powerful fogging insecticide used with conventional fogging equipment.

160

DISINFECTANTS, PESTICIDES, WEED KILLERS (E.P.A. Registered) (cont.)

**907 INSECTICIDE CONCENTRATE (E.P.A. Registered)**

A concentrate synergized pyrethrin spray for mills, food plants, and home. To be used in fogging equipment, hand sprayers, or in pressurized tank sprayers that give coarse, wetting particles for contact spray.

**910 TOTAL WEED KILLER (E.P.A. Registered)**

Controls most weeds and grasses for an extended period of time. Can be applied with standard spraying equipment.

**911 BROADLEAF WEED KILLER (E.P.A. Registered)**

Controls all broadleaf plants without effecting the growth of grass or other plants.

**912 AQUATIC WEED KILLER - DIQUAT BASE (E.P.A. Registered)**

Use in ponds to eliminate undesirable flora.

**913 ALGAEICIDE (E.P.A. Registered)**

Controls algae growth in swimming pools and cooling towers.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

MISCELLANEOUS PARTS

SCREENED EMPTY QT BOTTLES WITH CAPS  
SCREENED EMPTY QT BOTTLES WITH NO CAPS  
JOHNNY MOPS  
SPIGOTS  
#413 HAND DISPENSERS FOR NEW CANS ONLY  
LARGE DRUM PUMPS  
SMALL DRUM PUMPS  
TRIGGER SPRAYERS FOR QTS  
AERATOR TRIGGER SPRAYERS  
2 GAL HUDSON LIKE HAND SPRAYERS  
3 GAL HUDSON LIKE HAND SPRAYERS  
CATALOGS - BLANK  
QUARTS

42  
161  
✓

**AEROSOL PRODUCTS**  
**100% NON FLAMMABLE PROPELLANTS**

**20 OZ. SIZE CONTAINERS**

**1 Dozen per case**

|      |                                                    |
|------|----------------------------------------------------|
| I001 | STAINLESS STEEL & METAL POLISH                     |
| I002 | PENETRATING OIL                                    |
| I003 | SILICONE SPRAY                                     |
| I004 | VINYL CLEANER                                      |
| I005 | ALL PURPOSE CLEANER                                |
| I006 | SAFETY SOLVENT                                     |
| I007 | WINDOW CLEANER                                     |
| I008 | CARPET & UPHOLSTERY CLEANER                        |
| I009 | OVEN CLEANER                                       |
| I010 | DUST MOP TREATMENT                                 |
| I011 | AIR DEODORANT                                      |
| I012 | GERMICIDAL CLEANER & DEODORANT (E.P.A. Registered) |
| I013 | FLYING INSECT KILLER (E.P.A. Registered)           |
| I014 | RESIDUAL INSECT KILLER (E.P.A. Registered)         |
| I015 | FURNITURE POLISH                                   |
| I016 | MOISTURE BARRIER                                   |
| I017 | VANDALISM MARK REMOVER                             |
| I018 | WATERLESS HAND CLEANER                             |
| I019 | ANTI STATIC                                        |
| I020 | CHALK BOARD CLEANER                                |
| I021 | FIRE EXTINGUISHER                                  |
| I022 | WINDSHIELD DE ICER                                 |
| I023 | BELT DRESSING                                      |
| I024 | CONCENTRATED CLEANSING & BARRIER CREAM             |
| I025 | CHEWING GUM & TAR REMOVER                          |
| I026 | BARRIER SEAL                                       |
| I027 | CHAIN & CABLE LUBRICANT                            |
| I028 | GLYCOL AIR SANITIZER (E.P.A. #10292-24)            |

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

**SILK SCREENED - NON-AEROSOL PRODUCTS**

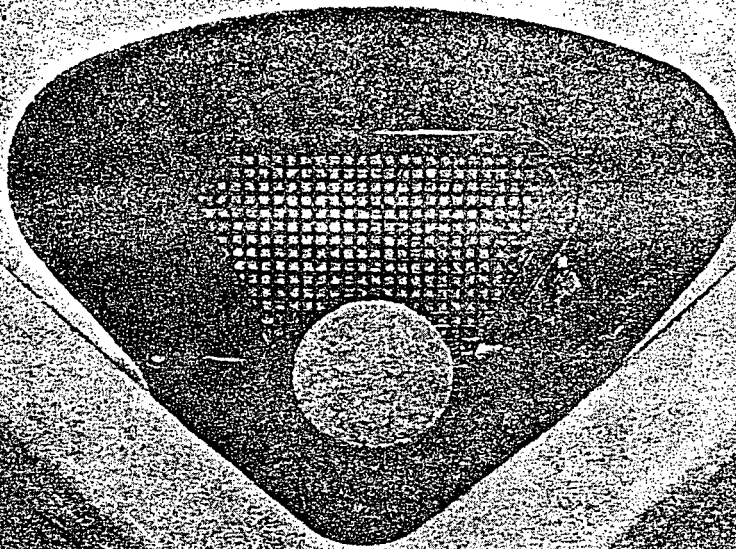
**1 QUART (32 OZ.) SIZE PLASTIC CONTAINERS**

**1 Dozen per case - 1 Free pump**

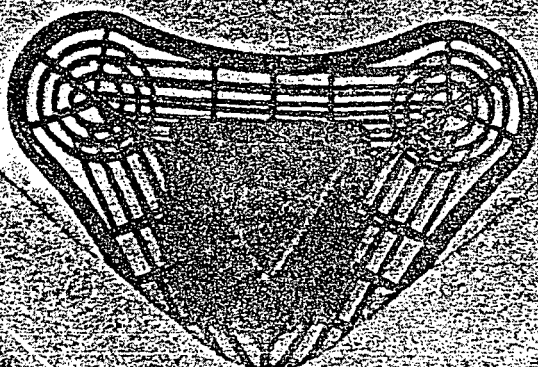
|      |                                |
|------|--------------------------------|
| 2001 | STAINLESS STEEL & METAL POLISH |
| 2005 | ALL PURPOSE CLEANER            |
| 2007 | WINDOW CLEANER                 |
| 2008 | CARPET & UPHOLSTERY CLEANER    |
| 2009 | OVEN CLEANER                   |
| 2011 | AIR DEODORANT                  |
| 2015 | FURNITURE POLISH               |
| 2019 | ANTI STATIC                    |

17  
162

**WITH A PARA-BLOCK AND SCREEN  
YOU REPLACE THE BLOCK WEEKLY,  
MAINTAIN THE SCREEN CONSTANTLY.**



**WITH A 1-PIECE UNITAB SCREEN  
YOU SIMPLY REPLACE IT ONCE A MONTH.**



It was in the 1920's. Para-Blocks appeared on the scene. Great new idea for deodorizing urinals.

1974. Venus introduces the patented 1-piece Unitab Screen. A special pink chemical block bonded to a screen.

The block lasts far longer. No screen maintenance. Unit easily disposable after a month or more.

Venus 1-piece Unitab Screen is a delimer and descaler. Keeps drains open. Deposits a protective film, prevents further buildup. Non-toxic.

Replaces "perfuming" with Odor Conditioning—leaves air mildly scented.

Makes the Para-Block, now in short supply, as old-fashioned as an outhouse.

U.S. Patent No. 3,824,633

#### **MORE VENUS PRODUCTS**

- Aerosol Products
- All Purpose Cleaners (Alum., St. Steel & Neutral)
- Automotive Specialties
- Carpet & Fabric Maintenance Products
- Degreasers
- Descalers
- Disinfectants & Deodorants
- Drain Openers & Bowl Cleaners
- Floor Finishes & Strippers
- Pesticides & Weed Killer
- Safety Solvents

**VENUS**  
Laboratories, Incorporated

Central Division  
855 Lively Blvd.  
Wood Dale, IL. 60191  
312/595-1900

Western Division  
18903 South Main  
Gardena, California 90248  
213/770-4900

It was in the early 1950's. A new product for opening up drains appeared. It was the first sulfuric acid based drain opener.

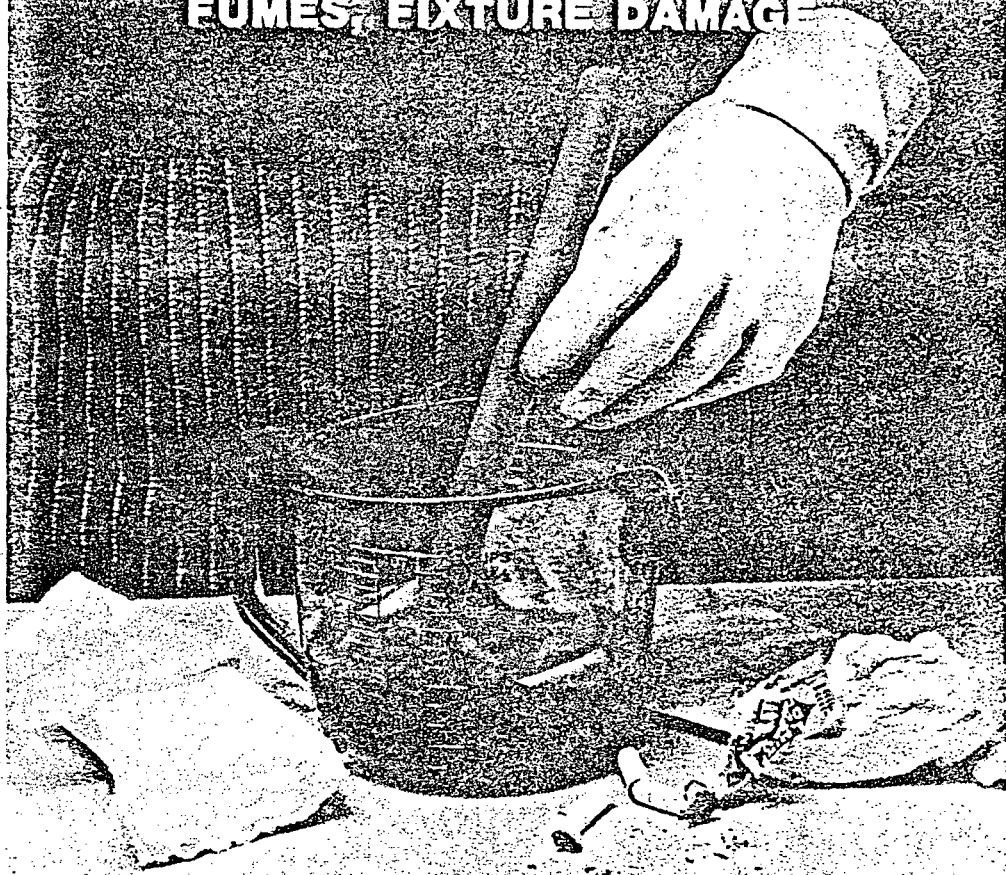
It dissolved paper, cloth and other organic obstructions dramatically. Unfortunately, thousands of people were hospitalized with serious burns from using it.

1974. Venus launched a project seeking a replacement for sulfuric acid. First goal: take BTU's out of the product before it's bottled. Enough BTU's to eliminate injury, odor and blow-back without destroying the product's effectiveness. "A small flame to cook the potato - not a big one to make the pot boil over."

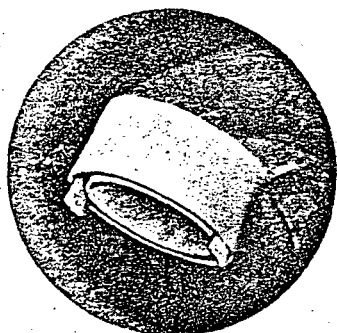
After many month's of work the idea was perfected in Venus' Labs. Now - get acquainted with a safer, dramatically effective new drain opener: "Tempered"

Stocking manufacturer-distributorships available in most states. For information, call or write Midwest Division.

**WITH OLD STYLE SULFURIC ACID  
DRAIN OPENERS YOU CAN HAVE  
SERIOUS INJURIES...  
FUMES, FIXTURE DAMAGE**



**WITH tempered YOU CAN AVOID  
ALL THESE HEADACHES.**



Patented locking cap/  
bottle combination  
prevents loosening  
and leaking  
during shipment.

**VENUS**  
Laboratories, Incorporated

Western Division  
18903 South Main  
Gardena, California 90248  
213/770-4900

Midwest Division  
855 Lively Blvd.  
Wood Dale, IL 60191  
312/595-1900



# NOW from the makers of UNITABS<sup>TM</sup> the unique patented urinal maintainer—a similar concept for maintaining toilet bowls around the clock for a whole month...UNIBOLS<sup>TM</sup>!

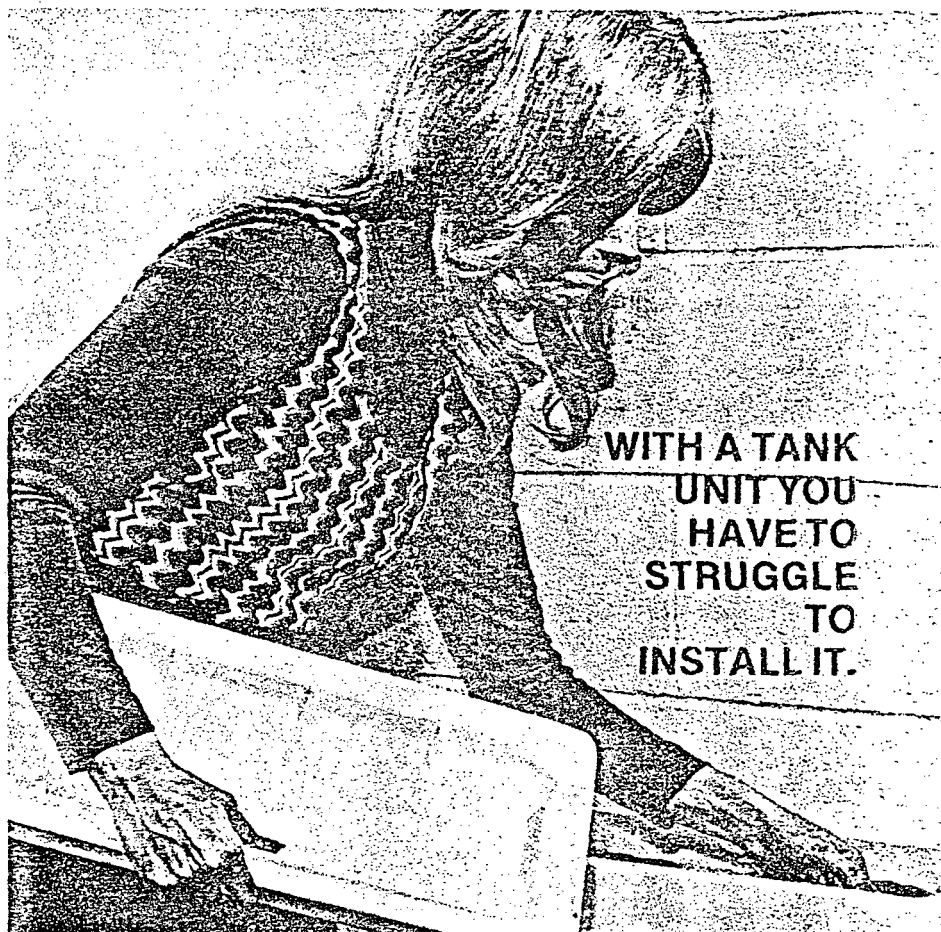
Another great idea from Venus Labs: **UNIBOL**, the toilet bowl maintainer that's so easy to install and so effective on the job! It deodorizes air by releasing an odor neutralizer and flower oil fragrance — is a powerful odor conditioner that will pleasantly surprise you after a day's use. UNIBOL cleans toilets and some urinals automatically by special acid and detergent action. . . UNIBOL releases a faint blue coloring material to show how long the product keeps working (the color level is very faint to avoid hiding health problems in stool). . . UNIBOL is the largest toilet bowl maintainer (six inches long) — provides an entire month of continuous cleaning and deodorizing, yet "hides" unobtrusively under the rim of the bowl!

Patent Applied For

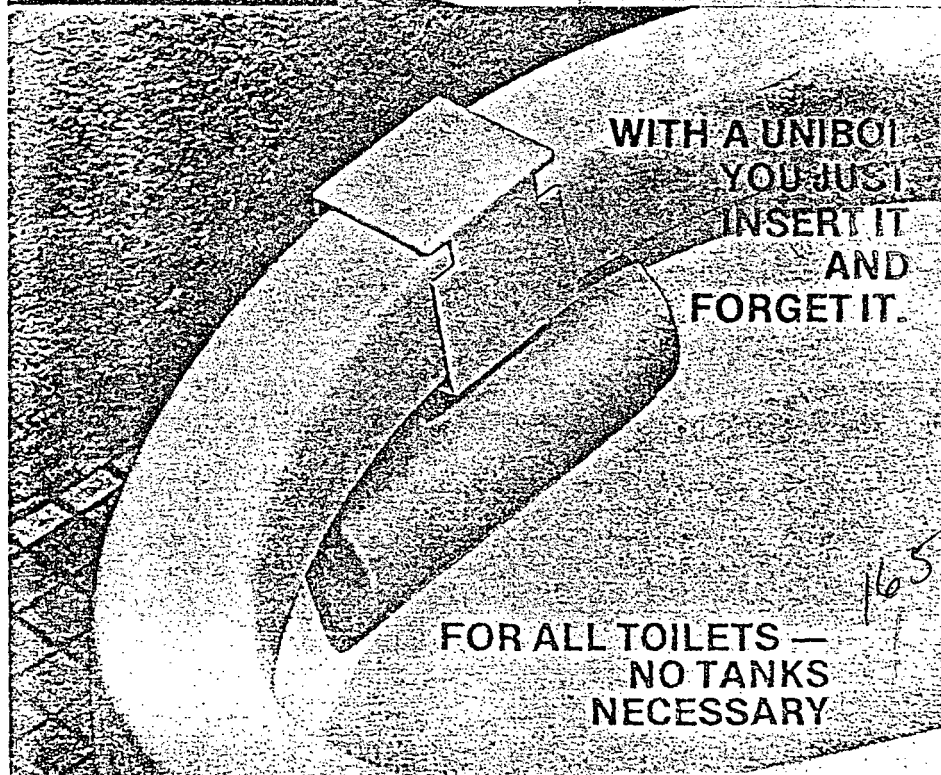


**Western Division**  
18903 South Main  
Gardena, California 90248  
213/770-4900

**Midwest Division**  
855 Lively Blvd.  
Wood Dale, IL 60191  
312/595-1900



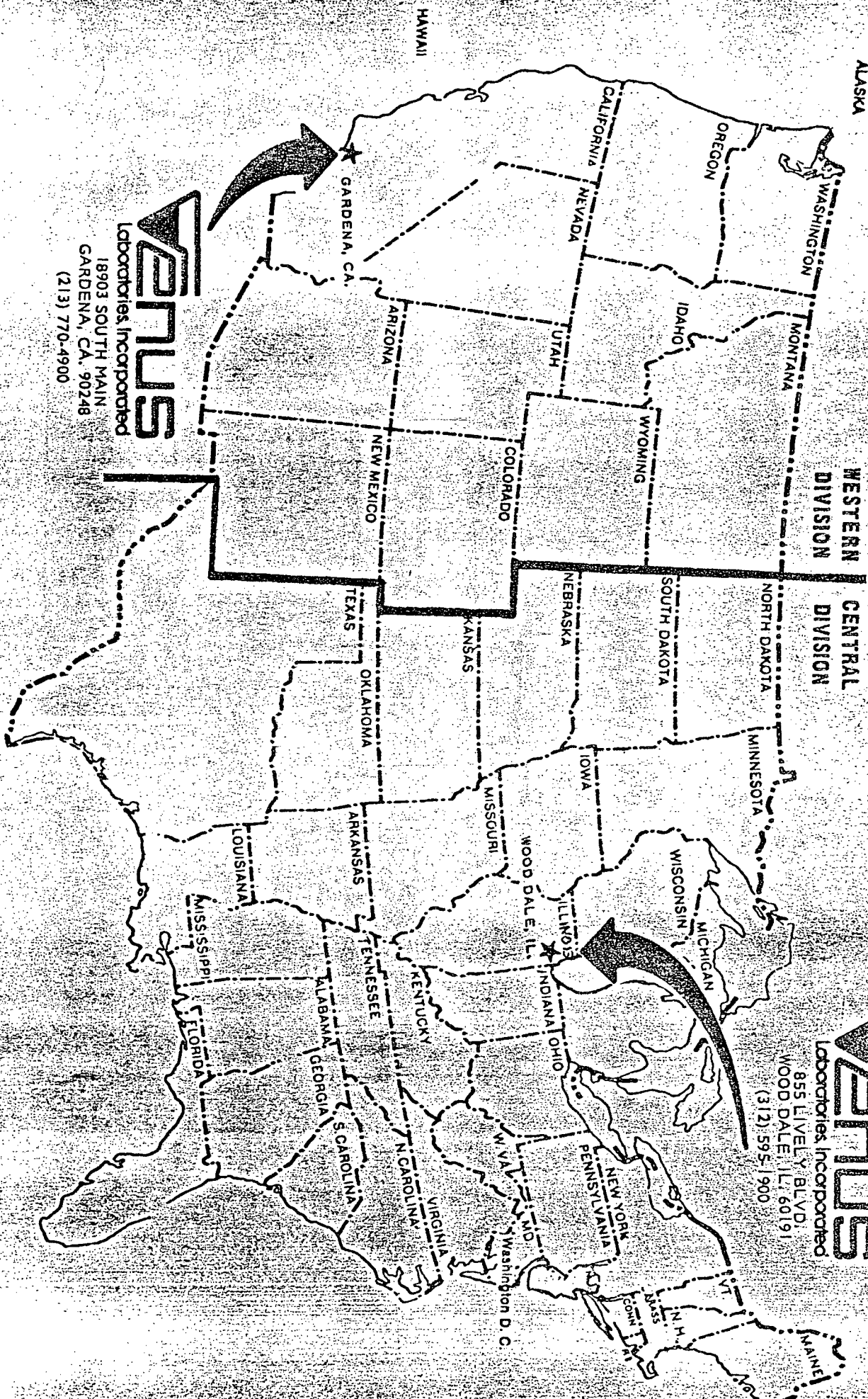
WITH A TANK  
UNIT YOU  
HAVE TO  
STRUGGLE  
TO  
INSTALL IT.



WITH A UNIBOL  
YOU JUST  
INSERT IT  
AND  
FORGET IT.

FOR ALL TOILETS —  
NO TANKS  
NECESSARY

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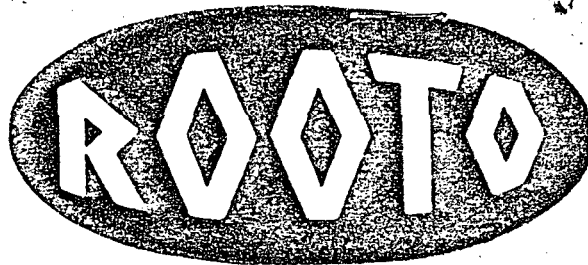
**WESTERN DIVISION**

**CENTRAL DIVISION**

**EASTERN DIVISION**

**VENUS**  
Laboratories, Incorporated  
18903 SOUTH MAIN  
GARDENA, CA. 90248  
(213) 770-4900

**VENUS**  
Laboratories, Incorporated  
855 LIVELY BLVD.  
WOOD DALE, IL 60191  
(312) 595-1900



QUALITY PLUMBING - CLEANING CHEMICALS

# ALL PRODUCTS JOBBER PRICE LIST

Effective Date October 1, 1978

All ROOTO products are formulated to give the most effective performance for their intended purpose. ROOTO guarantees the products when used as instructed. ROOTO has been marketed for over 30 years, tested and proved in the field and laboratory. ROOTO products are registered with the Federal Government, state and local authorities. ROOTO meets the requirements of the FDA, DOT, and EPA.

FREIGHT AND TERMS ON BACK

LESS 10% - TRUCKLOAD

## THE ROOTO CORPORATION

3505 WEST GRAND RIVER



HOWELL, MICHIGAN 48843



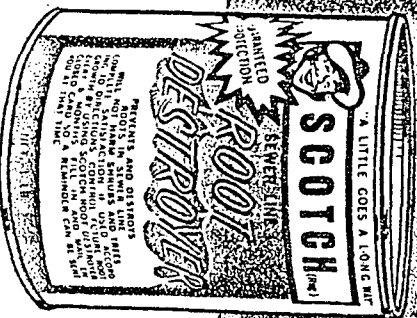
PHONE: (517) 546-8330

| DESCRIPTION                                                                                                                                                                                                                                                 | STOCK NUMBER | PACK | WEIGHT    |            | JOBBER PRICE |       | Sug. DEALER PRICE |       | SUGGESTED PRICE |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------|-----------|------------|--------------|-------|-------------------|-------|-----------------|-------|
|                                                                                                                                                                                                                                                             |              |      | NET CAN   | GROSS CASE | CAN          | CASE  | CAN               | CASE  | CAN             | CASE  |
|  <b>ROOTO NO. 1</b><br>Chemical Root Destroyer<br>Rooto No. 1 Red Label for root blocked sewers. Industrial size. EPA Reg. No. 8132-3.                                    | 1000         | 1    | 25 lb.    | 27 lb.     | 13.98        | 13.98 | 18.60             | 18.60 | 31.04           | 31.04 |
|  <b>ROOTO NO. 2</b><br>Chemical Root Destroyer<br>Rooto No. 2 Blue Label for destroying roots and opening sewers. Formulated to impede root growth. EPA Reg. No. 8132-3. | 1010         | 4    | 6 1/2 lb. | 31 lb.     | 4.37         | 17.47 | 5.82              | 23.24 | 9.71            | 38.79 |
|  <b>ROOTO NO. 3</b><br>Heavy Duty & Grease Trap Cleaner<br>Rooto No. 3 for large Drains and Traps                                                                        | 1020         | 12   | 2 lb.     | 28 lb.     | 1.47         | 17.60 | 1.96              | 23.41 | 3.27            | 39.08 |
|  <b>ROOTO NO. 4</b><br>Household Drain Cleaner<br>Rooto Household Drain Cleaner, "same size" guaranteed for use in sinks.                                                | 1030         | 12   | 16 oz.    | 16 lb.     | 0.689        | 8.27  | 0.92              | 11.00 | 1.53            | 18.36 |

167  
L

# SCOTCH SEWER LINE ROOT DESTROYER®

CLEAR AND PREVENTS  
CLOGGED SEWERS



MONEY-BACK GUARANTEE

SAFE IN

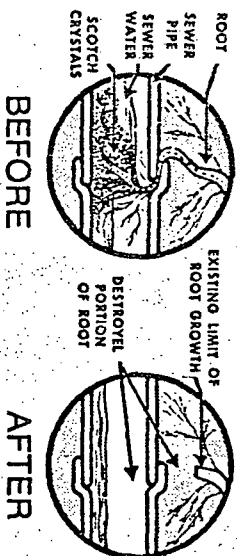
- Septic Tanks
- Cesspools

- City Sewer System

Scotch Root Destroyer will give complete satisfaction if used according to directions. Control future growth by using every 6 months.

## SCOTCH ROOT DESTROYER®

NO DIGGING NEEDED!  
NO SEWER MACHINE NEEDED!

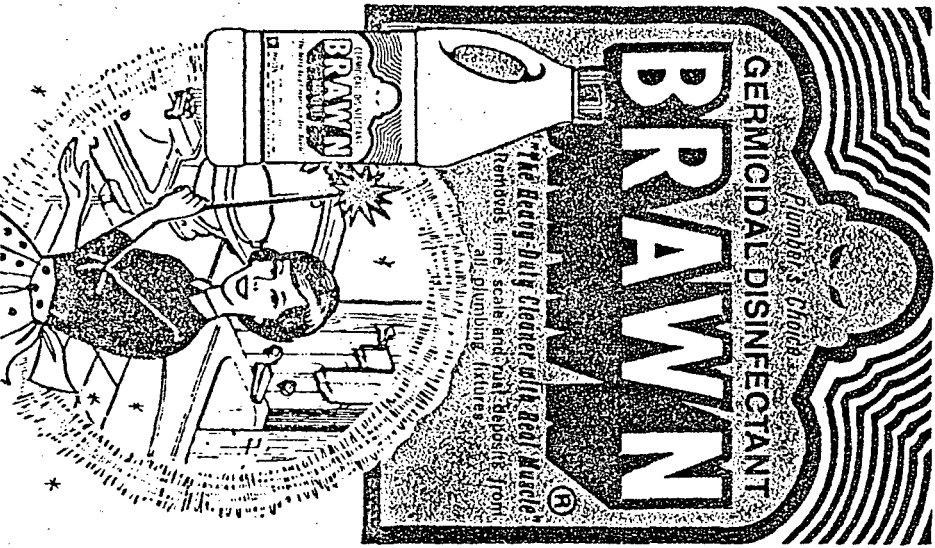


- STOPS TREE ROOTS in your sewer
- ECONOMICAL, EFFECTIVE
- Scotch Crystals dissolve and are absorbed by roots in the pipe. • SAFE will not harm plumbing, soil, pipes, etc. Does not harm trees or shrubs.
- EASY TO USE. Pour into toilet bowl or directly into sewer line late evening.
- Stubborn cases may require several applications. • CONTROL FUTURE ROOT GROWTH. Use SCOTCH ROOT DESTROYER every 6 months.

SCOTCH MANUFACTURING CO., INC.  
P.O. BOX 4466 DALLAS, TEXAS 75208

FORM 1825

8-1-1  
169



FOR BATHROOM, KITCHEN, ALL PLUMBING FIXTURES, ANY PLACE YOU HAVE LIME, SCALE, RUST, ALGAE PROBLEMS. The plumber's choice. Used by industry and professionals for years. Now available to you.

**BRAWN®**

*"The Heavy-Duty Cleaner with Real Muscle"*

- CLEANS, DISINFECTS, DEODORIZES • HEAVY DUTY
- WORKSFAST Removes and dissolves SCALE, LIME, RUST, CORROSION, ALGAE from CLOSET BOWLS, SHOWER STALLS, ALL PLUMBING FIXTURES, ALL CHROME FAUCETS. • Makes old plumbing fixtures and chrome like new again. • GUARANTEED TO DO THE JOB • SAFE to use. Use full strength or diluted with water. Will not burn skin if used according to directions. • ECONOMIC! "A little goes a long way."

SCOTCH MANUFACTURING CO., INC.  
P.O. BOX 4466 DALLAS, TEXAS 75208

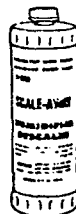
FORM 1803

| DESCRIPTION                                                                                                                                                                                                                                                                                                                                                         | STOCK<br>NUMBER | PACK | WEIGHT<br>NET GROSS      |        | JOBBER<br>PRICE |       | Sug. DEALER<br>PRICE |       | SUGGESTED<br>PRICE |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|--------------------------|--------|-----------------|-------|----------------------|-------|--------------------|-------|
|                                                                                                                                                                                                                                                                                                                                                                     |                 |      | CAN                      | CASE   | CAN             | CASE  | CAN                  | CASE  | CAN                | CASE  |
|  <b>ROOTO COMMERCIAL<br/>Drain Cleaner</b><br>Rooto Commercial Drain<br>Cleaner is a special concentrated<br>formula designed to open stub-<br>born blockages which resist<br>other cleaners. It liquefies all<br>solid matter — opens all drains.                                 | 1033            | 12   | 29 oz.                   | 29 lb. | 1.47            | 17.60 | 1.96                 | 23.41 | 3.27               | 39.08 |
|  <b>ROOTO'S LIQUID<br/>DRAIN CLEANER</b><br><b>Potassium Hydroxide</b><br>Liquid Drain Cleaner liquifies<br>grease without spitting or<br>fuming.                                                                                                                                  | 1070            | 12   | 1 qt.                    | 31 lb. | 0.794           | 9.53  | 1.06                 | 12.68 | 1.77               | 21.16 |
|                                                                                                                                                                                                                                                                                                                                                                     | 1080            | 4    | 1 Gal.                   | 41 lb. | 2.47            | 9.86  | 3.29                 | 13.12 | 5.49               | 21.89 |
|  <b>ROOTO SEPTIC<br/>TANK CLEANER</b><br>Rooto Septic Tank Cleaner con-<br>verts existing greases, fats, deter-<br>gents, and other solid material<br>in the septic system into liquids<br>and allows them to be discharged<br>into the drain field. Eliminates<br>costly digging. | 1052            | 4    | 6 lb.<br>6 oz.           | 30 lb. | 4.79            | 19.17 | 6.38                 | 25.50 | 10.64              | 42.56 |
|  <b>SEPT-X<br/>SEPTIC TANK<br/>RE-ACTIVATOR</b><br>Sept-X cleans, re-activates and<br>deodorizes septic tanks in one<br>operation. Designed to balance<br>tank and prevent odors.                                                                                                 | 1050            | 6    | 2 lb.                    | 15 lb. | 2.23            | 13.40 | 2.97                 | 17.83 | 4.96               | 29.75 |
|  <b>ROOTO'S POWDERED<br/>BOWL CLEANER</b><br>Rooto's Scented Bowl Cleaner<br>removes stubborn stains and<br>odors. Effervescent large pack-<br>age. EPA Reg. No. 8132-3.                                                                                                         | 1100            | 12   | 46 oz.                   | 38 lb. | 0.896           | 10.75 | 1.20                 | 14.30 | 1.99               | 23.87 |
|  <b>ROOTO'S LIQUID<br/>BOWL CLEANER</b><br><b>Concentrated</b><br>Rooto Liquid Bowl Cleaner,<br>cleans and deodorizes<br>bathrooms.                                                                                                                                              | 1090            | 12   | 1 qt.                    | 31 lb. | 0.775           | 9.30  | 1.034                | 12.41 | 17.22              | 20.67 |
|                                                                                                                                                                                                                                                                                                                                                                     | 1083            | 4    | 1 gal.<br>(Ind.<br>Size) | 44 lb. | 2.49            | 9.96  | 3.32                 | 13.28 | 5.53               | 22.13 |
|  <b>ROOTO'S CON-TREET</b><br><b>1 gallon</b><br>Rooto's Con-Treet ends dusting,<br>chipping, flaking of all concrete<br>surfaces permanently in one<br>treatment.                                                                                                                | 1110            | 4    | 10 lb.                   | 44 lb. | 2.97            | 11.88 | 3.96                 | 15.81 | 6.60               | 26.38 |
|  <b>SWEET-X DISPOSER<br/>&amp; DRAIN CLEANER</b><br>Sweet-X — Rooto's Non-caustic,<br>non-corrosive drain cleaner.<br>Enzymatic action makes it com-<br>pletely safe and effective,<br>especially for garbage disposers.                                                         | 1060            | 12   | 14 oz.                   | 16 lb. | 1.15            | 13.76 | 1.53                 | 18.36 | 2.55               | 30.59 |

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| DESCRIPTION                                                                                                                                                                                                                                              | STOCK<br>NUMBER | PACK | WEIGHT     |               | JOBBER<br>PRICE |       | Sug. DEALER<br>PRICE |       | SUGGESTED<br>PRICE |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|------------|---------------|-----------------|-------|----------------------|-------|--------------------|-------|
|                                                                                                                                                                                                                                                          |                 |      | NET<br>CAN | GROSS<br>CASE | CAN             | CASE  | CAN                  | CASE  | CAN                | CASE  |
|  <b>SOLVENTOL</b><br>All-Purpose Cleaner<br>Solventol — Industrial strength,<br>All-purpose cleaner.                                                                     | 1151            | 12   | 2 lb.      | 28 lb.        | 0.97            | 11.65 | 1.30                 | 15.50 | 2.16               | 25.87 |
|  <b>ROOTO'S<br/>CONCRETE CLEANER</b><br>Rooto's Concrete and Blacktop<br>Cleaner easily and quickly re-<br>moves grease and oil from<br>concrete and blacktop surfaces. | 1120            | 12   | 32 oz.     | 30 lb.        | 0.93            | 11.11 | 1.24                 | 14.78 | 2.07               | 24.67 |
|  <b>ROOTO'S<br/>PROFESSIONAL<br/>DRAIN OPENER</b><br>The ultimate inhibited Sulfuric<br>Acid drain cleaner for freeing<br>stubborn drains.                              | 1071            | 12   | 1 qt.      | 48 lb.        | 1.66            | 19.88 | 2.21                 | 26.45 | 3.69               | 44.14 |
|                                                                                                                                                                                                                                                          | 1084            | 4    | 1 gal.     | 63 lb.        | 5.04            | 20.16 | 6.71                 | 26.82 | 11.19              | 44.76 |
|  <b>MURIATIC ACID<br/>20°</b><br>Muriatic Acid general-purpose<br>cleaner cleans bricks, tools,<br>pools, tiles, and most hard<br>surfaces.                            | 1091            | 12   | 1 qt.      | 32 lb.        | .65             | 7.83  | 0.87                 | 10.42 | 1.45               | 17.39 |
|                                                                                                                                                                                                                                                          | 1086            | 4    | 1 gal.     | 40 lb.        | 1.68            | 6.71  | 2.24                 | 8.93  | 3.73               | 14.90 |
|  <b>RUST STRIPPER<br/>(Gel Form)</b><br>Rooto's new Rust Cleaner<br>simply brush on & wash rust<br>away. Strong & powerful rust<br>cleaner.                           | 1075            | 12   | 8 oz.      | 10 lb.        | 0.69            | 8.32  | 0.92                 | 11.09 | 1.54               | 18.48 |
|                                                                                                                                                                                                                                                          | 1093            | 12   | 1 qt.      | 29 lb.        | 1.47            | 17.64 | 1.96                 | 23.52 | 3.27               | 39.20 |
|  <b>ALUMINUM SHINER<br/>(Gel Form)</b><br>Rooto's new Aluminum surface<br>cleaner. Brightens as it cleans<br>aluminum. Good for aluminum<br>storn windows.            | 1076            | 12   | 8 oz.      | 10            | 0.69            | 8.32  | 0.92                 | 11.09 | 1.54               | 18.48 |
|                                                                                                                                                                                                                                                          | 1094            | 12   | 1 qt.      | 29 lb.        | 1.47            | 17.64 | 1.96                 | 23.52 | 3.27               | 39.20 |

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171  
1-

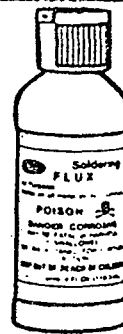
| DESCRIPTION                                                                                                                                                                                                                                                                          | STOCK<br>NUMBER | PACK | WEIGHT      |                | PRICE-<br>JOBBER |       | SUGGESTED PRICE |       |      |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|-------------|----------------|------------------|-------|-----------------|-------|------|-------|
|                                                                                                                                                                                                                                                                                      |                 |      | NET,<br>CAN | GROSS,<br>CASE | DEALER           |       | RETAIL          |       |      |       |
|                                                                                                                                                                                                                                                                                      |                 |      |             |                | CAN              | CASE  | CAN             | CASE  |      |       |
| <br><b>ROOTO<br/>Waterless Hand<br/>Cleaner</b><br>A premium quality hand cleaner<br>containing lanolin. Continued use<br>will condition and soften rough skin.<br>Biodegradable and phosphate free. | 1155            | 12   | 1 lb.       | 14 lb.         | 0.62             | 7.43  | 0.82            | 9.91  | 1.37 | 16.51 |
|                                                                                                                                                                                                                                                                                      | 1156            | 6    | 4 1/4 lb.   | 32 lb.         | 2.08             | 12.47 | 2.77            | 16.63 | 6.93 | 27.72 |
| <br><b>ROOTO<br/>Scale Away</b><br>Designed for humidifiers<br>to dissolve lime scale and<br>rust buildup.                                                                                           | 1078            | 12   | 32 oz.      | 33 lb.         | 1.00             | 12.00 | 1.33            | 15.99 | 2.22 | 26.66 |
| <br><b>ROOTO<br/>Klear Sof</b><br>Prohibits lime scale<br>buildup and controls<br>odors in humidifiers                                                                                               | 1077            | 12   | 32 oz.      | 33 lb.         | 1.00             | 12.00 | 1.33            | 15.99 | 2.22 | 26.66 |
| <br><b>ROOTO<br/>Soldering Fluid</b><br>For Soldering metals.<br>Used by plumbers, tin-<br>smiths, auto workers.                                                                                    | 1065            | 24   | 4 oz.       | 7 lb.          | 0.47             | 11.34 | .63             | 15.12 | 1.05 | 25.20 |
| <br><b>ROOTO<br/>Soldering Flux</b><br>Unexcelled for soldering<br>on copper, chrome,<br>galvanized.                                                                                               | 1066            | 24   | 4 oz.       | 7 lb.          | 0.76             | 18.14 | 1.00            | 24.19 | 1.68 | 40.32 |
|                                                                                                                                                                                                                                                                                      |                 |      |             |                |                  |       |                 |       |      |       |
|                                                                                                                                                                                                                                                                                      |                 |      |             |                |                  |       |                 |       |      |       |
|                                                                                                                                                                                                                                                                                      |                 |      |             |                |                  |       |                 |       |      |       |
|                                                                                                                                                                                                                                                                                      |                 |      |             |                |                  |       |                 |       |      |       |

10/10/24



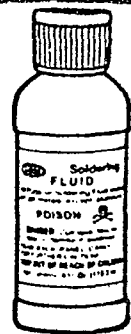
#### ROTO WATERLESS HANDCLEANER

Continued use will condition and help soften roughened skin. A premium quality hand cleaner containing lanolin, emollient, and humectant.



#### SOLDERING FLUX

Will work on all metals except aluminum. Use Roto's Soldering Fluid with Flux.



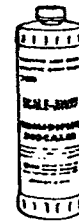
#### SOLDERING FLUID

Works on all metals except aluminum. Excellent for sweat joints, etc.



#### KLEAR-SOF

For prevention of lime scale build up, which disrupts performance of manually water filled humidifiers, vaporizers, and evaporators. Also controls bad odors.



#### SCALE-AWAY

For continuous, uninterrupted operation and performance of furnaces and room-type humidifiers, vaporizers, and evaporators. Dissolves lime scale and removes rust fast.



#### ALUMINUM SHINER

Cleans, brightens, shines, and retards further oxidative corrosion because it contains all the ingredients to do the jobs — cleaning, shining, and inhibiting corrosion. Made in gel form.



#### RUST STRIPPER

Mean and tough on the rust but gentle on the metal because it has corrosion inhibitor to retard further oxidation. Made in gel form.

8/73



Rooto No. 1 Red Label for root blocked sewers. Industrial size, EPA Reg. No. 8132-3.



Rooto Commercial Drain Cleaner is a special concentrated formula designed to open stubborn blockages which resist other cleaners. It liquefies all solid matter — opens all drains.



Sept-X cleans, re-activates and deodorizes septic tanks in one operation. Designed to balance tank and prevent odors.



Sweet-X — Rooto's Non-caustic, non-corrosive drain cleaner. Enzymatic action makes it completely safe and effective, especially for garbage disposers.



Rooto No. 2 Blue Label for destroying roots and opening sewers. Formulated to impede root growth. EPA Reg. No. 8132-3.



Liquid Drain Cleaner liquifies grease without spitting or fuming.



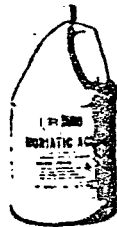
Rooto's Scented Bowl Cleaner removes stubborn stains and odors. Effervescent large package. EPA Reg. No. 8132-3.



Solventol — Industrial strength, All-purpose cleaner.



Root No. 3 for large Drains and Traps



Muriatic Acid general-purpose cleaner cleans bricks, tools, pools, tiles, and most hard surfaces.



Rooto Liquid Bowl Cleaner, cleans and deodorizes bathrooms.



The ultimate inhibited Sulfuric Acid drain cleaner for freeing stubborn drains.



Rooto Household Drain Cleaner, "same size" guaranteed for use in sinks.



Rooto Septic Tank Cleaner converts existing greases, fats, detergents, and other solid material in the septic system into liquids and allows them to be discharged into the drain field. Eliminates costly digging.



Rooto's Con-Treet ends dusting, chipping, flaking of all concrete surfaces permanently in one treatment.



Rooto's Concrete and Blacktop Cleaner easily and quickly removes grease and oil from concrete and blacktop surfaces.

**FREIGHT POLICY: 6% Freight Allowance — Freight will be Prepaid and added to Invoice.**

#### TRUCK LOAD PRICE SCHEDULE:

24,000 pounds ---- 10% Discount from jobber price.

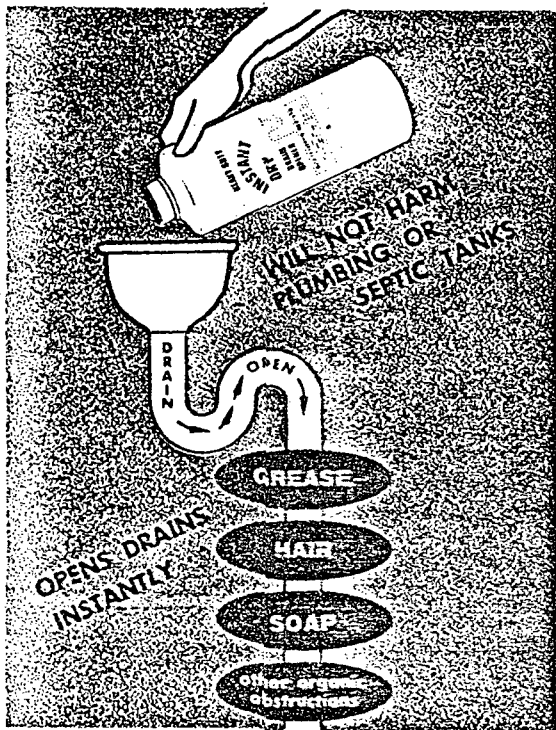
WHEN TRUCK LOAD PRICE HAS BEEN SELECTED,  
NO OTHER DISCOUNTS OR PROMOTIONAL ALLOWANCE ARE APPLICABLE

**TERMS:** 1% - 10 Days  
Net 30 Days  
1% Service Charge  
Thereafter per month

83  
124



INTRODUCING OUR NEW  
HEAVY DUTY  
**INSTANT DRY®**  
DRAIN OPENER



**INSTANT DRY®**  
HEAVY DUTY DRAIN OPENER

- READY TO USE. No mixing required.
- HEAVY DUTY
- QUICK WORKING FORMULA
- OPENS DRAIN INSTANTLY
- Dissolves and liquefies GREASE, SOAP, HAIR, MANY ORGANIC OBSTRUCTIONS.
- WILL NOT HARM PLUMBING OR SEPTIC TANKS. May be used in drains, sinks, disposals, grease traps, toilets, urinals, cesspools, septic tanks, etc.
- PREVENT SLOW DRAINS caused by gradual build-up by using INSTANT DRY DRAIN OPENER regularly. See directions for use.

SCOTCH MANUFACTURING CO., INC.  
P.O. BOX 4466 DALLAS, TEXAS 75208

FORM 1889C

175 /

FOSTER D. SNELL, INC.

29 WEST 15TH STREET, NEW YORK 11, N. Y.

CONSULTING CHEMISTS

ENGINEERS

March 7, 1963

Geo. G. INGUS

to Technical  
Committee

To: Hercules Chemical Co. - Mr. Jay Fidler

From: A. Petersen - B. Berksley

Subject: Evaluation of Acid Drain Opener

The following series of tests were conducted on a sample of "Drain Snake," *Sulfuric Acid* a product manufactured by the Cloroben Chemical Corporation.

Effect on sanitary ware (acid resistant)

Effect on brass, steel, cast iron

Heat of reaction test

Practical tests on clogged drain

Test Method:

The test procedures for effect on sanitary ware and effect on brass, steel, and cast iron used were those presently specified by the Institutional Research Council, Inc., for determining the acceptability of Bowl & Porcelain Cleaners for inclusion in their Certified Products List. Copies of the pertinent methods are enclosed. The above test calls for testing the concentrated product (without dilution). To obtain further information the above was repeated at a dilution of 1 part "Drain Snake" to 5-1/2 parts water. This dilution is based on the recommended application of 4 to 8 ounces of the product to a small drain assuming that the stoppage was in the trap portion of the drain. The quantity of water contained in a 1-1/2 inch trap and the portion of the pipe from the sink to the trap was determined to be approximately 1300 milliliters.

The heat of reaction test was conducted in an insulated 250 ml. beaker. 23.5 ml. of the product was added to 130 ml. of water (similar to the above determined dilution) and the temperature rise recorded every minute for a total period of 20 minutes.

5-T

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March 7, 1963

The performance test was conducted in a specially blown glass trap made from 1-1/4 inch diameter glass tubing. The tube was plugged with approximately 3 inches of a mixture of tallow to which 5% dried coffee grounds and 5% human hair were added. After a 6 hour period to allow the tallow to set, "Drain Snake" was added to the water above the plug. The resulting proportion of cleaner to water was similar to that determined previously. The time it takes for the solution to drain through the plug and the quantity of plug dissolved is a measure of the effectiveness of the product. The results are shown below:

|                                |  | <u>I. R. C. Requirements</u>                          | <u>Results</u> |
|--------------------------------|--|-------------------------------------------------------|----------------|
| <u>Effect on Sanitary Ware</u> |  |                                                       |                |
| Concentrated                   |  | The cleaner shall not etch porcelain (acid-resistant) | Passes         |
| Diluted (1:5.5)                |  |                                                       | Passes         |
| <u>Effect on Brass</u>         |  |                                                       |                |
| Concentrated                   |  | The weight loss shall not exceed the following        | 2.8            |
| Diluted (1:5.5)                |  | limits (on the concentrate)                           | 0.0            |
| Steel                          |  | Brass - 5 mg.                                         |                |
| Concentrated                   |  | Steel - 10 mg.                                        |                |
| Diluted (1:5.5)                |  | Cast Iron - 30 mg.                                    | 16.0           |
|                                |  |                                                       | 23.2           |
| Cast Iron                      |  |                                                       |                |
| Concentrated                   |  |                                                       | 20.4           |
| Diluted                        |  |                                                       | 111.3          |

Heat of Reaction:

| <u>Time</u>               | <u>Temperature</u> |
|---------------------------|--------------------|
| Initial Water Temperature | 80°F.              |
| 1 min.                    | 146°F.             |
| 2 min.                    | 145°F.             |
| 3 min.                    | 144°F.             |
| 4 min.                    | 143.8°F.           |
| 5 min.                    | 142.8°F.           |
| 6 min.                    | 142°F.             |
| 7 min.                    | 141.6°F.           |
| 8 min.                    | 140.3°F.           |
| 9 min.                    | 140°F.             |

22.58 sq. cm.

March 7, 1963

Heat of Reaction: (Cont'd.)

| <u>Time</u> | <u>Temperature</u> |
|-------------|--------------------|
| 10 min.     | 139.5°F.           |
| 11 min.     | 138.5°F.           |
| 12 min.     | 137.9°F.           |
| 13 min.     | 137°F.             |
| 14 min.     | 136.5°F.           |
| 15 min.     | 136°F.             |
| 16 min.     | 135.8°F.           |
| 17 min.     | 135°F.             |
| 18 min.     | 134.4°F.           |
| 19 min.     | 134°F.             |
| 20 min.     | 133.4°F.           |

The performance test showed that the material was not very effective at the dilution used. We did get an initial breakthrough (slight seepage) after 10 minutes. However, only approximately 1/4" of the plug was solubilized. Based on previous tests using the caustic soda - aluminum blend this would indicate that the acid based product is not more effective.

Discussion & Conclusion:

Based on the results of our tests, the product is excessively corrosive to metal especially at use concentrations. The heat of reaction test and the performance test also shows that the product is not superior to the caustic soda - aluminum blends currently used. The product, being a liquid, is also dangerous to handle. Considering these factors we do not recommend that the client include this type of product in his line.

*A. Peters*

AP/BB:hn  
2c, 2p, f.

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**FOSTER D. SNELL, INC.**

80 WEST 18TH STREET, NEW YORK 11, N. Y.

**CONSULTING CHEMISTS**

**ENGINEERS**

**August 26, 1964**

510

To: **Hercules Chemical Company - Mr. J. Fidler**

From: **W. Burnett - B. Berkeley**

Subject: **Effect of Acid Drain Openers on Commonly Used Sewer  
and Drain Line Components.**

We show below a summary of the opinions expressed  
in replies received to date relative to the probable effect  
of hydrochloric and sulfuric acid drain openers on sewer  
and drain line components.

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August 26, 1964

SUMMARY OF REPLIES

|                                 | <u>No Effect</u>                                     | <u>Attacked</u>                     |
|---------------------------------|------------------------------------------------------|-------------------------------------|
| Bitumastic Coatings             | 2                                                    |                                     |
| Mineralized Fiber Pipe          | 4                                                    |                                     |
| Concrete Pipe                   | 2                                                    | 4                                   |
| Asbestos-Cement Pipe            |                                                      | 3                                   |
| Portland Cement                 |                                                      | 1                                   |
| Vitrified Clay Pipe             | 17                                                   |                                     |
| Cast Iron Pipe                  | 1                                                    | 7                                   |
| Wrought Iron                    |                                                      | 1                                   |
| High Silicon Iron Pipe          | 1                                                    |                                     |
| Steel Pipe                      |                                                      | 2                                   |
| Galvanized Steel Pipe           |                                                      | 1                                   |
| Modified Epoxy Resin Pipe       | 1                                                    |                                     |
| PVC Plastic Pipe                | 5                                                    |                                     |
| Styrene-Rubber Pipe             | 1                                                    |                                     |
| ABS Plastic Pipe                | 5                                                    |                                     |
| Polyester Pipe                  | 1                                                    |                                     |
| Polystyrene Pipe                | 1                                                    |                                     |
| Galvan Lined Steel Pipe         |                                                      | 1                                   |
| Planton Lined Steel Pipe        |                                                      | 1                                   |
| Polypropylene Lined Steel Pipe  |                                                      | 1                                   |
| Polyethylene Pipe               | 1                                                    |                                     |
| PVC Lined Concrete Pipe         | 1                                                    |                                     |
| Elastic Pipe (general)          | 1                                                    |                                     |
| Mortar Joints for Clay Pipe     |                                                      | 1                                   |
| PVC Joints                      | 1 (HCl)                                              | 1 (H <sub>2</sub> SO <sub>4</sub> ) |
| Polyurethane Joints             | 2                                                    |                                     |
| Asphalt Base Joints             | 1 (HCl & H <sub>2</sub> SO <sub>4</sub> )<br>2 (HCl) | 2 (H <sub>2</sub> SO <sub>4</sub> ) |
| Sulfur Joints                   | 1 (HCl & H <sub>2</sub> SO <sub>4</sub> )            | 1 (H <sub>2</sub> SO <sub>4</sub> ) |
| Rubber Joints                   | 1 (HCl & H <sub>2</sub> SO <sub>4</sub> )<br>3 (HCl) | 2 (H <sub>2</sub> SO <sub>4</sub> ) |
| Unidentified Proprietary Joints | 1                                                    |                                     |
| Aluminum                        |                                                      | 1                                   |

WB/BB:bn-2c, 2p, f.

*W. Barnett*

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FOSTER D. SNELL, INC.

29 WEST 15TH STREET, NEW YORK 11, N. Y.

CONSULTING CHEMISTS

ENGINEERS

16 July 1963

To: Hercules Chemical Co. - Mr. J. W. Fidler

From: A. Petersen - B. Berkeley

Subject: Effect of sulfuric acid drain pipe cleaners on cast iron,  
steel, brass, and copper

The client directed that we investigate the comparative effects on metals of Hercules' CLOBBER versus two competitive products and a technical grade of uninhibited sulfuric acid.

The test procedure used was one of total immersion of metal specimens for one hour at room temperature. Corrosion was measured as milligram weight loss. Test results are shown below:

|                                      |               | Milligram Weight Loss |       |       |        |
|--------------------------------------|---------------|-----------------------|-------|-------|--------|
|                                      |               | Cast Iron             | Steel | Brass | Copper |
| Hercules' CLOBBER:                   | Concentrated  | 11.2                  | 19.4  | 1.6   | 0.1    |
|                                      | Diluted 1/5.5 | 71.1                  | 2.2   | 0.0   | 0.0    |
| Product A:                           | Concentrated  | 20.4                  | 16.0  | 2.8   | 0.0    |
|                                      | Diluted 1/5.5 | 111.3                 | 23.2  | 0.0   | 0.5    |
| Product B:                           | Concentrated  | 5.5                   | 16.8  | 6.0   | 0.0    |
|                                      | Diluted 1/5.5 | 512.0                 | 79.4  | 0.0   | 0.7    |
| Uninhibited Technical Sulfuric Acid: | Concentrated  | 7.4                   | 13.1  | 3.6   | 1.0    |
|                                      | Diluted 1/5.5 | 1,345.5               | 164.7 | 1.0   | 1.9    |

DISCUSSION

The results show that at the 1/5.5 dilution, Hercules' CLOBBER has the least corrosive effect on ferrous metals of any samples tested. The results on copper indicate that none of the products have any substantial corrosive effect on copper.

Respectfully submitted,

*A. Petersen*

FOSTER D. SNELL, INC.

BB:AP:rf/2c, 2p, f

FOSTER D. SNELL, INC.

29 WEST 15TH STREET, NEW YORK 11, N. Y.

CONSULTING CHEMISTS

ENGINEERS

March 7, 1963

*Geo. G. INGUS*  
*to Technical*  
*Committee*

To: Hercules Chemical Co. - Mr. Jay Fidler  
From: A. Petersen - B. Berksley  
Subject: Evaluation of Acid Drain Opener

The following series of tests were conducted on a sample of "Drain Snake," *Sulfuric Acid* a product manufactured by the Cloroben Chemical Corporation.

Effect on sanitary ware (acid resistant)  
Effect on brass, steel, cast iron  
Heat of reaction test  
Practical tests on clogged drain

Test Method:

The test procedures for effect on sanitary ware and effect on brass, steel, and cast iron used were those presently specified by the Institutional Research Council, Inc., for determining the acceptability of Bowl & Porcelain Cleaners for inclusion in their Certified Products List. Copies of the pertinent methods are enclosed. The above test calls for testing the concentrated product (without dilution). To obtain further information the above was repeated at a dilution of 1 part "Drain Snake" to 5-1/2 parts water. This dilution is based on the recommended application of 4 to 8 ounces of the product to a small drain assuming that the stoppage was in the trap portion of the drain. The quantity of water contained in a 1-1/2 inch trap and the portion of the pipe from the sink to the trap was determined to be approximately 1300 milliliters.

The heat of reaction test was conducted in an insulated 250 ml. beaker. 23.5 ml. of the product was added to 130 ml. of water (similar to the above determined dilution) and the temperature rise recorded every minute for a total period of 20 minutes.

3-1

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March 7, 1963

The performance test was conducted in a specially blown glass trap made from 1-1/4 inch diameter glass tubing. The tube was plugged with approximately 3 inches of a mixture of tallow to which 5% dried coffee grounds and 5% human hair were added. After a 6 hour period to allow the tallow to set, "Drain Snake" was added to the water above the plug. The resulting proportion of cleaner to water was similar to that determined previously. The time it takes for the solution to drain through the plug and the quantity of plug dissolved is a measure of the effectiveness of the product. The results are shown below:

|                                |                  | <u>I. R. C. Requirements</u>                                               | <u>Results</u> |
|--------------------------------|------------------|----------------------------------------------------------------------------|----------------|
| <u>Effect on Sanitary Ware</u> |                  |                                                                            |                |
| Concentrated                   |                  | The cleaner shall not etch porcelain (acid-resistant)                      | Passes         |
| Diluted (1:5.5)                |                  |                                                                            | Passes         |
| <u>Effect on Brass</u>         |                  |                                                                            |                |
| Concentrated                   |                  | The weight loss shall not exceed the following limits (on the concentrate) | 2.8            |
| Diluted (1:5.5)                |                  |                                                                            | 0.0            |
| <i>Dens. 7.86</i>              | <u>Steel</u>     | Brass - 5 mg.                                                              |                |
|                                | Concentrated     | Steel - 10 mg.                                                             |                |
|                                | Diluted (1:5.5)  | Cast Iron - 30 mg.                                                         | 16.0           |
|                                |                  |                                                                            | 23.2           |
| <i>Density 7</i>               | <u>Cast Iron</u> |                                                                            |                |
|                                | Concentrated     | .00001" - Penetration - 1 hr.                                              | 20.4           |
|                                | Diluted          | .0013" - Penetration - 1 hr.                                               | 111.3          |

Heat of Reaction:

| <u>Time</u>               | <u>Temperature</u> |
|---------------------------|--------------------|
| Initial Water Temperature | 80°F.              |
| 1 min.                    | 146°F.             |
| 2 min.                    | 145°F.             |
| 3 min.                    | 144°F.             |
| 4 min.                    | 143.8°F.           |
| 5 min.                    | 142.8°F.           |
| 6 min.                    | 142°F.             |
| 7 min.                    | 141.6°F.           |
| 8 min.                    | 140.8°F.           |
| 9 min.                    | 140°F.             |

*Panel Area*  
22.58 sq. cm.

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March 7, 1963

Heat of Reaction: (Cont'd.)

| <u>Time</u> | <u>Temperature</u> |
|-------------|--------------------|
| 10 min.     | 139.5°F.           |
| 11 min.     | 138.5°F.           |
| 12 min.     | 137.9°F.           |
| 13 min.     | 137°F.             |
| 14 min.     | 136.5°F.           |
| 15 min.     | 136°F.             |
| 16 min.     | 135.8°F.           |
| 17 min.     | 135°F.             |
| 18 min.     | 134.4°F.           |
| 19 min.     | 134°F.             |
| 20 min.     | 133.4°F.           |

The performance test showed that the material was not very effective at the dilution used. We did get an initial breakthrough (slight seepage) after 10 minutes. However, only approximately 1/4" of the plug was solubilized. Based on previous tests using the caustic soda - aluminum blend this would indicate that the acid based product is not more effective.

Discussion & Conclusion:

Based on the results of our tests, the product is excessively corrosive to metal especially at use concentrations. The heat of reaction test and the performance test also shows that the product is not superior to the caustic soda - aluminum blends currently used. The product, being a liquid, is also dangerous to handle. Considering these factors we do not recommend that the client include this type of product in his line.

*A. Peters*

AP/BB:hn  
2c, 2p, f.

95  
184

August 26, 1964

5.10

**FOSTER D. SNELL, INC.**

20 WEST 15TH STREET, NEW YORK 11, N. Y.

**CONSULTING CHEMISTS  
ENGINEERS**

August 26, 1964

Dr. J. M. G. G. G.

Mr. J. M. G. G. G.

To: **Hercules Chemical Company - Mr. J. Fidler**

From: **W. Burnett - E. Berkeley**

Subject: **Effect of Acid Drain Openers on Commonly Used Sewer and Drain Line Components.**

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Effect of Acid Drain Openers on Commonly Used Sewer and Drain Line Components.

We show below a summary of the opinions expressed in replies received to date relative to the probable effect of hydrochloric and sulfuric acid drain openers on sewer and drain line components.

Effect of Acid Drain Openers on Commonly Used Sewer and Drain Line Components.

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Effect of Acid Drain Openers on Commonly Used Sewer and Drain Line Components.

Effect of Acid Drain Openers on Commonly Used Sewer and Drain Line Components.

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August 26, 1964

SUMMARY OF REPLIES

|                                 | <u>No Effect</u>                          | <u>Attacked</u>                     |
|---------------------------------|-------------------------------------------|-------------------------------------|
| Bitumastic Coatings             | 2                                         |                                     |
| Aluminized Nibor Pipe           | 4                                         |                                     |
| Concrete Pipe                   | 2                                         | 4                                   |
| Asbestos-Cement Pipe            |                                           | 3                                   |
| Portland Cement                 |                                           | 1                                   |
| Vitrified Clay Pipe             | 17                                        |                                     |
| Cast Iron Pipe                  | 1                                         | 7                                   |
| Wrought Iron                    |                                           | 1                                   |
| High Silicon Iron Pipe          | 1                                         |                                     |
| Steel Pipe                      |                                           | 2                                   |
| Galvanized Steel Pipe           |                                           | 1                                   |
| Modified Epoxy Resin Pipe       | 1                                         |                                     |
| PVC Plastic Pipe                | 5                                         |                                     |
| Styrene-Rubber Pipe             | 1                                         |                                     |
| ABS Plastic Pipe                | 5                                         |                                     |
| Polyester Pipe                  | 1                                         |                                     |
| Polystyrene Pipe                | 1                                         |                                     |
| Saran Lined Steel Pipe          |                                           | 1                                   |
| Penton Lined Steel Pipe         |                                           | 1                                   |
| Polypropylene Lined Steel Pipe  |                                           | 1                                   |
| Polyethylene Pipe               | 1                                         |                                     |
| PVC Lined Concrete Pipe         | 1                                         |                                     |
| Elastic Pipe (general)          | 1                                         |                                     |
| Mortar Joints for Clay Pipe     |                                           | 1                                   |
| PVC Joints                      | 1 (HCl)                                   | 1 (H <sub>2</sub> SO <sub>4</sub> ) |
| Polyurethane Joints             | 2                                         |                                     |
| Asphalt Base Joints             | 1 (HCl & H <sub>2</sub> SO <sub>4</sub> ) | 2 (H <sub>2</sub> SO <sub>4</sub> ) |
|                                 | 2 (HCl)                                   |                                     |
| Sulfur Joints                   | 1 (HCl & H <sub>2</sub> SO <sub>4</sub> ) | 1 (H <sub>2</sub> SO <sub>4</sub> ) |
| Rubber Joints                   | 1 (HCl & H <sub>2</sub> SO <sub>4</sub> ) | 2 (H <sub>2</sub> SO <sub>4</sub> ) |
|                                 | 3 (HCl)                                   |                                     |
| Unidentified Proprietary Joints | 1                                         |                                     |
| Aluminum                        |                                           | 1                                   |

WB/BB:hn-2c, 2p, f.

W. Barnett

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FOSTER D. SNELL, INC.

22 WEST 15TH STREET, NEW YORK 11, N. Y.

CONSULTING CHEMISTS  
ENGINEERS

16 July 1963

To: Hercules Chemical Co. - Mr. J. W. Fidler

From: A. Petersen - B. Berkeley

Subject: Effect of sulfuric acid drain pipe cleaners on cast iron,  
steel, brass, and copper

The client directed that we investigate the comparative effects on metals of Hercules' CLOBBER versus two competitive products and a technical grade of uninhibited sulfuric acid.

The test procedure used was one of total immersion of metal specimens for one hour at room temperature. Corrosion was measured as milligram weight loss. Test results are shown below:

|                                           |               | Milligram Weight Loss |       |       |        |
|-------------------------------------------|---------------|-----------------------|-------|-------|--------|
|                                           |               | Cast Iron             | Steel | Brass | Copper |
| Hercules' CLOBBER:                        | Concentrated  | 11.2                  | 19.4  | 1.6   | 0.1    |
|                                           | Diluted 1/5.5 | 71.1                  | 2.2   | 0.0   | 0.0    |
| Product A:                                | Concentrated  | 20.4                  | 16.0  | 2.8   | 0.0    |
|                                           | Diluted 1/5.5 | 111.3                 | 23.2  | 0.0   | 0.5    |
| Product B:                                | Concentrated  | 5.5                   | 16.8  | 6.0   | 0.0    |
|                                           | Diluted 1/5.5 | 512.0                 | 79.4  | 0.0   | 0.7    |
| Uninhibited Tech-<br>nical Sulfuric Acid: | Concentrated  | 7.4                   | 13.1  | 3.6   | 1.0    |
|                                           | Diluted 1/5.5 | 1,345.5               | 164.7 | 1.0   | 1.9    |

DISCUSSION

The results show that at the 1/5.5 dilution, Hercules' CLOBBER has the least corrosive affect on ferrous metals of any samples tested. The results on copper indicate that none of the products have any substantial corrosive effect on copper.

Respectfully submitted,

*A. Petersen*

FOSTER D. SNELL, INC.

BB:AP:rf/2c, 2p, f

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April 7, 1980

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Ms. Virginia White  
Project Manager  
Office of Program Management  
Consumer Product Safety Commission  
5401 Westbard Avenue  
Room 419  
Bethesda, Maryland 20207

Dear Ms. White:

As we discussed today, I represent several companies having a vital interest in proceedings before the Consumer Product Safety Commission ("Commission") with respect to household use of sulfuric acid drain cleaners. You will recall that, on October 27, 1977, the Hercules Chemical Company, Inc. petitioned the Commission to propose a ban on the household use of sulfuric acid drain cleaners. On December 14, 1978, the Commission granted the Hercules petition and instructed the staff to prepare a briefing package containing a proposed ban. It is my understanding that the briefing package will be submitted to the Commission on or before June 31, 1980.

I know that you and your staff are presently collecting technical data with which to advise the Commission. In fact, on numerous occasions, Commission officials have stressed the continuing need to augment the existing data base with more comprehensive and reliable information. For example, in a memorandum dated November 3, 1978, the acting Director of the HICP, Warren J. Prunella, noted that additional information was required in several areas:

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As we noted in our memo of March 14, 1978, we will proceed to make further studies into issues of economic impact once the Commission grants the petition....The issue of shifts to other hazardous acid drain cleaners will certainly be considered. We do not have information on other drain cleaner formulations that contain acids, but will look into that possibility and other data, prior to proposal of a ban.

The firms which I represent are, in many instances, the exclusive source of essential industry data. For example, firms which manufacture sulfuric acid drain cleaners can provide the Commission with precise economic impact analyses which are simply unavailable through general information sources. I respectfully submit that a briefing package lacking such critical information cannot be deemed complete.

It must also be recognized that the petitioner, Hercules Chemical Company, Inc., has had numerous opportunities for consultation with the Commission staff. On December 20, 1979, representatives of the Hercules Company met with Alan M. Ehrlich-OPM, Carole Roth-OGC, Charles Jacobson-CERM, and Vincent A. Martino-HICP. Basic principles of fairness dictate that affected companies be afforded the same opportunity.

At the present time, several manufacturers are engaged in vigorous efforts to compile such technical data. I fully expect that a comprehensive presentation can be made to you and your staff within 4-6 weeks. It is my understanding that you will be meeting with your General Counsel on April 10 to address the industry's concerns. I look forward to discussing this matter with you in greater detail after your meeting on April 10.

Thank you for your cooperation.

Sincerely,



Robert J. Steele

RJS:rpj

cc: Mr. Bert Simson  
Director of Office  
of Program Management  
Consumer Product Safety  
Commission

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Virginia  
let's discuss 6/14/80

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June 10, 1980

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Mr. Bert Simson  
Director of the Office  
of Program Management  
Consumer Product Safety Commission  
5401 Westbard Avenue  
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Bethesda, Maryland 20207

Dear Mr. Simson:

Thank you for providing the members of the Ad Hoc Association of Chemical Producers with an opportunity to present their views concerning the possible ban of sulfuric acid drain cleaners. I found the hearing on June 6th to be most beneficial in developing the facts which the Commission needs to make an informed decision. I hope that you and your staff concur in that judgment. We will follow-up on the suggestions made by your staff and will provide supplementary data as it becomes available.

It is my understanding from our discussion after the hearing that our written statement will be submitted to the Commission as part of the technical briefing package. Please inform me if your understanding differs in that respect. I would also appreciate your informing me as to when the transcript of the hearing will be made available.

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I look forward to a continuing relationship with you and your staff, both in the development of a reliable data base and in consultation regarding any proposed safety measures which you may wish to discuss. I remain confident that such constructive efforts will yield positive results.

Sincerely,

*Robert J. Steele*

ROBERT J. STEELE

Attorney for the Ad Hoc Association  
of Chemical Producers

1982

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Mr. Bert Simson  
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5401 Westbard Avenue,  
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Re: Petition of Hercules Chemical Company, Inc.  
To Ban Sulfuric Acid Drain Cleaners -- No. HP 78-1

Dear Mr. Simson:

In response to our request for information under the Freedom of Information Act, it has recently been brought to our attention that, on July 25, 1980, attorneys for the Hercules Company submitted an unsolicited statement to the Commission in an attempt to minimize the impact of the ACP's oral and written testimony. Because this most recent effort by Hercules tends to confuse the legal and factual issues involved, the ACP is compelled to issue this response.

As a preliminary matter, the ACP takes exception to the accusation by Hercules that the ACP's participation in this proceeding is solely for the purpose of delay. Contrary to this unfounded allegation, the ACP has at all times participated in good faith. Further, the ACP's testimony constitutes the most authoritative and reliable source of industry data and remains uncontroverted by anything appearing in the public record.

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Page Two

### Economic Impact of a Ban

The Hercules commentary regarding the economic impact of a ban is replete with specious economic theories. According to Hercules, the ACP members believe only that a ban would be "disruptive" of their businesses. However, as the ACP members have testified, a product ban would have a devastating impact upon all of these companies. To underscore the seriousness of this concern, the ACP members have executed sworn affidavits with respect to the projected economic impact on each firm (see Appendix "A").

Four of the six ACP members would be immediately destroyed if a ban is implemented. The remaining two firms would have a chance of survival due to their limited diversification. However, they too would face grave financial losses which would endanger their entire operations. Thus, even if those firms were able to survive a ban, their greatly diminished operations would obviously require numerous employee layoffs and the disposition of company assets.

Without any substantiation, Hercules asserts that a ban "should be considered in terms of shifts from a consumer/industry market to an industry market exclusively." Thus, Hercules spins an illusion of neatness and simplicity, one designed specifically to divert attention from the harsh economic realities of a ban and, as explained below, from its own marketing strategy.

Hercules' economic theories are based upon certain critical assumptions which common sense dictates are completely false. For example, in order for the ACP members to "shift" their production to the industrial sector, there would obviously have to be a demand for their product. Does Hercules seriously contend that these small consumer-oriented firms can simply grab a market share from the well-entrenched firms in the industrial sector? Or does Hercules seriously believe that the demand for this product will skyrocket because consumers will, as a substitute for a \$5.00 purchase of this product, hire a professional plumber at over \$50.00 per hour to come over to their houses and apply this product for them?

According to Hercules, "the proposed ban would not deprive the public of the utility or availability of the product as it will still be available through professionals."<sup>1/</sup> This

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<sup>1/</sup> Hercules letter of July 25, 1980, at p. 7.

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assumes that the staggering costs of professional plumbing services will have no effect on consumer behavior. The absurdity of such assumptions requires no elaboration. The ACP submits that Hercules knows better, but is hoping that the Commission will not.

For Hercules to contend that these companies will be able to continue operating as before despite a product ban is disingenuous to say the least. The plain truth is that a ban will immediately destroy most, if not all, of the ACP members, as the attached affidavits demonstrate.

There is no way that any ACP member could possibly hope to develop a sales volume in the industrial sector comparable to what is presently maintained in the consumer market. To attempt to do so would require a massive investment of technical and financial resources wholly disproportionate to the anticipated return on investment. Accordingly, these companies would simply close their doors rather than engage in such folly.

Notwithstanding Hercules' suggestion to the contrary, the ACP does not argue that this severe economic impact is the sole factor to be considered. Rather, the ACP has previously testified that this is one of the major considerations to be weighed by the Commission in light of all of the available information.2/

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2/ As the ACP stated in its written testimony, it agrees with the OGC Memorandum of November 25, 1977 that the "reasonableness" of the risk to consumers involves consideration of numerous factors, including

- (1) The degree, nature and frequency of actual and projected injuries associated with the product;
- (2) The utility of the product to consumers; and
- (3) The potential impact of a ban.

The ACP has addressed these and other relevant factors in its comprehensive testimony.

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### Hercules Marketing Strategy

Throughout this proceeding, Hercules has attempted to cloak its profit maximizing strategies in the garb of concern for the safety of consumers. The Commission should be made aware that the Hercules petition plays a major part in its marketing strategy. Hercules has recently begun marketing a new, non-acid drain opener called "Double Agent." This product is an addition to the Hercules line of plumbing chemicals which Hercules markets to the consumer. As the promotional literature in Appendix "B" clearly demonstrates, "Double Agent" is being marketed as the next-best thing to acid-based drain openers. According to Hercules, "Double Agent" is the "fastest acting non-acid liquid customers can buy." Thus, what better way is there to promote this product than to have the Commission actually ban the use of its acid-based competition?

In its promotional literature, Hercules is pretty blunt about its marketing strategy:

"We don't want your profits on Double Agent eroded by supermarket competition. We're keeping it out of supermarkets and other food outlets. They can't have it. At last you have your own drain opener. Patented. Exclusive. . . . The homeowner who wants the fastest and best drain opener has to come to a store like like yours to get it." [emphasis added]

By attempting to deprive consumers of any practical alternative, Hercules is confident that it will corner the market on non-acid drain openers:

"Not only is this the first liquid drain opener with Thermalum Nuggets, but there's not going to be a second. That's how securely its patent protects it." [emphasis added]

We can now understand more fully what Hercules means when it promotes its line of plumbing chemicals by boasting:

"They can't fix it, install it, or maintain it without these fixin's. . . . Want to reap fixin's profits? Contact us at 84 Fifth Avenue, New York, New York." [emphasis added]

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### Degree of Risk to Consumers

Hercules takes the most extreme view possible as to the projected risk to consumers and seeks to have the Commission do the same, regardless of the cost to consumers and producers. Moreover, Hercules makes no effort to disguise its extreme position. For example, Hercules refers to one paragraph from an investigative report describing a single incident and asserts: "This report alone, Hercules submits, justifies prompt action on the petition."

While Hercules failed to submit the entire investigative report in that case, the facts of that particular incident are known to one of the ACP members, which was directly involved in the investigation. Upon close examination, it is readily apparent that Hercules has failed to disclose all of the material facts.

I am informed that, prior to using this product, the individual involved had applied several containers of sodium hydroxide without success. Then, without taking any steps to remove these volatile chemicals, he poured a full container of sulfuric acid drain cleaner directly on to the sodium hydroxide. I am further informed that this individual had previously modified his plumbing in such a way that its method of operation exacerbated the inherent danger of his reckless acts.

Hercules' selective reporting of that incident raises further questions as to its credibility and motives in pursuing this request for a ban. Hercules would have the Commission believe that this wanton behavior by a single individual is typical of the average consumer. Nothing could be further from the truth.

Even a casual glance at the industry's consumer production statistics would reveal that this incident is truly extraordinary. If it were commonplace as Hercules suggests, the ACP members would have ceased production long ago.

It is common knowledge among consumers that the mixing of large quantities of chemicals poses a serious risk of injury. By way of illustration, the labels from two well known household products are attached as Appendix "C". The Clorox bleach label warns:

"Do not use Clorox with ammonia or  
products containing acids such as toilet

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bowl cleaners, rust removers or vinegar.  
To do so will release hazardous gases.  
Prolonged contact with metal may cause  
pitting or discoloration."

The warning on the Lysol label is even more alarming,  
declaring that Lysol

"should not be used with chlorine (bleach)  
or other chemical products . . . Danger;  
corrosive; produces chemical burns.  
Contains Hydrochloric Acid. Do not get  
in eyes, on skin, or on clothing."  
[emphasis added]

While both Lysol and Clorox are highly popular household  
items, it is well known that people have been seriously injured  
while applying a mixture of ammonia and bleach. Similarly,  
there is no question that, if abused, the hydrochloric acid  
contained in Lysol has the potential for serious injury and  
property damage. However, both products have become trusted  
household items for millions of consumers who continue to use  
them safely and effectively. The same is true of the consumer  
product involved here.

For comparison purposes, it is also instructive to wit-  
ness the directions on a highly popular caustic drain opener,  
Crystal Drano:

"Keep water out of can at all times to  
prevent contents from erupting or boiling  
out. . . . Never use with other drain  
cleaners or chemicals, before, during or  
after using Drano since Drano may react  
with such products. . . . Contains  
sodium hydroxide (caustic soda-lye).  
Corrosion: Causes severe eye and skin  
damage." [emphasis added]

Given the obvious dangers involved in application of  
this caustic drain opener, one might ask why Hercules did not  
petition for a ban of this product. In view of the Hercules  
marketing strategy, however, the answer is clear: The competi-  
tion for "Double Agent" comes from the acid-based drain openers,  
not from the caustic soda. Furthermore, Hercules is aware  
that, with a consumer ban, the ACP members and all other firms

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like them will be unable to compete in the industrial market, leaving that market intact for the Hercules acid-based drain opener, "Clobber."

Hercules has done everything within its power to hasten the demise of its acid-based competition, stating in a letter to its buyers on January 23, 1980:

"We also wish to mention our belief that sulphuric acid drain cleaners may soon be banned from retail sales throughout the country, and we respectfully recommend against the sale of any other acid drain cleaner in the retail market." [emphasis added] (See Appendix "D".)

The simplistic Hercules approach to the risk of injury is based upon an erroneous view of the legal criteria which govern consideration of a product ban. This is illustrated by Hercules' statement that "it is impossible to render sulfuric acid harmless to skin and mucous membrane without eliminating or significantly reducing the quality for which it is used . . ."

Contrary to Hercules' characterization of the legal issues involved, the question before the Commission is not whether this or any other consumer product is "harmless" to consumers, but whether, upon consideration of all relevant factors, (1) the product presents an "unreasonable" risk of injury and (2) there is no feasible consumer product safety standard which would adequately protect the public from such an unreasonable risk.<sup>3/</sup>

It is clear that the actual legal test to be applied is quite different from that which Hercules proposes, and with good reason. As the Commission staff has expressly recognized, a product ban is a "radical regulatory action"<sup>4/</sup> which, by congressional mandate, is to be instituted only where nothing short of an outright ban will prevent an "unreasonable" risk of injury.

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<sup>3/</sup> 15 U.S.C. § 2057 (1972).

<sup>4/</sup> Appendix "E" -- OSP Memorandum of August 25, 1978.

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In its oral and written testimony, the ACP has already demonstrated that the projections of the risk of injury upon which the Hercules petition is based simply do not square with the actual experience of millions of consumers who have purchased and safely used this product. Unable to dispute these facts, Hercules now seeks to focus the Commission's attention upon a single extraordinary incident involving blatant misuse of the product. Ultimately, such transparent efforts must fail before the rule of reason, which the Congress has mandated must be applied when such an extreme regulatory action is being considered.

#### Utility To Consumers

Hercules readily admits that "[t]he utility of sulfuric acid drain cleaners is not an issue here. All agree that the product is highly effective for certain drain stoppage problems."5/ However, Hercules alleges that the only "proper" use of this product is in an "emergency" situation. Again, Hercules offers no substantiation for this claim.

The Hercules statement fails to account for the myriad uses of this product in other than "emergency" situations. More importantly, Hercules fails to note the use of inhibitors in today's consumer product which serve to protect drains and pipes during consumer application. This product has been safely and effectively used by millions of consumers for a wide range of stoppage problems, which may account for Hercules' difficulty in marketing "Double Agent" without the Commission's help in the form of a ban.

On the subject of utility to consumers, it is important to observe that Hercules has not proposed a single, viable alternative to the use of this product except for vague references to the availability of professional plumbing services. For millions of consumers who are financially strapped, there is certainly a hollow ring to the Hercules statement that "the proposed ban would not deprive the public of the utility or availability of the product as it will still be available through professionals."6/

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5/ Hercules letter of July 25, 1980, at p. 8.

6/ Hercules letter of July 25, 1980, at p. 7.

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If people cannot afford plumbers, no amount of rationalization by those involved here will solve that problem. Faced with literally no alternative, hundreds of thousands of consumers will resort to self-help measures which can be expensive and extremely dangerous.<sup>7/</sup> One would expect, therefore, that a ban will greatly increase the incidence of consumer injuries in the home, especially among lower income groups. Furthermore, no one has yet estimated the true social costs of the injuries, property damage and wasted human effort which will result from consumer reliance upon self-help measures.

#### Related Considerations

In its statement, Hercules erroneously contends that, having previously granted Hercules' petition, the Commission is now legally required to publish a proposed rule. This view is contrary to the express provisions of the Consumer Product Safety Act ("CPSA") as well as standard Commission practice.

By letter of December 29, 1978, the Commission notified Hercules that it had voted to grant the Hercules petition. The Commission expressly informed Hercules that, upon completion of the staff's briefing package, "the Commission will review the package and, based upon the available information, will decide whether to issue a proposed ban of sulfuric acid drain cleaners." [emphasis added]

Notwithstanding this unambiguous direction from the Commission, Hercules now insists that the Commission is legally obligated to issue a proposed rule. Contrary to this novel theory, the issue before the Commission is not whether it should "reconsider" its vote to grant the Hercules petition, but whether a proposed rule is actually necessary.

---

<sup>7/</sup> We know that consumers who are unable to afford a professional plumber will be left to their own ingenuity in attempting to resolve the problem. Some will, as noted above, resort to self-help. It is likely that others will continue to obtain this product. Consumers are aware that this product works and that it is ten times less expensive than using a plumber. Thus, there is a very strong and direct financial incentive for consumers to continue using this product. This may explain in part why every state except one has chosen to regulate and monitor the use of this product rather than to ban it altogether. The wisdom of this approach is clear.

1201

Mr. Bert Simson  
November 20, 1980  
Page Ten

Hercules relies upon section 9(a)(1)(B) of the CPSA as support for its argument. However, those provisions only come into play after the Commission has exercised its discretionary authority to issue a proposed consumer product safety rule:

(a)(1) Within 60 days after the publication under section 2056 or 2057 of this title of a proposed consumer product safety rule respecting a risk of injury associated with a consumer product, the Commission shall . . .

or (B) withdraw by rule the applicable notice of proceeding if it determines that such rule is not (i) reasonably necessary to eliminate or reduce an unreasonable risk of injury associated with the product, or (ii) in the public interest; [emphasis added]

Far from mandating the issuance of a proposed rule, the CPSA is explicit in leaving such matters to the Commission's discretion, both in the case of product bans and the development of product safety standards:

"Whenever the Commission finds that --

(1) a consumer product is being or will be distributed in commerce and such consumer product presents an unreasonable risk of injury; and

(2) no feasible consumer product safety standard under this chapter would adequately protect the public from the unreasonable risk of injury associated with such product, the Commission may propose and, in accordance with section 2058 of this title, promulgate a rule declaring such product a banned hazardous product."8/ [emphasis added]

---

8/ 15 U.S.C. § 2057. This discretionary authority also applies to the development of consumer product safety standards under 15 U.S.C. § 2056:

(a)(1) The Commission may . . . promulgate consumer product safety standards. . . . [emphasis added]

11/4  
200

Mr. Bert Simson  
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Page Eleven

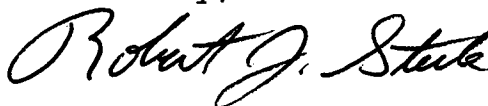
Hercules' reference to section 1110.12(b) of the Commission regulations is similarly inapposite. The quoted provisions merely indicate that the Commission's discretionary authority as to the issuance, amendment, or revocation of a rule must be made on the basis of all available information, including whatever information may have been obtained during rulemaking. Those regulations do not supersede or nullify the Commission's discretionary authority under the CPSA to decline to propose a rule.

The Commission is certainly under no legal obligation to publish a proposed rule if it determines that such is not the most suitable course of action. To do otherwise would engage the Commission in costly and time-consuming rulemaking proceedings regardless of the important data which the Commission has received subsequent to approval of the Hercules petition. As the Commission expressly recognized in its letter to Hercules on December 29, 1978, the Congress has not mandated any such procedure.

#### Conclusion

The Hercules letter of July 25, 1980 seriously distorts the legal and factual issues involved in this proceeding. With this clarification, the ACP renews its pledge to cooperate fully with the Commission throughout its investigation.

Sincerely,



ROBERT J. STEELE

Attorney for the Ad Hoc  
Association of Chemical  
Producers

cc: Richard A. Gross  
Executive Director

Virginia A. White,  
Project Manager

Carol Roth, Esq.

2/19/83

APPENDIX A

\*

\* Appendix A is at Tab G of the  
Briefing Package on a Proposal to  
Ban Sulfuric Acid Drain Cleaners

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APPENDIX B

11  
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Double Shot

**Liquid  
drain  
opener**

*with huggels*

Fastest acting non-acid liquid.  
Works through water. One shot does it.

POISON 

KEEP OUT OF REACH OF CHILDREN  
LIQUID CAUSES SEVERE BURNS ON CONTACT  
CAREFULLY READ DIRECTIONS AND CAUTIONS ON BACK OF BOX

CONTENTS: 1 PACKET NET WT. .006 OZ.  
CONTAINER: 16 FL. OZ. (1 PINT)

....ALL NEW  
the fastest acting  
non-acid  
liquid drain opener  
on the market.  
It's from HERCULES.

## **A Shattering Breakthrough in Liquid Drain Openers. It Stands Alone.**

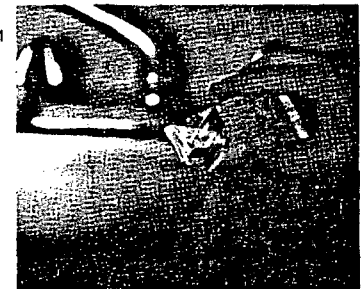
Not only is this the first liquid drain opener with Thermalum Nuggets™, but there's not going to be a second. That's how securely its patent protects it. Double Agent™ is so new, so innovative, it's going to replace all liquids, crystals and dangerous acids on your shelves. It's the fastest acting non-acid liquid your customers can buy. Besides unclogging grease and food in kitchen drains, it unclogs hair and soap residue in bathroom drains. Its speedy action is nothing less than a modern miracle.



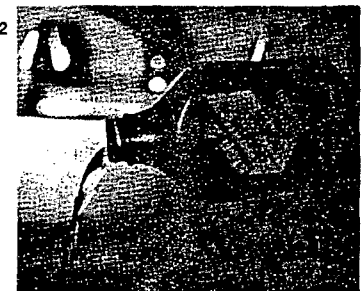
## **Introduces the End of the "Me Too" Drain Openers. It Stands Alone.**

Operates on the totally new principle of double action. FIRST the packet of pre-measured Thermalum Nuggets is emptied into the clogged drain. These remain inert until—SECOND—the non-acid liquid is added. All of it. Nothing to measure. No dangerous half-empty bottles around. And that's it. Clean, convenient, effective in one shot—the nuggets and the liquid working together. No grimy bail-outs necessary because Double Agent works through standing water. And gone forever is the temptation for your customers to use dangerous acids.

Step 1



Step 2



## **Offers More "Repeat Sale" Benefits Than Any Other Liquid Drain Opener. It Stands Alone.**

Just one package is enough to prove to your customers that Double Agent is the fastest acting non-acid liquid they've ever used. That it opens most stoppages within ten minutes. Often less. That it works as well in kitchen drains by melting cooking fats as in bathroom drains by dissolving hair and soap residue. That it's harmless to pipes, sinks, tubs and septic tanks. That it works through water, ending messy bail-outs. All are powerful reasons for buying Double Agent again. Additional repeat sale benefits are its pre-measured formula for one-shot effectiveness, consistent performance, and incomparable convenience.

## **Only Possible From A Company With 60 Years Experience In Drain Openers. It Stands Alone.**

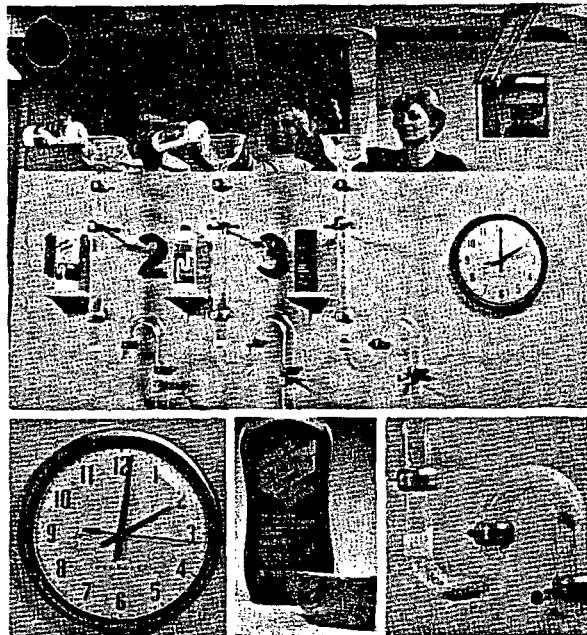
Here's a product that proves experience is the best teacher. Hercules made its first drain opener in 1915, and has been supplying professionals in the plumbing industry with dependable quality products for over sixty years. Double Agent is the culmination of years of research with the consumer in mind. Hercules is introducing Double Agent through its U-can consumer division after demonstrating years-ahead superiority before impartial consumer groups.



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**Unclogs Drains in Minutes.  
Hours Quicker Than Leading  
Non-Acid Liquid Competition.  
Best by Test. It Stands Alone.**

Saying so is one thing. Proving it is another. Hercules proved Double Agent is better at one of the country's leading research and development labs. Not behind closed doors. But in full view of consumer test groups. We used three drains, each identically clogged with cooking fat and coffee grinds from the kitchen and hair from the bathroom. The consumers poured Liquid-plumr® into sink #1, Liquid Drano® into sink #2 and Double Agent into sink #3. In 76 seconds Double Agent had totally unclogged the drain, making it crystal clear. It took Liquid-plumr 4 hours and 30 minutes and Liquid Drano 4 hours and 10 minutes to clear the identical clogs. Nothing else we can say is as dramatic as this comparison.



*\* In 76 seconds Double Agent had totally cleared the drain. It took Liquid-plumr 4 hours and 30 minutes and Liquid Drano 4 hours and 10 minutes to clear the identical clogs.  
\* Laboratory results upon request.*

**Protects Your Profits with Exclusive  
Non-Food Outlet Distribution. It Stands Alone.**

We don't want your profits on Double Agent eroded by supermarket competition. We're keeping it out of supermarkets and other food outlets. They can't have it. At last you have your own drain opener. Patented. Exclusive. Proven light years ahead of its competition in performance and convenience. The homeowner who wants the fastest and best drain opener has to come to a store like yours to get it. You can't be under-priced by food outlets. Double Agent. It stands alone.

**Exclusive, Timely, Revolutionary,  
With a Sell-Through As Spectacular  
As The Product Itself. It Stands Alone.**

A great product deserves a great sell-through. Double Agent gets it from Hercules:

- Sell-on-sight, stand-out-from-the-crowd packaging
- "Buy me" point-of-sale material
- Generous co-op advertising dollars
- Innovative merchandising
- The push that makes the difference between sensation and success

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## Double Agent Stands Alone...

- In clearing clogged drains in minutes
- In exclusive non-food outlet distribution
- In protected sell-through profits
- In packaging that stands out from the crowd
- In comparative laboratory tests
- In patented one-shot formula
- In repeat sales
- In total sales appeal

| Stock No. | Size   | Packing     |
|-----------|--------|-------------|
| 213100    | 16 oz. | 24 per ctn. |



Double Agent is by far the most innovative addition to Hercules' U-can consumer product line. Like all U-can products, it is easy to use, consistent in results and scientifically ahead of its competition.

Double Agent is a notable example of how every U-can product successfully satisfies the do-it-yourselfer's needs. Directions are simple and direct. Step by step your customer is told what to do in language easily understood. Never technical. Never vague. U-can takes the guess work out of home maintenance.

Its dynamic packaging moves it off the shelves; its dynamic performance brings the customer back for more. U-can can... and does.



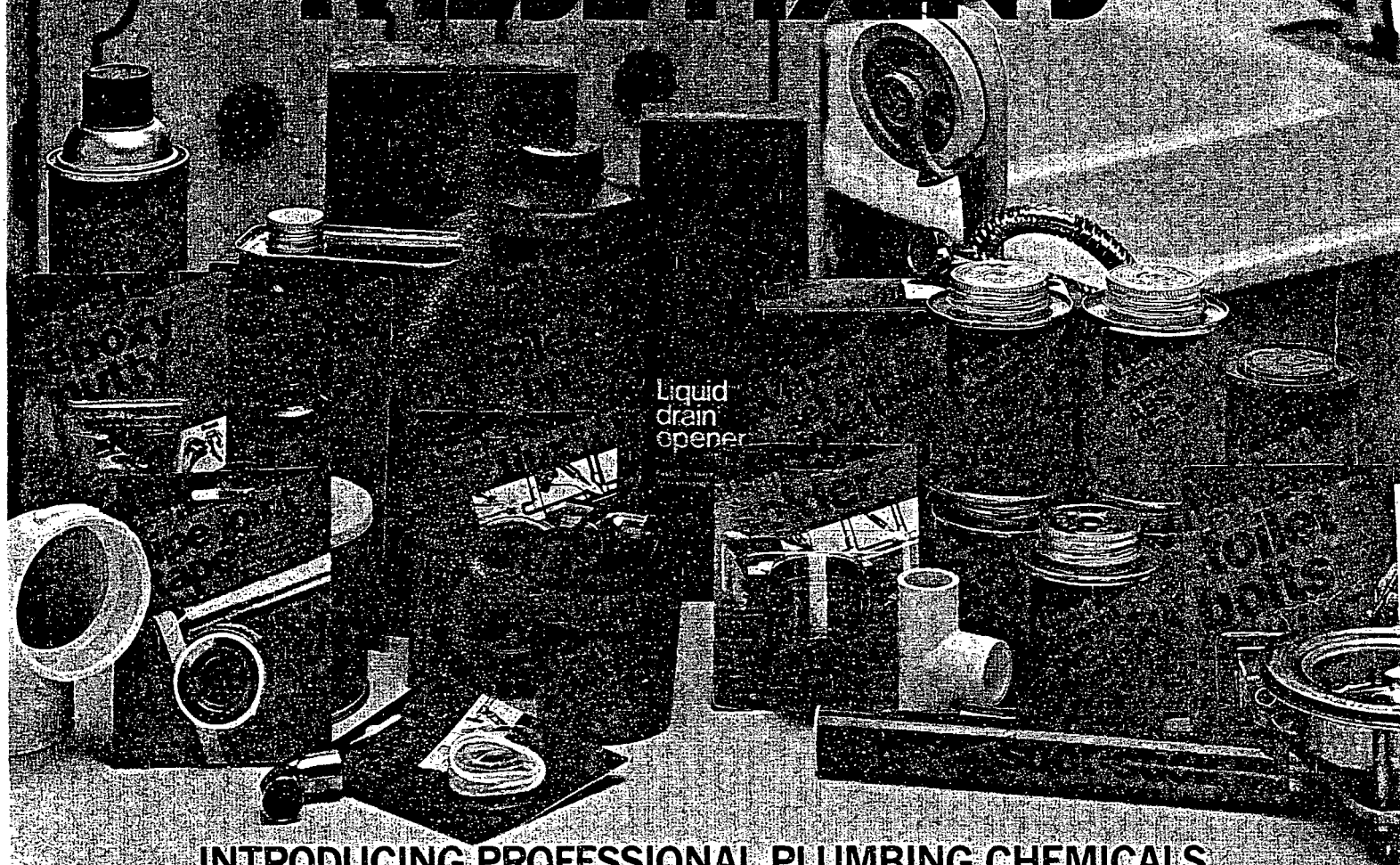
**HERCULES CHEMICAL COMPANY, INC.**

New York, N.Y. 10011

© 1977—A product of the U-can Division

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# THEY CAN'T FIX IT, INSTALL IT, OR MAINTAIN IT WITHOUT THESE FIXIN'S



## INTRODUCING PROFESSIONAL PLUMBING CHEMICALS FOR THE DO-IT-YOURSELFER

When it comes to plumbing, the average do-it-yourselfer has more ambition than know-how.

That's why every U-can product is packaged and carded with step-by-step instructions that explain everything they need to know about installing, fixing or maintaining plumbing fixtures and accessories.

And U-can self-selling products dispensers put the fixin's right next to the fixtures, exactly where they should be, fixtures and fixin's together. Great for tie-in sales.

Only U-can gives you increased fixtures and fixin's business. U-can, the only complete consumer-oriented, promotable plumbing chemicals line that adds up to extra

profit for you.

Want to reap fixin's profits? Contact us at 84 Fifth Avenue, New York, N.Y. 10011. (212) 989-0200.

**Ucan**

division of HERCULES CHEMICAL COMPANY, INC.

210

APPENDIX C

~~123~~  
211

Active ingredient:  
Sodium Hypochlorite 5.25%  
Total Hypochlorite 8.4.75%  
Contains No Phosphates

# CLOROX®

## BLEACH

CAUTION:

KEEP OUT OF REACH OF CHILDREN

**CLEANS  
DISINFECTS  
REMOVES STAINS**

## WHAT HOUSEHOLD CLEANING JOBS CAN CLOROX DO?

Use Clorox to clean your bathroom and kitchen. Clorox is an excellent disinfectant and deodorizer, yet is economical to use. Clorox cleans by removing stubborn stains and eliminating germ-caused odors from surfaces all around the house. Toilet bowls - Pour in 1/2 cup of Clorox. Brush entire bowl. Let stand 10 minutes. Flush. Do not use Clorox with toilet bowl cleaners. See caution statement. Kitchen sinks - Cover sinks with water. Pour 1/2 cup of Clorox directly into standing water. (Clorox will not remove rust or pot marks.) Floors, vinyl or ceramic tile, woodwork, and appliances - Clean with a solution of 3/4 cup Clorox per gallon of 50°F water. Bathtubs and showers - Clean with a solution of 3/4 cup Clorox per gallon of warm water.

## YOUR LAUNDRY NEEDS CLOROX® BLEACH.

For the broad range of laundry problems you encounter, no other type of additive used with your detergent can give a cleaner, brighter wash. And Clorox disinfects, too.

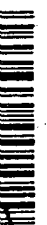
### DIRECTIONS FOR USE

HOW MUCH CLOROX SHOULD YOU USE?  
To get the best cleaning results, you should use the proper amount of Clorox in the wash water. The guidelines below should provide excellent cleaning results with any good soap or detergent. However, if you wash extremely heavily soiled or very large loads, you may want to add slightly more Clorox.

- Large top-loading automatic..... 1-1/2 cups
- Regular top-loading automatic..... 1 cup
- Front-loading automatic..... 1/2 cup
- Heavy soiled laundry - increase amount above by..... 1/4 cup
- Hand laundry - 2 gallons of sudsy water..... 1/8 cup

### WHAT FABRICS CAN YOU BLEACH?

Cotton, linen, synthetics, permanent press and most colored fabrics can be safely bleached. You can test any article to determine if it is bleach safe by applying one drop of a test solution (1 tablespoon Clorox with 1/4 cup of water) to a hidden spot on the fabric. Be sure to check all colors including trim.



Clorox may be harmful if swallowed or may cause severe eye irritation if splashed in eyes. If swallowed, feed milk. If splashed in eyes, flood with water. Call physician. Skin irritant. If contact with skin, wash off with water. Do not use Clorox with ammonia or products containing acids such as toilet bowl cleaners, rust removers or vinegar. To do so will release hazardous gases. Prolonged contact with metal may cause pitting or discoloration. Do not use the bottle for storage of any other liquid but Clorox.

**CAUTION:** If swallowed, feed milk. If splashed in eyes, flood with water. Call physician. Skin irritant. If contact with skin, wash off with water. Do not use Clorox with ammonia or products containing acids such as toilet bowl cleaners, rust removers or vinegar. To do so will release hazardous gases. Prolonged contact with metal may cause pitting or discoloration. Do not use the bottle for storage of any other liquid but Clorox.

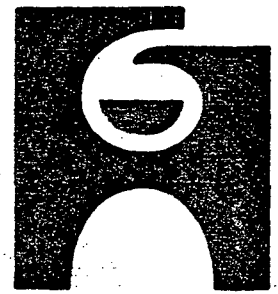
HOW SHOULD YOU ADD CLOROX TO YOUR WASHLOAD?  
Select the way to add Clorox that is easiest for you in the wash water before the laundry is put in, or diluted with a quart of water after the washer has begun agitating for a washer with automatic bleach dispenser, follow the manufacturer's instructions.

### WHAT SPECIAL LAUNDRY PROBLEMS CAN CLOROX HELP SOLVE?

Particularly tough laundry problems such as blood, berries, perspiration or other stubborn stains may require more than one washing with Clorox or soaking for five minutes in a solution of 1/4 cup Clorox to a gallon of cool sudsy water prior to washing with Clorox. While for a free Clorox Guide to Cleaner Washes, check or other information on laundry or house cleaning to the Clorox Company, P.O. Box 24305, Oakland, CA 94623.

APPENDIX D

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**HERCULES  
CHEMICAL  
COMPANY**

INCORPORATED  
EIGHTY-FOUR FIFTH AVENUE  
NEW YORK, NEW YORK 10011  
TELEPHONE: (212) 989-0200  
CABLE ADDRESS: HERCHEMCOM

TO ALL HERCULES CUSTOMERS

With deep regret, Gentlemen --

Jan. 23, 1980

-- we must inform you that, effective immediately, Hercules CLOBBER will no longer be sold to any distributor or dealer whose principal customers are retailers or retail consumers. Sales of CLOBBER will hereafter be restricted to wholesalers or others who sell primarily to the plumbing, industrial or building maintenance trades.

We have found that substantial and continuing vigilance is necessary to assure that CLOBBER is sold only to qualified users. Even though we regularly remind our customers orally and in writing and include warning notices on and in our packages, we have found instances of sales directly to the public in outlets which normally cater to trade or industrial users. We have even found instances of sales in retail stores which is directly contrary to our stated policy.

We are firmly convinced that CLOBBER is a useful product and intend to continue selling it -- as long as we can assure compliance with our sales policies through a reasonable expenditure of time and effort. Nevertheless, we no longer wish to impose upon ourselves and our customers who sell to retailers or directly to the retail trade, the responsibility of assuring that only qualified users purchase this product.

Therefore, we must take this step and hope you recognize that our decision is made with heartfelt regret that we cannot continue to fill orders for this product to any customer who sells principally to retailers or retail consumers, despite previous cooperative efforts and adherence to our sales policies.

Since we are requesting your full cooperation in carrying out the above stated policy, we are fully prepared to accept returns of your CLOBBER stock for full credit. Before returning any merchandise, please write to us advising how many cartons of either or both sizes of CLOBBER you currently have in stock and wish to return. We will give you detailed instructions promptly. Any unauthorized returns will only cause confusion and problems, so please contact us and await our instructions.

(over)

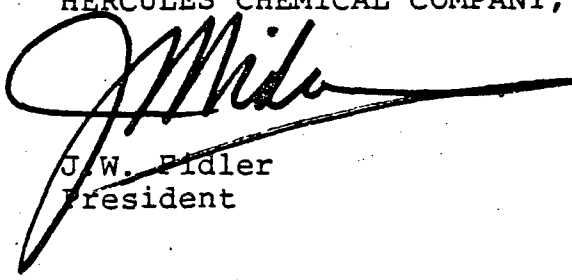
1/27/80  
2/15

We also wish to mention our belief that sulphuric acid drain cleaners may soon be banned from retail sales throughout the country, and we respectfully recommend against the sale of any other acid drain cleaner in the retail market.

We will, of course, continue to offer our many other products, and sincerely hope you recognize our motive as beneficial for all concerned.

Yours very truly,

HERCULES CHEMICAL COMPANY, INC.



J.W. Fidler  
President

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APPENDIX E

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UNITED STATES GOVERNMENT

# Memorandum

U.S. CONSUMER PRODUCT  
SAFETY COMMISSION  
WASHINGTON, D.C. 20207

TO : Doug Noble, OPM  
Through: William W. Walton, Acting Director  
Office of Strategic Planning

FROM : Edward Rastatter, Director  
Evaluation Division

SUBJECT: Draft Briefing Paper on HP 781

DATE: August 25, 1978

We have reviewed the draft package recommending a ban on sulfuric acid drain cleaners and have the following comments.

It appears that a case can be made for further CPSC action regarding sulfuric acid drain cleaners for household use, but I don't think the briefing package makes the case for a ban. The containers are already subject to the special packaging requirements\* and carry a label warning of dangers and that the substance should be used only by professionals. The issue that is important to explore for such a radical regulatory action as a ban, is whether the risk of injury, even after PPPA and labeling regulations have been met, is so unreasonably high as to warrant a ban. //

There is no information in the package relating either to the number of injuries sustained or the exposure to the product, so it is difficult to deduce the scope of the problem or the risk of injury. Attachment 1 shows an analysis of in-depth investigations of 104 drain cleaner injuries, but it does not talk about total drain cleaner injuries, or whether injuries from sulfuric acid drain cleaners might have been coded under "acid-household chemical" or some other category. The referenced October 1976 Product Profile estimated possibly 2,200 annual injuries associated with this product. It this still our best guess?

\* Although this fact is noted in Tab C, it might also be stated in the briefing paper.

We have conducted some preliminary computations on NEISS codes 0929 and 0936 in an attempt to shed some light on these questions. Adjustments for injuries such as ingestions, lacerations, etc. were made. The following Table shows the estimated emergency room extrapolated injuries for 1973 - 77.

|      | 0929  |      |  | 0936  |      |
|------|-------|------|--|-------|------|
|      | Total | Adj. |  | Total | Adj. |
| 1973 | 4086  | 2188 |  | 2055  | 1530 |
| 1974 | 2722  | 1770 |  | 2472  | 2014 |
| 1975 | 3365  | 2149 |  | 3554  | 2778 |
| 1976 | 2563  | 1744 |  | 5062  | 3715 |
| 1977 | 2953  | 2169 |  | 4338  | 3683 |
| Mean | 3020  | 2004 |  | 3494  | 2744 |

Unfortunately, these numbers not only fail to answer the questions, but they lead to a series of more questions. Are there 2000 per year or 3500 per year; or more because of additional product codes; or less because sulfuric acid drain cleaners are associated with only some? Although the data on in-depths are not statistically representative, perhaps they can give an order of magnitude estimate of injuries from sulfuric acid drain cleaners. Of the 104 in-depths, only 25 involved "acid" (any other acid types besides sulfuric?), ruling out the single ingestion. Another 8 involved "unknown" drain cleaners. This is 25 - 33 out of 104, or 24 - 32 percent. Can anyone say whether we are talking about an average 725 per year (25% of 3020) or 2065 per year (33% of 3020 + 3494)? Is either number large enough to support a finding of "unreasonable risk" or a definition of "hazardous substance"? ]

One factor which contributes to "unreasonable risk" is exposure to injury. However, data on exposure is lacking in the package. The economic impact section mentions the "assumption" of 50,000 situations per year that would require use of sulfuric acid. How reasonable an assumption is it? If it is reasonable then the occurrence of injury may be as low as one in 69 or as high as one in 24. It is suggested that a specific discussion of exposure would be useful.

The package raises the possibility that some consumers may disregard or contravene the existing labels. If this, in fact, occurs at all frequently, then we suggest that additional analysis is indicated on the behavioral aspects of the problem. Further, the possibility of more effective labeling might be fruitfully explored.

219



CARROLL COMPANY

*Chemical Specialties*

2900 W. KINGSLEY ROAD

RECEIVED

JUN 20

2:25 PM '80  
GARLAND, TX. 75041

PHONE 214 278-1304

TELEX: CARROLL GARL 73-0127

OFFICE OF PROGRAM  
MANAGEMENT

June 18, 1980

Ms. Virginia White  
Project Manager  
U. S. Consumer Product Safety Commission  
Washington, DC 20207

Dear Ms. White:

I enjoyed the meeting on June 6, wherein Mr. Robert J. Steele discussed his clients' request that consumer sales of sulfuric acid drain openers not be banned. I would be grateful if I could receive a roster of those who attended.

Time did not permit me to comment, but solutions for problems that may exist or be perceived to exist with respect to the consumer using such products can, we believe, be resolved by means other than a ban. Adequate labeling and safe packaging can help prevent many problems. I am sending our package to you. I have not seen labeling for most of the firms who are represented by Mr. Steele.

The question was asked by a member of your staff about the problems of eruptions of acid when it has been poured into a drain. Assuming that a reactive chemical has not previously been used, the cause of an eruption may be use of an excessive quantity of acid.

There is an exothermic reaction when 93% sulfuric acid is diluted. Use of too much acid may cause the water in a blocked drain to boil, and the steam could cause an eruption. This is why instructions advise using only a small amount of acid. Enclosed are charts giving information on the heat generated upon dilution of sulfuric acid.

We agree with the chemist who stated that sulfuric acid is better for most clogs than an alkaline product. We feel, additionally, that some alkaline compositions are more hazardous than sulfuric.

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Ms. Virginia White  
U. S. Consumer Product Safety Commission  
June 18, 1980  
Page 2

Our Company produces liquid and solid alkali<sup>n</sup>e, and liquid acid drain openers, essentially sold through dealers for institutional, industrial and commercial use.

We believe that denying sulfuric acid drain openers to those who are not "professionals" is the wrong solution. None of the information we have seen indicates that accidents have been limited to non-professionals, and the adequacy of labeling and packaging has not been shown to have existed on such packages as were used by those who may have been injured while using sulfuric acid.

While I do not propose it, we should, as a final alternative to a ban, consider perhaps restricting the size of the package, thereby precluding a gross over-use.

Very sincerely,

A handwritten signature in black ink, reading "Malcolm W. Carroll". The signature is written in a cursive, flowing style.

Malcolm W. Carroll  
President

Enclosures

222

MC  
from  
HK

6-11-80

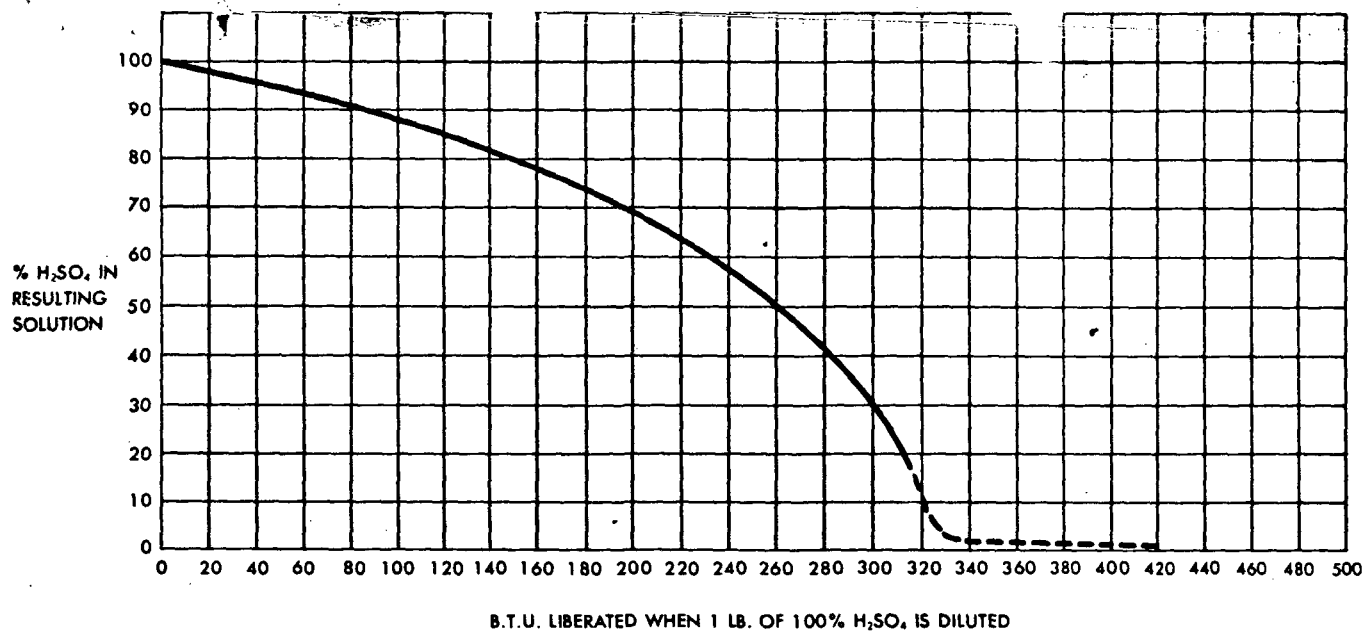


Figure 25. Heat of Dilution of 100%  $H_2SO_4$

Adapted from U. S. Bureau of Standards, Circular No. 500

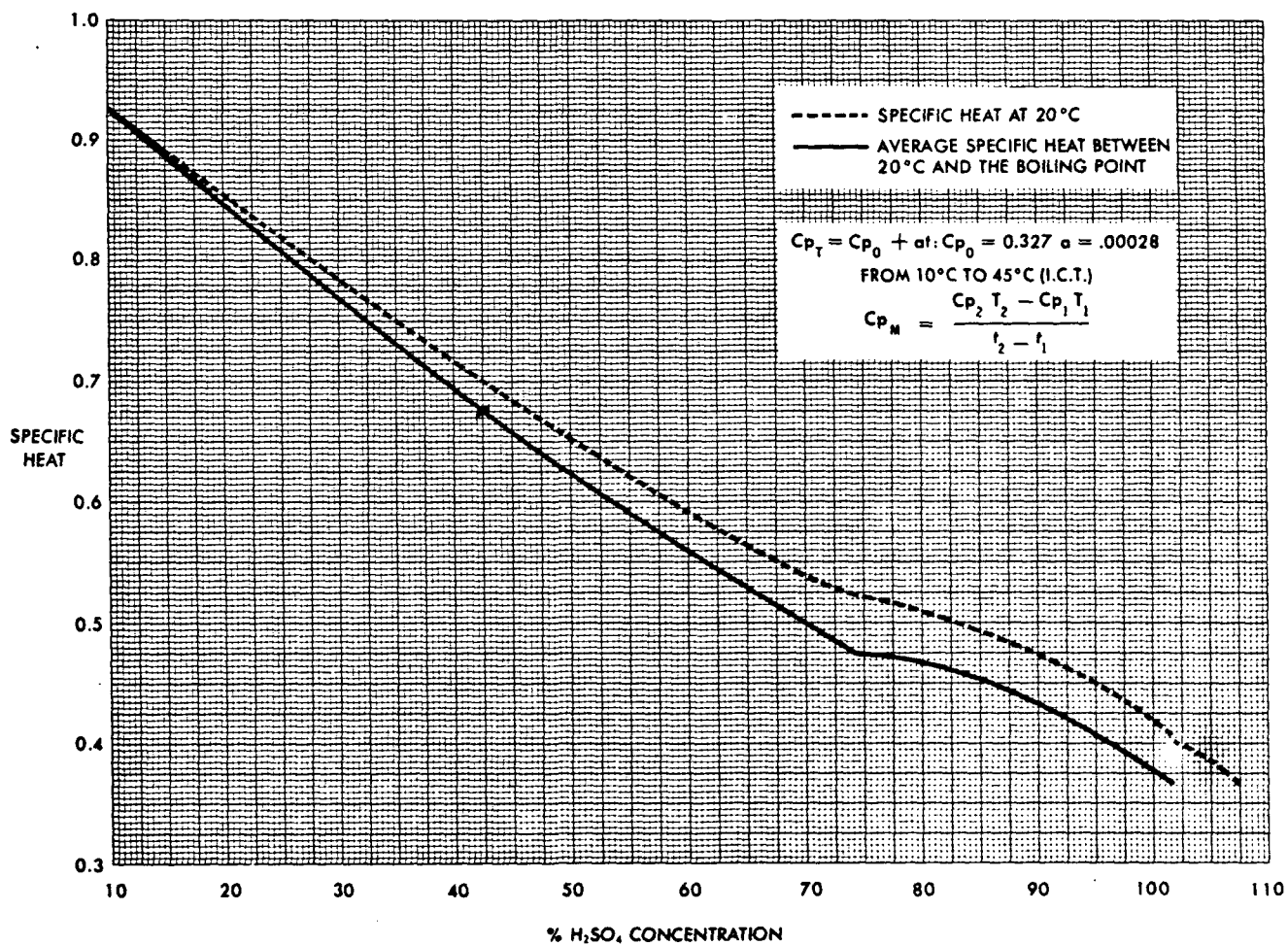


Figure 26. Specific Heat of Sulfuric Acid Solutions

Adapted from Sulfuric Acid Manufacturing, p. 98, figure 98 by A. M. Fairlie

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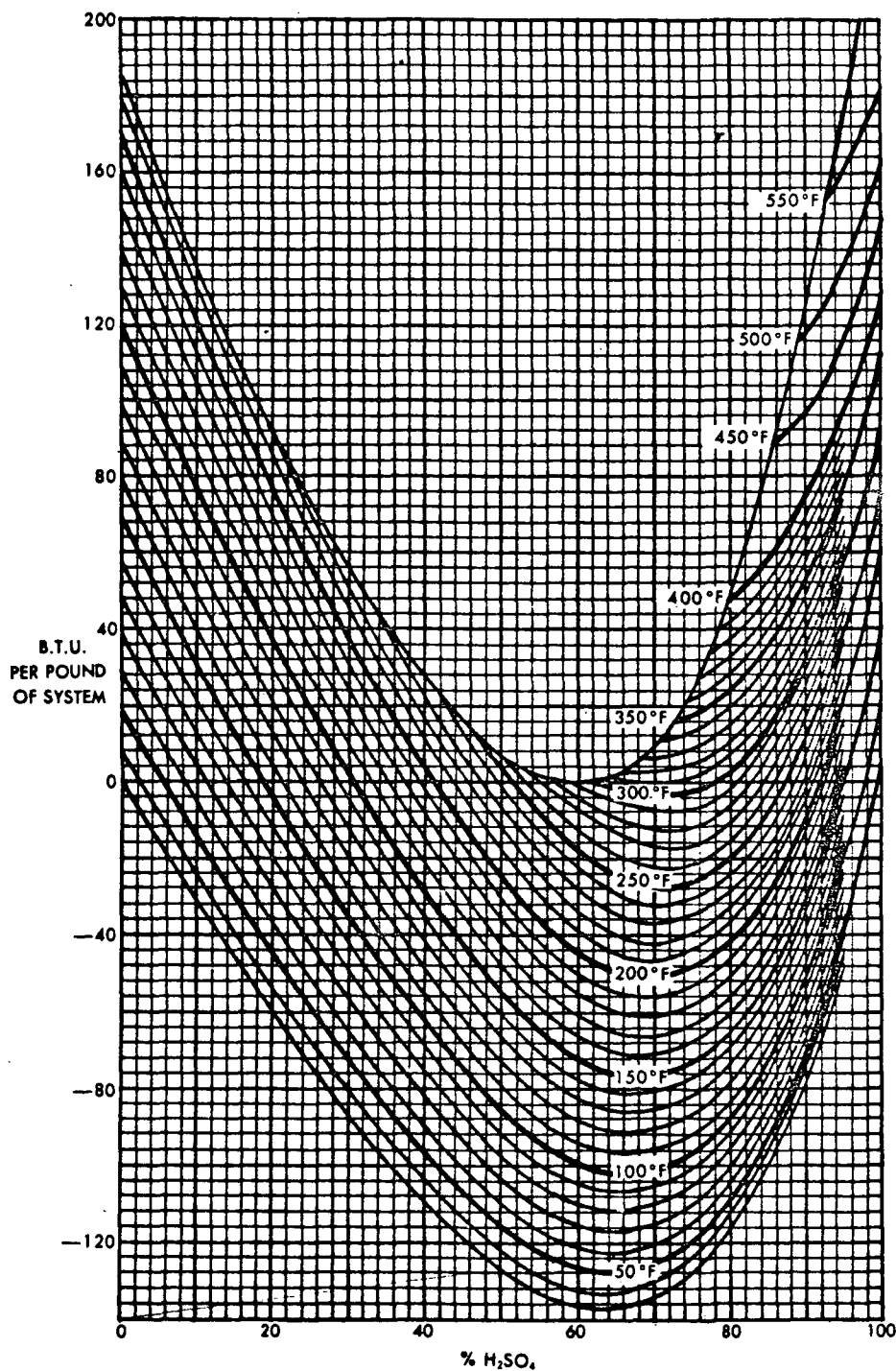


Figure 27. Enthalpy-Concentration of Sulfuric Acid

This chart is convenient for the determination of the heat of dilution when acid of two strengths or water and acid are mixed. If the initial temperature of each component is known, both the BTUs of heat evolved and the final dilution temperature can be determined from this chart.

**Example 1.** Suppose we desire to dilute 93.19% acid at 80°F to 77.7% with water at 60°F. We first draw a line connecting the intersection of 0% and 60°F with the intersection of 93.19% and 80°F. Then follow this line to the intersection of 77.7% and read the resulting temperature (238°F).

**Example 2.** How much heat must be removed per pound of 77.7% acid to result in a final acid temperature of 50°F?

**Solution:** Enthalpy of 77.7% acid at 50°F = -115 BTU/lb.  
 Enthalpy of 77.7% acid at 238°F = -28 BTU/lb.  
 Change in Enthalpy = -87 BTU/lb.

**Note:** Always subtract algebraically the initial conditions from the final conditions.

From this we find that 87 BTU must be removed per pound of 77.7% acid to maintain a final temperature of 50°F.

224

NOT FOR HOUSEHOLD USE!

Sulfuric Acid Drain Opener is intended for use by custodians, plumbers, and other professionals to open drains. It dissolves hair, cotton, paper, and most organic matter, and some inorganic matter, that may cause drain clogging.

## DIRECTIONS

### READ ALL PRECAUTIONARY STATEMENTS!

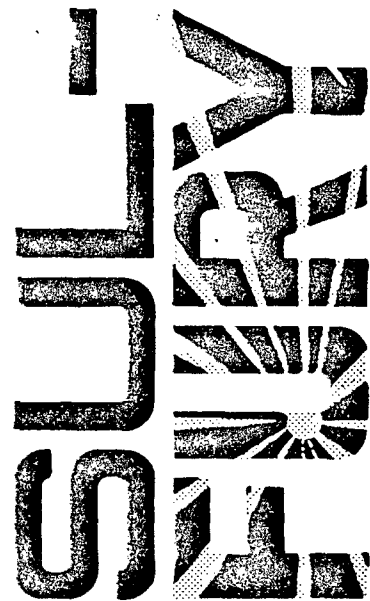
Protect face and eyes and other portions of the body when using. Do not use a plunger! Use with adequate ventilation.

**FOR COMPLETELY CLOGGED DRAINS:** Remove any standing water. Pour 4 ounces drain opener into drain. Using more than 4 ounces could generate excessive heat, causing toilet bowls to crack. Allow to stand 15 minutes. Carefully and slowly add 4 ounces of water. Wait 5 minutes, then slowly run cold water. If drain is still clogged, repeat this process.

**FOR PARTIALLY CLOGGED ("SLOW") DRAINS:** Pour 4 ounces drain opener and allow to stand 5 minutes. Repeat this procedure. Flush several times.

Do not allow product to stand in porcelain fixtures as it may cause etching.

CARROLL COMPANY  
2900 W. Kingsley Rd.  
Garland, Texas 75041



# SULFURIC ACID DRAIN OPENER



**DANGER**

**POISON**  
CAUSES SEVERE BURNS.

**MAY BE FATAL IF SWALLOWED.**  
Keep Out Of Reach Of Children.

Before use, read all directions, precautions, and antidotes appearing on this label.

32 FL OZ (1 QT)  
.946 liters

**DANGER**  **POISON**

THIS IS CONCENTRATED SULFURIC ACID.

Do not get on skin, clothing, or in eyes. Never add water to contents while in container. Do not use sulfuric acid if caustic drain openers have been used in treating the stoppage, or if hot water, bleach, or other chemicals are present, as violent reactions could result. Keep container capped when not in use. Do not use on aluminum, or on decorative platings. When container is completely empty, rinse with water before discarding to prevent accidental burns.

## ANTIDOTES

In case of accident, speed in applying antidotes is important.

**EXTERNAL:** Minor splashes — Immediately flood surface with water, using soap freely. Cover with moist baking soda. Major splashes on body — Immediately flood with water. If on clothes, remove clothing and wash affected area thoroughly with soap and water.

**EYES:** If even the slightest contact is suspected, flush eyes with water for at least 15 minutes.

**INTERNAL:** Drink a teaspoonful or more of milk of magnesia, baking soda, or small pieces of soap softened with water, in milk or raw egg white.

IN ALL CASES, FOLLOW ABOVE ANTIDOTES IMMEDIATELY: THEN CALL A PHYSICIAN.

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FINAL REPORT

on

PRODUCT/INDUSTRY PROFILE AND ECONOMIC/  
ENVIRONMENTAL IMPACT ANALYSIS OF PROPOSED  
BAN ON SULFURIC ACID DRAIN CLEANERS

to

DEPUTY ASSOCIATE EXECUTIVE DIRECTORATE  
FOR ECONOMIC ANALYSIS  
U. S. CONSUMER PRODUCT SAFETY COMMISSION

May 31, 1979

by

E. W. Helper, N. K. Napier, R. E. Leverenz  
P. R. Beck, and W. E. Riddle

CPSC-C-78-0091, Task 13, Subtasks 13.01 and 13.02  
Requested by Vince Martino, HICS

BATTELLE  
Columbus Division  
505 King Avenue  
Columbus, Ohio 43201

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FINAL REPORT

on

PRODUCT/INDUSTRY PROFILE AND ECONOMIC/  
ENVIRONMENTAL IMPACT ANALYSIS OF PROPOSED  
BAN ON SULFURIC ACID DRAIN CLEANERS

to

DEPUTY ASSOCIATE EXECUTIVE DIRECTORATE  
FOR ECONOMIC ANALYSIS  
U.S. CONSUMER PRODUCT SAFETY COMMISSION

from

BATTELLE  
Columbus Division

May 31, 1979

SUMMARY AND CONCLUSIONS

The Consumer Product Safety Commission (CPSC) has asked Battelle to provide background data on the chemical drain cleaner industry and to assess the impact of a ban on the sulfuric acid drain cleaner market and producers.

The chemical drain cleaner market is highly fragmented. Except for two large producers of alkaline products for retail sale and one producer of acid and alkaline drain cleaners primarily for the commercial market, there are no large or dominant companies in the market.

A list was compiled from several sources which contained 211 companies names alleged to be selling chemical drain cleaners. The activities of 146 firms were identified by observing the product for sale and/or by interviewing the company or customer of the company. The 146 firms served as a sample from which projections were made for the population of 211 firms. Battelle estimated that 57 companies have left the chemical drain cleaner market entirely, leaving about 154 firms active in formulation, labelling and/or distribution. About 20 firms have dropped one or more

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chemical drain cleaners from their product line during the past two or three years. There may be additional firms identified as producers of chemical drain cleaners; however, the products of these firms more than likely are regionally or locally distributed.

Total 1978 sales of all chemical drain cleaners were estimated to be about \$111 million. An estimated 600 persons are employed in the production of chemical drain cleaners.

The sulfuric acid drain cleaner market is declining and was estimated to be \$13 million in 1978, of which about \$3 million was sold in hardware stores and \$10 million through commercial outlets which are often not readily accessible to the consumer. It is likely that additional brands, probably regionally or locally distributed, are produced. Fewer than 50 firms were estimated to be involved in the production of all sulfuric acid drain cleaners, of which 6 or 7 produce for retail sale. About 70 employees are employed in the production of acid drain cleaners, of whom an estimated 20 are involved in production for retail sale.

In estimating the economic impact of the proposed ban, Battelle concluded that the greatest impact would be on the consumer. Battelle estimated that, depending on the assumptions, between \$2.75 million and \$11 million additional costs could be incurred by consumers when substituting professional plumbing services for acid drain cleaners. Each household was estimated to spend an additional \$.03 to \$.14 annually. The economic impact on firms selling acid drain cleaners was estimated to be negligible because these firms either produce other types of drain cleaners or distribute acid drain cleaners to both retail and commercial markets. Therefore a ban would have relatively little impact upon producers.

Companies affected by a ban indicated in the interviews that an effective date of at least 12 months after a ban was published would be preferable.

Battelle concluded that the disposal of sulfuric acid would have little environmental impact.

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### INTRODUCTION

The Consumer Product Safety Commission (CPSC) is concerned about the potential hazards to consumers associated with sulfuric acid drain cleaners. Sulfuric acid is a strong acid which can cause burns and can, when mixed in certain proportions with water, explode or flash back in geyser-like fashion, with the potential for causing serious injury to eyes, face, and hands as well as other parts of the body.

In connection with a Petition (HP-78-1) filed by Hercules Chemical Company, Inc., CPSC is currently considering a ban on sulfuric acid drain cleaners intended for use in and around households.

For these reasons, the Deputy Associate Executive Directorate for Economic Analysis (HIC) requested Battelle as its support contractor to undertake a task with the objectives: (a) to provide background data on drain cleaning products and producing companies with emphasis on sulfuric acid drain cleaners and (b) to assess the potential economic and environmental impacts of a ban on sulfuric acid drain cleaners. Less detailed information was requested on alkaline drain cleaners and on other products and services for unclogging drains. Comparisons are made of costs, availability, and effectiveness of these other measures.

Information was obtained for this report from published sources, by visits to retail and commercial establishments in several cities and by numerous interviews (primarily by telephone) with representatives of companies involved in the formulation, labelling, distribution, sale and purchase of chemical drain cleaner products. Several trade associations and publications were consulted.

### PRODUCT/INDUSTRY PROFILE

In this subtask Battelle is providing HIC with estimated base line data on the production and distribution of household drain cleaners with emphasis on sulfuric acid types. Particular attention has been given to identifying as many as possible of the current producers of sulfuric acid drain cleaners. However, it was not possible positively to identify all such producers within the time and budget allotted for this task.

The drain cleaner industry is highly fragmented. Most producers are small companies, many with assets well under a million dollars, with the exception of Drackett Company, a subsidiary of Bristol Myers Company; the Clorox Company, and Hercules Chemical Company. Few firms in the industry had any concept of the total market size or of any various market segments. Only a few firms could assess their own importance or name more than one or two competitors.

### The Drain Cleaner Market

Estimates of the 1978 sales volume for drain cleaners were derived from published data and from interviews with market participants. No one source had a picture of the whole market, so Battelle developed estimates based on bits of information provided by numerous contacts.

A matrix was used to divide the total market by market segment, type of outlet, and type of product. Market shares and dollar volumes for each cell were calculated using estimates obtained in the interviews and the observed interrelationships of the cells of the matrix.

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750

### Sources of Information

Published Data. Aggregate data of the retail market volume were gathered from three trade journals, Soap/Cosmetics/Chemical Specialties, Supermarketing, and Chain Store Age to provide the initial range of estimates (Table 1). These estimates differed greatly but they were used as a base from which later estimates were developed.

Industry Interviews. Two groups of interviews provided data on the sale and use of acid, alkaline and other (organic solvent and enzyme) drain cleaners. The first group included manufacturers, formulators, and labellers of drain cleaner products. The second group included hardware store managers, representatives of hardware suppliers and wholesale groups. Several contacts from the first group provided estimates of the total drain cleaner market and subsegments of the market including sulfuric acid drain cleaner markets (retail and commercial) in dollar volume or as an estimated percentage of the total drain cleaner market. In addition, some firms offered information on company sales and/or companies' share of total drain cleaner market. These estimates were aggregated and analyzed to provide the estimates of market size in Table 2. Retail consumers purchase approximately \$3 million of sulfuric acid drain cleaners yearly and \$90 million of alkaline drain cleaners. The total chemical drain cleaner market was estimated to be \$111 million, with \$94 million to retail and \$17.0 million to commercial customers.

The preceding table was in part developed from Tables 3 and 4. The sales estimates from these tables were derived from industry interviews. Hardware store sales estimates were developed with data from interviews with hardware wholesale and retail companies. The approach involved estimating hardware stores' annual sales of acid and alkaline drain cleaners.

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TABLE 1. PUBLISHED ESTIMATES OF RETAIL DRAIN CLEANER  
MARKET, 1974-1977 (MILLION DOLLARS)

| Literature Sources                                 | Product              | Market                          | Year |      |      |      |
|----------------------------------------------------|----------------------|---------------------------------|------|------|------|------|
|                                                    |                      |                                 | 1977 | 1976 | 1975 | 1974 |
| Supermarketing <sup>(1)</sup>                      | Drain Pipe Solvents  | All Retail                      | 17.5 | 16.7 | 13.8 | 13.7 |
| Chain Store Age <sup>(2)</sup>                     | Drain Cleaners & Lye | Supermarkets with >\$1 mm sales | 40.7 | 44.1 | 45.0 | 37.7 |
| Soap/Cosmetics/Chemical Specialties <sup>(3)</sup> | Drain Openers        | All Retail                      | --   | --   | --   | 75.0 |

Sources: (1) "Annual Consumer Expenditure Surveys", Supermarketing, September issues.

(2) Chain Store Age/Supermarketing, July issues.

(3) "Glamorene Introduces First Aerosol Drain Opener", Soap/Cosmetics/Chemical Specialties, Vol. 50, (5), p 112, 1974.

TABLE 2. ESTIMATED SALES VOLUME FOR DRAIN CLEANERS,  
CHEMICAL AND MECHANICAL, 1978 (IN PERCENT  
AND MILLION DOLLARS)

|            | Retail     |                                | Commercial |                                | Total                          |
|------------|------------|--------------------------------|------------|--------------------------------|--------------------------------|
|            | Percent    | Million Dollars <sup>(a)</sup> | Percent    | Million Dollars <sup>(a)</sup> | Million Dollars <sup>(a)</sup> |
| Chemical   |            |                                |            |                                |                                |
| Acid       | 3          | 3                              | 24         | 10                             | 13                             |
| Alkaline   | 94         | 90                             | 12         | 5                              | 95                             |
| Other      | 1          | 1                              | 4          | 2                              | 3                              |
| Subtotal   |            | <u>94</u>                      |            | <u>17</u>                      | <u>111</u>                     |
| Mechanical | 2          | 2                              | 60         | 25                             | 27                             |
| Total      | <u>100</u> | <u>96</u>                      | <u>100</u> | <u>42</u>                      | <u>138</u>                     |

Source: Battelle estimates based on industry interviews.

(a) All estimates are rounded to the nearest million dollars.

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TABLE 3. ESTIMATED SALES OF ACID DRAIN CLEANERS  
BY OUTLET, 1978 (IN PERCENT AND  
MILLION DOLLARS)

|                 | Retail  |                                | Commercial |                                | Total |
|-----------------|---------|--------------------------------|------------|--------------------------------|-------|
|                 | Percent | Million Dollars <sup>(a)</sup> | Percent    | Million Dollars <sup>(a)</sup> |       |
| Grocery         | *       | ---                            | *          | ---                            | ---   |
| Drug            | *       | ---                            | *          | ---                            | ---   |
| Discount        | *       | ---                            | *          | ---                            | ---   |
| Hardware        | 100     | 3.2                            | neg        | neg                            | 3.2   |
| Plumbing        | neg     | neg                            | 30         | 3.0                            | 3.0   |
| Janitorial      |         |                                | 35         | 3.5                            | 3.5   |
| Direct Shipment | ---     | ---                            | 35         | 3.5                            | 3.5   |
|                 | 100     | 3.2                            | 100        | 10.0                           | 13.2  |

Source: Battelle estimates based on industry interviews.

(a) All estimates rounded to nearest \$100,000.

\* No sulfuric acid drain cleaners were observed in the limited sampling of the listed outlets. No producer or distributor of sulfuric acid drain cleaner interviewed indicated any sales to these outlets. It is conceivable that a small number of sales could occur through one or more of these outlets.

neg - negligible

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TABLE 4. ESTIMATED SALES OF ALKALINE DRAIN  
CLEANERS BY OUTLET 1978 (IN PERCENT  
AND MILLION DOLLARS)

|                   | Percent | Retail<br>Million<br>Dollars (a) | Percent | Commercial<br>Million<br>Dollars (a) | Total<br>Million<br>Dollars (a) |
|-------------------|---------|----------------------------------|---------|--------------------------------------|---------------------------------|
| Grocery           | 78      | 70                               | neg     | neg                                  | 70                              |
| Drug Store        | 1       | 1                                | --      | --                                   | 1                               |
| Discount          | 11      | 10                               | } neg   | neg                                  | 10                              |
| Hardware          | 10      | 9                                |         |                                      | 9                               |
| Plumbing Supply   | } neg   | neg                              | 20      | 1                                    | 1                               |
| Janitorial Supply |         |                                  | 40      | 2                                    | 2                               |
| Direct Shipment   |         |                                  | 40      | 2                                    | 2                               |
| Total             | 100     | 90                               | 100     | 5                                    | 95                              |

Source: Battelle estimates based on industry interviews.

(a) All estimates rounded to nearest million dollars.

neg - negligible

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Assumptions. Estimates of the markets were based upon several assumptions:

- (1) The interviews revealed that wholesalers carry between 10 and 2500 accounts at a given time. Although the range is large, most wholesaler accounts appear to be at the lower end of the range; therefore each wholesaler was assumed to service 100 outlets.
- (2) Not all hardware stores sell drain cleaners. The percentage selling various types of drain cleaners varied considerably. Many hardware stores sell no sulfuric acid drain cleaners; others sell acid drain cleaners frequently. An estimate of 20 percent was chosen as conservative but realistic. About 90 percent of the hardware stores sell alkaline drain cleaners. Sales per outlet appear to be low because hardware stores compete with grocery and discount/department stores. Also, hardware stores often charge a higher price.
- (3) It was further assumed based on interview data that a total of 500 quarts of drain cleaners are sold/year/outlet. In hardware stores selling both types of drain cleaners, it was assumed that the distribution of sales was 300 quarts of acid and 200 quarts of alkaline drain cleaner.

Using these assumptions the annual sales of acid and alkaline drain cleaners were estimated in Table 5.

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TABLE 5. ESTIMATED ANNUAL SALES OF ACID AND ALKALINE DRAIN CLEANERS THROUGH HARDWARE STORES (MILLION DOLLARS)

|          | Sales              |
|----------|--------------------|
| Acid     | 3.2 <sup>(a)</sup> |
| Alkaline | 9.0 <sup>(b)</sup> |

Source: Battelle estimates based on industry estimates.

- (a) Estimate based on the formula:  
 Acid sales = (150 wholesalers) (100 outlets/  
 wholesaler) (20 percent of outlets selling acid  
 drain cleaners) (300 qts sold/year) (\$3.60 quart).
- (b) Estimate based on the formula:  
 Alkaline sales = [(150 wholesalers) (100 outlets/  
 wholesaler) (\$1.68/quart)] [(20 percent selling  
 alkaline and acid drain cleaners) (200 qts/outlet)  
 + (90 percent of remaining 80 percent of outlets)  
 (500 qts/month)].

Reconciliation of Estimates. The preceding four tables estimated retail sales of chemical drain cleaners to be considerably higher than two of the three published estimates. Nevertheless Battelle concludes that the retail market is indeed in a higher range and that the interrelationships among the individual matrix cells in Tables 2 to 5 are the best that can be developed within the time and budget available.

#### Market Participants

In this section of the report companies in the drain cleaner industry are categorized by type of product, intended end-market, and activity of the company.

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A total of 211 companies were said to be involved in the chemical drain cleaner market. The company names were obtained from the following sources:

- Visits and telephone calls to retail outlets in a number of cities\*
- CPSC files
- Industry interviews
- Thomas Register, 1978, 68th Edition, Thomas Publishing Company, New York, New York (1978)
- McRae's 1979 Blue Book, 86th Edition, McRae's Blue Book, Hinsdale, Illinois (1979)
- Sanitary Maintenance, January, 1979 issue (directory used by industrial and institutional maintenance contractors)
- Chiltons Hardware Age, December, 1978 issue (directory used by retail hardware stores)
- Gosselin, R. E., et al, Clinical Toxicology of Commercial Products, Fourth Edition, Williams & Wilkins, Baltimore, Maryland (1976)
- "Drain Cleaners" Consumers' Research Magazine 62 (5) 12-15 (May, 1979).

However, the information provided by the above sources was often found to be inaccurate or out of date. Some companies had never made drain cleaners, some had once done so but were no longer manufacturing products, some said to be producers of acid drain cleaners had never done so, and so on. Therefore, no company was initially listed in the tables unless confirmation of its activity was obtained from the company itself, or from a customer, supplier, or by observation of its product in a sales outlet. If such confirmation was lacking, assumptions were made to try to classify the company by apparent activity, product and intended market. There was neither time nor funds to reach all the companies on the lists.

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\* Buffalo, NY; Champaign, IL; Chicago, IL; Columbus, OH; Delaware, OH; Jacksonville, FL; New London, CT, area; Newark, NJ; Manhattan and Queens boroughs of New York, NY; Nutley, NJ; Philadelphia, PA; Phoenix, AZ; Plainfield, NJ area; Portland, OR; Rochester, NY; San Diego, CA; and San Francisco, CA.

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### Types of Drain Cleaners

Drain cleaner products can be divided into chemical and mechanical categories. The chemical category can be subdivided into acid, alkaline, and other types. For this study most emphasis has been placed on acid drain cleaners, less on alkaline and least on "other" types of drain cleaners. Each type of drain cleaner is sold either in retail establishments which are oriented toward the consumer or in commercial establishments oriented toward paid professionals. However, there appear to be opportunities for a consumer to buy in a commercial outlet; these are of concern to CPSC and will be discussed in a later section along with a discussion of channels of distribution.

Drain cleaner producers tend to market more than one type of product. Usually producers distribute a line of related products either to the retail market or to the commercial market, but rarely to both markets. In a few cases producers were found which distribute to both markets such as distribution to hardware stores and to wholesale plumbing supply outlets by a common sales force.

Because of the number and length of the tables, Table 6 is presented as a summary table. Because of duplications of products, a summation of the firms from each table will total more than 211.

### Sulfuric Acid Drain Cleaners Intended for Retail Markets

As previously mentioned, highest priority was given to the identification of companies producing sulfuric acid drain cleaners intended for the retail market. The companies so identified are listed in Table 7. Companies which make the drain cleaners are listed in the table as formulators, not manufacturers since the process involves no physical or chemical change, but merely the mixing of chemicals, bottling, and labelling.\* Also listed in Table 7 are distributors. From these data it was estimated that there are more than 20 firms in the market of whom 6 or 7 are probably formulators.

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\* It is recognized that this is a subtle distinction when used in reference to drain cleaner production.

TABLE 6. SUMMARY TABLE CATEGORIZING ESTIMATED NUMBERS OF DRAIN CLEANER COMPANIES BY MARKET AND PRODUCT(a)

| Product    | Market                 |              |                        |              |                        |
|------------|------------------------|--------------|------------------------|--------------|------------------------|
|            | Retail                 | Commercial   |                        | Not Active   | Not Known              |
|            | Number of Companies(b) | Table Number | Number of Companies(b) | Table Number | Number of Companies(d) |
|            |                        |              |                        | Table Number | Table Number           |
| Chemical   |                        |              |                        |              |                        |
| Acid       | 23                     | 7            | 70                     | 8            | 25                     |
|            |                        |              |                        |              | 7,8                    |
| Alkaline   | 28                     | 9            | 54                     | 10           | 8                      |
|            |                        |              |                        |              | 9,10                   |
| Other      | 15                     | 11           | 15                     | 11           | 0                      |
|            |                        |              |                        |              | 11                     |
| Not Known  |                        |              |                        |              | 26                     |
|            |                        |              |                        |              | 12                     |
|            |                        |              |                        |              | 13                     |
| Mechanical | (e)                    | 14,15        | (e)                    | 14,15        |                        |

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Source: Tables 7-15

(a) Because many companies make more than one product, a summation of the firms will total more than 211.

(b) Includes companies which are currently active, plus a share of the unconfirmed companies proportionate to those known to be in the market. Does not include formerly active companies.

(c) Companies which have discontinued a drain cleaner product plus a share of the unconfirmed companies proportionate to those known to be out of the market.

(d) Includes companies which were not contacted directly and for which no indirect information was available.

(e) Includes 82 companies not differentiated by market.

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TABLE 7. COMPANIES PRODUCING AND DISTRIBUTING SULFURIC ACID DRAIN CLEANERS FOR SALE BY RETAIL OUTLETS

| Company                          | Activity    | Location            | Product Name                  |
|----------------------------------|-------------|---------------------|-------------------------------|
| <u>Current<sup>(a)</sup></u>     |             |                     |                               |
| Action Chemicals                 | Formulator  | Brooklyn, NY        | Declog                        |
| Cavalier Chemical                | Labeller    | Brooklyn, NY        |                               |
| Chemical Waste Research          | Formulator? | Louisville, KY      | Liquid Fire                   |
| Chemsol                          | Formulator? | Cleveland, OH       | Release                       |
| Clean Out <sup>(b)</sup>         |             | Chicago, IL         | Clean Out                     |
| Dyna-Mist Chemical               | Formulator  | Chatham, PA         | Dyna-Mist Quick Drain Cleaner |
| Galaxy Chemical                  | Labeller    | Chicago, IL         | Drain Master Supreme          |
| Hercules Chemical <sup>(c)</sup> | Formulator  | New York, NY        | Clobber                       |
| Industrial Petrolic              |             | College Point, NY   | Hot Power                     |
| Leisure King                     |             | Ada, MI             | Plumbers Eel                  |
| Murd <sup>(d)</sup>              |             | Philadelphia, PA    | Zurd                          |
| Oxford Chemical                  |             | Atlanta, GA         | Oxford Clear Line             |
| Plumbcraft                       |             | Bedford Heights, OH | Super Plumb                   |
| Protexall <sup>(e)</sup>         |             | Mariland, FL        | D.C.                          |
| Ro Go Chemical <sup>(f)</sup>    |             | Fresno, CA          | Ro Go                         |
| Roto                             |             | Howell, MI          | Roto Professional             |
| San Teen Products                | Labeller    | Hopkins, MN         | S & T Drain Cleaner           |
| Scotch Manufacturing             | Formulator  | Dallas, TX          | Instant Plumber               |
| Silver Lane <sup>(e)</sup>       |             | Jacksonville, FL    | Miracle                       |
| Utility Chemical                 |             | Peterson, NJ        | Real-E-Quik                   |
| Venus Laboratories               | Formulator  | Woodale, IL         | private label                 |
| <u>Former<sup>(a)</sup></u>      |             |                     |                               |
| Abco                             | Formulator? | Irwin, PA           |                               |
| Camp                             | Formulator? |                     |                               |
| Central                          | Labeller    | Kansas City, KA     | Declog                        |
| Stewart Hall                     | Formulator  | Mt. Vernon, NY      | Drainmaster P                 |
| <u>Unconfirmed<sup>(g)</sup></u> |             |                     |                               |
| Floweze                          |             | Philadelphia, PA    |                               |
| Ramco                            |             | Philadelphia, PA    | Ram-out                       |

Sources: Interviews with producers, distributors and 83 retail hardware store representatives in Buffalo, NY; Champaign, IL; Chicago, IL; Columbus, OH; Delaware, OH; Jacksonville, FL; New London, CT area; Newark, NJ; Manhattan and Queens, New York, NY; Phoenix, AZ; Philadelphia, PA; Plainfield, NJ area; Portland, OR; Rochester, NY; San Diego, CA; San Francisco, CA, and Washington, DC.

- (a) Company activities were confirmed by finding the product in a retail hardware store and/or by telephone contact with company and/or customer of company.
- (b) This product found only in Chicago hardware store.
- (c) Although the company stated the product was sold only to commercial customers, Battelle observed this product in hardware stores in the New York area, but not in other parts of the United States.
- (d) This product found only in Philadelphia.
- (e) This product found only in Jacksonville, FL.
- (f) This product found only in California.
- (g) Companies which were said to be selling to retail market, but whose activity was not confirmed by Battelle.

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Several companies have discontinued sale of sulfuric acid drain cleaners, some fairly recently. The reasons given by representatives of these companies included:

- Product is too hazardous
- Supplier discontinued the product
- Product liability insurance for acid drain cleaners is too high
- There is too much government regulation and hassle
- Product had too small a market.

Some of the drain cleaners were composed of waste industrial sulfuric acid; others used technical grade acid. Many contained inhibitors to decrease damage to metal pipes.

Several companies claim to have sulfuric acid products that are safer to use than the more common acid-inhibitor formulations. Some products were called tempered or buffered which were apparently somewhat diluted acid (from 98 to 70 percent). One such product was patented by the president of Venus Laboratories.\* A solution of 81 to 85 percent by weight of sulfuric acid is said to be effective for dissolving drain-clogging materials. This acid concentration is claimed to be safer because the heat of solution is not as great (about 160 F) as with use of more concentrated acid (218 F). It is claimed that an individual has about 2 minutes time to wash away the acid before tissue burns occur, although no living tissue experiments are cited in the patent. This claim is not found on the product label. However the product label does contain danger warnings plus a statement that the product should be used by experienced personnel. San Teen's product was said to be based on a physical treatment of sulfuric acid such that a 30 to 60 second delay would occur before action on organic material. Thus accidentally spilled or flashback acid could supposedly be washed off before damage occurred

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\* Vlahakis, E. V., "Drain Opening Method", U.S. 4,096,871 (June 27, 1978).

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to the body. Finally, Madison Chemical Company has several patents\* for sulfuric acid drain cleaners containing silica gel. They are described as flowable granular compositions. Acid concentration ranges from 50 to 90 percent. It is not known whether products based on these patents are currently being sold.

Sulfuric Acid Drain Cleaners  
Intended for Commercial Markets

Companies confirmed as presently or formerly formulating, labelling, or distributing sulfuric acid drain cleaners for the commercial market are listed in Table 8. Again, several companies have withdrawn products for the same reasons given in the previous section.

Additional companies are listed in the table as possibly active. Although not reached by Battelle, they were listed in the Sanitary Maintenance directory\*\* in the category "Sewer Maintenance Products - Acid Drain Openers". This directory is used by commercial purchasers from janitorial supply and contract cleaning companies. It is evident there are more companies involved in the commercial markets than in the retail market; many of the commercial companies merely label and distribute the product. The formulators vary widely in size and extent of operation. Some sell only to one or two companies; another sells to 15 small companies just in one city, all plumbing supply outlets. Two formulators sold to several hundred companies all over the United States. Their customers, called

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- \* (1) Ancel, S. J., and Leavitt, S., "Cleansing Agents for Sewer Pipes", Ger. Offen. 1,902,080 (August 13, 1970) assigned to Madison Chemical Corp., cited in CA 73 11125y (1970).
- (2) Ancel, S. J., and Leavitt, S., "Cleaning of Sewers and Drains", U.S. 3,538,008 (November 3, 1970), assigned to Madison Chemical Corp., cited in CA 74 4932f (1971).
- (3) Ancel, S. J., and Leavitt, S., "Compositions for Cleaning Drainage Pipes", Fr. 2,036,209 (December 24, 1970), assigned to Madison Chemical Corp., cited in CA 75 89461V (1971).

\*\* January, 1979 issue.

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TABLE 8. COMPANIES PRODUCING AND DISTRIBUTING SULFURIC ACID DRAIN CLEANERS FOR SALE BY COMMERCIAL OUTLETS

| Company                   | Activity    | Location           | Sold To  | Product Name            |
|---------------------------|-------------|--------------------|----------|-------------------------|
| <u>Current (a)</u>        |             |                    |          |                         |
| Action                    | Formulator  | Brooklyn, NY       | I & I    | Declog                  |
| Advance                   | Distributor | Los Angeles, CA    | Janitor  | Colena                  |
| Ana lab                   | Distributor | Somerville, MA     | I & I    |                         |
| Athea                     | Formulator  | Milwaukee, WI      | I & I    | private label           |
| B & M International       | Formulator  | Thibodaux, LA      | I & I    | Drain-Lite              |
| Barrier                   | Distributor | Port Jervis, NJ    | I & I    | Give-a-Shot             |
| Bionomical                | Formulator  | Chattanooga, TN    | I & I    | private label           |
| Carroll                   | Formulator  | Garland, TX        | I & I    | private label           |
| Cavaller                  | Distributor | Brooklyn, NY       | I & I    | Sul-Fury                |
| Chase                     | Formulator  | Pacoima, CA        | Plumbing | private label           |
| Cloroben                  | Distributor | Kearney, NJ        | Plumbing | Drain Snake             |
| Coastal                   | Distributor | Carlstadt, NJ      | Plumbing | The Unstuffer           |
| Creative                  | Formulator  | Palmer, MA         | I & I    |                         |
| Creco                     | Formulator  | Philadelphia, PA   | I & I    | Drain-Devil             |
| Crown, RH                 | Formulator  | Johnstown, NY      | I & I    | private label           |
| Crest Good Sales          | Formulator  | Syosset, NY        | I & I    | Whoosh                  |
| Crystal Chemical          | Distributor | Corona, NY         | I & I    | Open Up & private label |
| Damon Chemical            | Formulator  | Alliance, OH       | I & I    | All Out                 |
| Dorex                     | Formulator  | Frankfort, IL      | I & I    | Prevention              |
| Dyna-Mist Chemical        | Formulator  | Chatham, PA        | Plumbing | Dyna-Mist               |
| Easterday Supply          | Distributor | Los Angeles, CA    | Janitor  | Quick Drain O, Colena   |
| Galaxy                    | Distributor | Chicago, IL        | Plumbing | Drain Master Supreme    |
| General Chemical          | Formulator  | Santa Ana, CA      | I & I    | private label           |
| Hercules                  | Formulator  | New York, NY       | Plumbing | Sizzle, Clobber         |
| Hyde Park                 | Distributor | Mainview, NY       | I & I    | Drain-o-mite            |
| Hylon-Koburn              | Distributor | Salt Lake City, UT | Janitor  | HycO-Open All           |
| Hysan                     | Formulator  | Chicago, IL        | ?        | Tempered Drain Opener   |
| Industrial Petrolic Co.   | Formulator  | College Point, NY  | Plumbing | Hot Power               |
| Jet Chemical Products     | Formulator  | Quebec, Canada     | I & I    | private label           |
| Misco International Chem. | Formulator  | Wheeling, IL       | I & I    | Instant Action          |
| Mission Clean Sweep       | Formulator  | Los Angeles, CA    | ?        | Eezo                    |

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TABLE 8. (Continued)

| Company                | Activity     | Location         | Sold To         | Product Name                  |
|------------------------|--------------|------------------|-----------------|-------------------------------|
| National Chem Search   | Formulator   | Dallas, TX       | I & I           | Tr-111                        |
| Nationwide             | ?            | Brooklyn, NY     | Plumbing        |                               |
| Petersen               | Formulator   | Fredonia, WI     | Janitor         | Jet Super Strength            |
| Pier-Angell            | Distributor  | Yeadon, PA       | I & I           | Real-E-Quik                   |
| Puro                   | Formulator   | St. Louis, MO    | Janitor         | Drain-A-Go-Go                 |
| Rector Seal            | ?            | Houston, TX      | Plumbing        | Haymaker                      |
| Reilly Chemical        | Formulator   | New Orleans, LA  | I & I           | Free-Flow & p.l.              |
| Remedi                 | Distributor  | CA               | Plumbing        | private label                 |
| Research Products      | Formulator   | Dallas, TX       | Distributors    | private label                 |
| Rex Chemical           | Formulator   | Miami, FL        | I & I           | Kaustin                       |
| Rite Off Industries    | Distributor? | Bayshore, NY     | I & I           | Open Up                       |
| S & S Soap             | Formulator   | Brooklyn, NY     | I & I           | Plumbers Choice (?)           |
| San Teen               | Distributor? | FL               | Plumbing        | S-T Drain Opener              |
| I. Schneid             | Formulator   | Atlanta, GA      | I & I           | private label                 |
| Scotch                 | Formulator   | Dallas, TX       | Plumbing        | Instant Plumber               |
| Sentinel               | Distributor  | Oakland, CA      | Professional    |                               |
| Sexauer                | Distributor  | White Plains, NY | Plumbing        | Mulekick Liquid Drain Cleaner |
| Skasol                 | Formulator   | St. Louis, MO    | I & I           | private label                 |
| Southern Chem Products | Formulator   | Macon, GA        | Janitor         | private label                 |
| Time Chemical          | Formulator   | Chicago, IL      | I & I           | private label                 |
| Trío                   | Distributor  | Brooklyn, NY     | I & I           | private label                 |
| Western Chem           | Distributor  | St. Joseph, MO   | I & I           | private label                 |
| Willard                | Formulator   | CA               | Plumbing        | Boom                          |
| Woodward-Hanger        | Distributor  | Philadelphia, PA | I & I, plumbing | Real-E-Quik                   |
| Zep Chemicals          | Formulator   | Atlanta, GA      | Plumbing        | Zep Flow                      |

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TABLE 8. (Continued)

| Company              | Activity    | Location         | Sold To      | Product Name                |
|----------------------|-------------|------------------|--------------|-----------------------------|
| <u>Former (a)</u>    |             |                  |              |                             |
| American             | Distributor | Pelham, NY       | Commercial   | S & S Soap Plumber's Choice |
| Apter                | Distributor | McKeesport, PA   | Commercial   | Purge                       |
| BASF Wyandotte       | Distributor | Wyandotte, MI    | I & I        | Wyandotte Drain Cleaner     |
| Black Swan           | Formulator  | Chicago, IL      | Plumbing     | private label               |
| Cello                | Formulator  | Baltimore, MD    | Janitor      | Reem & Down-Drain           |
| Central              | Distributor | Kansas City, KA  | ?            | De Clog                     |
| Columbia             | Distributor | Helena, MT       | I & I        |                             |
| Essential Chemical   | Distributor | Merton, MI       | I & I        |                             |
| Harley Chemicals     | Distributor | Camden, NJ       | I & I        | Down-Drain                  |
| Huntington           | Formulator? | Huntington, IN   | Commercial   |                             |
| Ilysan               | Formulator  | Chicago, IL      | I & I        | POW                         |
| Jacks Manufacturing  | Formulator  | Mendota, MN      | I & I        | Drasol                      |
| Radiator Specialty   | Formulator  | Charlotte, NC    | I & I        | Drain Lax                   |
| Sentinel             | Formulator  | Oakland, CA      | Professional |                             |
| Solder Seal          |             |                  | Plumbing     |                             |
| Triple-X Labs        | Formulator  | Lake Bluff, IL   | ?            |                             |
| Utility Chemical     | Distributor | Paterson, NJ     | I & I        | Drain-flo                   |
| <u>Unconfirmed</u>   |             |                  |              |                             |
| Bixon                |             | Corona, NY       |              |                             |
| Canberra             |             | Toledo, OH       |              |                             |
| Chemex               |             | Tampa, FL        |              |                             |
| Chemical Specialties |             | Memphis, TN      |              |                             |
| Costello             |             | St. Louis, MO    |              |                             |
| Custom Pak Chemical  |             | Tampa, FL        |              |                             |
| Dickler Chemical Lab |             | Philadelphia, PA |              |                             |
| Delco                |             | GA               |              |                             |
| Field Bros.          |             | Baltimore, MD    |              |                             |
| Gift Sales           |             | Wichita, KS      |              |                             |

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TABLE 8. (Continued)

| Company                         | Activity | Location       | Sold To  | Product Name          |
|---------------------------------|----------|----------------|----------|-----------------------|
| Jancyn Manufacturing            |          | Norcross, GA   |          |                       |
| Lefsure King                    |          | Ada, MI        | Plumbing | Plumber's Eel         |
| Madison Chemical                |          | Franklin, IL   |          |                       |
| F. Miller                       |          | Chicago, IL    |          |                       |
| Standardized Sanitation Systems |          | Burlington, MA |          | Tempered Drain Opener |
| Theochem Labs                   |          | Tampa, FL      |          |                       |
| Todd Chemical                   |          | Great Neck, NY |          |                       |
| James A. Varley                 |          | St. Louis, MO  |          | private label         |

Source: Industry Interviews and Sanitary Maintenance, January, 1979.

(a) Company activities were confirmed by interview with the company and/or supplier and/or customer.

I & I - Industrial and Institutional.

private labellers\*, vary in size from small commercial supply stores to large distributors of many types of cleaning or plumbing supplies.

The total number of firms and the activities of those firms in the market was estimated by using the sample ratio of firms with known activities to firms with unknown activities. Using this procedure it was estimated that about 70 firms are in the market of whom about 40 are formulators.

The findings of this study can be compared to the Kline study of the industrial and institutional market (I & I) for all types of formulated cleaners. A preliminary report\*\* describes the industry as "highly fragmented and extremely diffuse" with "literally thousands of individually branded products marketed by 2000 manufacturers through 16,000 direct salesmen and 10,000 distributors to over two million customers". According to the Kline study, contract cleaners make up the largest market segment at 12 percent of the total market. Some of the other I & I customers for drain cleaners mentioned to Battelle include hospitals, restaurants, apartments, hotels and motels, schools and universities, factories, office buildings, retail stores (for on-premise use), food processors, etc.

One interviewee (a former sulfuric acid drain cleaner formulator) suggested that some commercial users of drain cleaners, especially janitors, are poorly educated, and some cannot read English. He felt this group needed more protection than the consumer, but, better yet, the product should be banned for all customers. Companies not selling sulfuric acid drain cleaners frequently commented on the hazards of the product and thought it should be banned at least for consumer use.

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\* Defined as a firm which purchases a product from the producer and sells it under its own name (i.e. label).

\*\* "Kline: Ind'l, Inst'l Cleaners' Sales Hit \$19 Billion in '77", Soap/Cosmetics/Chemical Specialties, 54 (5) 76 (May, 1978). The article summarizes the preliminary findings of a study made by C. H. Kline & Co.

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Most sulfuric acid drain cleaner sellers claimed the product was no more hazardous than many products on the market if instructions are followed. A typical comment was: "After all cars, guns, knives, alkaline drain cleaners injure and kill--why aren't they banned too?"

Alkaline Drain Cleaners Intended  
for Retail Markets

Companies active or formerly active in selling alkaline drain cleaners are listed in Table 9. The market is dominated by Drackett and Clorox. Based on the interviews and relative shelf space, Battelle estimated these two firms control about 80 percent of the retail market between them.

Alkaline drain cleaners are of three types:

- Lye, the cheapest
- Powdered, crystalline or prilled mixtures of caustic or sodium hydroxide with other substances such as aluminum or zinc-aluminum particles, sodium nitrate, sodium chloride, or sodium carbonate
- Liquid formulations of sodium and/or potassium hydroxide and other ingredients such as ammonium hydroxide or sodium hypochlorite and emulsifiers.

Alkaline Drain Cleaners Intended  
for Commercial Markets

Companies which variously formulate, label, or distribute alkaline drain cleaners for commercial users are tabulated in Table 10. Again more private label formulators are seen than in the retail market.

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TABLE 9. COMPANIES PRODUCING AND DISTRIBUTING ALKALINE DRAIN CLEANERS FOR SALE BY RETAIL OUTLETS

| Company                       | Activity    | Location             | Product Name                              |
|-------------------------------|-------------|----------------------|-------------------------------------------|
| <u>Current</u> <sup>(a)</sup> |             |                      |                                           |
| Abco                          | Formulator? | Irwin, PA            | Sic Em<br>Power<br>Surge                  |
| Action                        | Formulator  | Brooklyn, NY         | Purge                                     |
| American Hardware Supply      | Labeller    | Butler, PA           | Servistar                                 |
| Ampion                        | Formulator  | Long Island City, NY | Open-Up                                   |
| Bonewitz                      | Formulator  | Burlington, IA       | Right<br>private label                    |
| Boyer                         | Formulator  | Evanston, IL         | Boyer Drain<br>Opener                     |
| Clorox                        | Formulator  | Oakland, CA          | Liquid Plumb                              |
| Coleman                       | Formulator  | Everett, ME          | Calco                                     |
| Columbia                      | Distributor | Helena, MT           |                                           |
| Cromwell Products             | Distributor | Westport, CT         | Mister Plumber<br>Master Plumber          |
| Damon Chemical                | Formulator  | Alliance, OH         | SPD                                       |
| Drackett                      | Formulator  | Cincinnati, OH       | Drano, Drano II<br>Liquid Drano<br>Plunge |
| Dyna-Mist Chemical            | Formulator  | Chatham, PA          | Dyna-Mist                                 |
| Elco Manufacturing            | Formulator  | Pittsburgh, PA       | Elco                                      |
| Galaxy                        | Formulator  | Chicago, IL          | Drainmaster                               |
| Hercules                      | Formulator  | New York, NY         | Drain Pipe<br>Cleaner<br>Double Agent     |
| Hylon-Koburn Chemicals        | Distributor | Salt Lake City, UT   | Walton-Marsh<br>Drain Opener              |
| Independence Chemical         | Formulator? | Gloucester City, NJ  | Indco Lye                                 |
| Jancyn Manufacturing          |             | Norcross, GA         | Drain-E-Ze                                |
| King of All Manufacturing     | Formulator  | Flint, MI            | King of All<br>Drain Kleener              |
| Pennlye Division              |             | Lakeville, CT        | Red Devil Lye                             |
| Penwalt Corporation           | Formulator  | Philadelphia, PA     | Lewis Lye                                 |
| Plumbcraft                    | Distributor | Bedford, OH          | Plumbcraft                                |
| Radiator Specialty            | Formulator  | Charlotte, NC        | Drain-Pep                                 |
| Rooto Corporation             | ?           | Howell, MI           | #3 Rooto<br>Rooto Liquid                  |
| Warsaw Chemical               | ?           | Warsaw, IN           | Once a Week<br>Drain Opener               |

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TABLE 9. (Continued)

| Company                 | Activity    | Location          | Product Name         |
|-------------------------|-------------|-------------------|----------------------|
| <u>Former</u>           |             |                   |                      |
| Allen                   | Formulator  | Schiller Park, IL | Sears Liquid Drain   |
| Dap                     | Formulator  | Dayton, OH        | Mitee                |
| Higley Chemical Company | Formulator  | Dubuque, IA       | Zip                  |
| Lewis Research Labs     | Formulator  | New Jersey        | Open-Drain           |
| Melard                  | Formulator  | Passaic, NJ       | Drain Out            |
| Pine-O-Pine             | Formulator  | Dallas, TX        | Plumber in a Jug     |
| Triple X Labs           | Formulator  | Lake Bluff, IL    |                      |
| Woodward-Wanger         | Distributor | Philadelphia, PA  | DOP<br>Drain Cleaner |
| <u>Unconfirmed</u>      |             |                   |                      |
| Haviland Products       |             | Grand Rapids, MI  | Purgit               |
| Ramco                   |             | Maine             | Plumbers Action      |

Source: Industry Interviews and "Drain Cleaners", Consumer's Research Magazine 62 (5) 12-15 (May, 1979).

- (a) Company activities confirmed by finding product in a retail outlet and/or contact with the company and/or a supplier or customer.

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TABLE 10. COMPANIES PRODUCING AND DISTRIBUTING ALKALINE DRAIN CLEANERS FOR SALE BY COMMERCIAL OUTLETS

| Company               | Activity    | Location             | Sold To            | Product Name                         |
|-----------------------|-------------|----------------------|--------------------|--------------------------------------|
| <u>Current(a)</u>     |             |                      |                    |                                      |
| Acme                  | Distributor | Milwaukee, WI        | I & I              | Pipe Kleen, LPK                      |
| Action                | Formulator  | Brooklyn, NY         | Plumbing           | Purge                                |
| Ampion                | Formulator  | Long Island City, NY | I & I              | private label                        |
| Athea                 | Formulator  | Milwaukee, WI        | I & I              | private label                        |
| W. D. Carpenter       | Distributor | E. Syracuse, NY      | I & I              | No Fume                              |
| Carroll               | Formulator  | Garland, TX          | I & I              | private label, Alka-Lion             |
| Cello                 | Distributor | Baltimore, MD        | Janitorial         | No Fume                              |
| Coastal               | Distributor | Carlstadt, NJ        | Plumbing           | The Unstuffer                        |
| Creco                 | Formulator  | Philadelphia, PA     | I & I              | Power-Plus                           |
| Damon Chemical        | Formulator  | Alliance, OH         | I & I              | SPD                                  |
| Drackett              | Formulator  | Cincinnati, OH       | I & I              | Industrial Strength Drano            |
| Dorex                 | Formulator  | Frankfort, IL        | I & I              | private label                        |
| Elco Manufacturing    | Formulator  | Pittsburgh, PA       | Plumbing,<br>I & I | Elco<br>private label                |
| Essential Chemicals   | Formulator  | Merton, WI           | I & I              | PM Drain Opener                      |
| Galaxy                | Formulator  | Chicago, IL          | Plumbing           | Drain Master                         |
| General Chemical      | Formulator  | Santa Ana, CA        | I & I              | private label                        |
| Hancock-Gross         | Distributor | Philadelphia, PA     | I & I              | private label                        |
| Hercules              | Formulator  | New York, NY         | I & I              | Drain Pipe Cleaner                   |
| Higley Chemical       | Formulator  | Dubuque, IA          | Janitorial         | Liquid Drain Cleaner                 |
| Huntington Lab        | Formulator  | Huntington, IN       | I & I              | Bingo Liquid & Beaded                |
| Hysan                 | Formulator  | Chicago, IL          | I & I              | No-Fume Hydrang                      |
| Industrial Petrolic   | Formulator  | College Point, NY    | Plumbing           | Plumbers Plunger                     |
| Madison Chemical      | Formulator? | Franklin Park, IL    | I & I              | Free Flow                            |
| Magnuson Products     | Formulator  | Brooklyn, NY         | I & I              | private label                        |
| National Chem Search  | Formulator  | Dallas, TX           | I & I              | Red Streak                           |
| National Solvent Corp | Formulator  | Medina, OH           | I & I              | private label                        |
| Nyco Products         | Formulator  | Chicago, IL          | I & I              | Drain Solve & Special Plumbers Ideal |
| Puro Chem             | Formulator  | St. Louis, MO        | I & I              | Drain-away                           |
| Reilly Chemical       | Formulator  | New Orleans, LA      | I & I              | Free Flow, private label             |
| Research Products     | Formulator  | Dallas, TX           | Distributors       | private label                        |
| Sanivan Labs          | Formulator  | Camden, NJ           | Plumbing           | DC-1                                 |
| Sexauer               | Distributor | White Plains, NY     | Plumbing           | Mule Kick                            |
| Utility Chemical      | Distributor | Paterson, NJ         | I & I              | Sewer-Solve                          |
| Walton-March          | Formulator  | Highland Park, IL    | Janitorial         | Pipe Dream Drain Opener              |
| Western Chem          | Formulator  | St. Joseph, MO       | I & I              | Jiffy Drainpipe Opener               |
| Zep Chemicals         | Formulator  | Atlanta, GA          | Plumbing           | Zep Sewer Aid                        |

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TABLE 10. (Continued)

| Company                       | Activity | Location         | Sold To | Product Name |
|-------------------------------|----------|------------------|---------|--------------|
| <u>Unconfirmed</u>            |          |                  |         |              |
| A.B.C. Compounding            |          | Atlanta, GA      |         |              |
| Bixon Chemical                |          | Corona, NY       |         |              |
| Bullen Chemical               |          | Folcraft, PA     |         |              |
| C. Z. Chemical                |          | Beloit, WI       |         |              |
| Cartier Chemicals             |          | Quebec, Canada   |         |              |
| Chemical Specialties          |          | Memphis, TN      |         |              |
| Costello Manufacturing        |          | St. Louis, MO    |         |              |
| Custom Pak Chemical           |          | Tampa, FL        |         |              |
| Dickler Chemical Lab          |          | Philadelphia, PA |         |              |
| Dymon                         |          | Kansas City, KS  |         |              |
| Excelsior Varnish & Chemicals |          | Cleveland, OH    |         |              |
| Gem Products                  |          | Irving, TX       |         |              |
| Gift Sales                    |          | Wichita, KS      |         |              |
| Hadco                         |          | Cleveland, OH    |         |              |
| Hylco                         |          | Houston, TX      |         |              |
| Long Chemical                 |          | Los Angeles, CA  |         |              |
| LuBar                         |          | Kansas City, MO  |         |              |
| P.L.C.                        |          | Wheeling, IL     |         |              |
| Pioneer Manufacturing         |          | Cleveland, OH    |         |              |
| W. G. Snee                    |          | New Orleans, LA  |         |              |
| Theochem Labs                 |          | Tampa, FL        |         |              |
| Unit Chemical                 |          | Los Angeles, CA  |         |              |
| James Varley                  |          | St. Louis, MO    |         |              |
| Verax Chemical                |          | Maltby, WA       |         |              |
| Warren Chemical               |          | Norwood, MA      |         |              |
| Wepak                         |          | Charlotte, NC    |         |              |

Source: Industry interviews and Sanitary Maintenance, January, 1979.

(a) Company activities confirmed by interview with the company and/or supplier and/or customer.

I & I - Industrial and institutional customer.

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### Other Chemical Drain Cleaners

In addition to acid and alkaline drain cleaners there are two other types of chemical drain cleaners. Identification of producers and distributors of these products was not as rigorously pursued as for previous groups. It is not certain that the list is complete or that all of those listed in Table 11 are currently active, nor in some cases was the nature of the company activity nor the intended market identified. The products are called drain cleaners although they are usually recommended for preventive maintenance rather than for opening a clogged drain. Some are said to open drains after a period of hours or days.

One type is composed of organic solvents such as 1,1,1-trichloroethane, dichloromethane, orthodichlorobenzene, and/or petroleum distillate. Such drain cleaners are primarily used to prevent build up of grease deposits.

The second group of drain cleaners is composed of mixtures of bacteria or of enzymes derived from bacteria. These are usually used for preventing grease build up rather than emergency use. They are often recommended for septic tank and cesspool use because they will not harm existing bacteria. They are slow-acting and said to be completely safe for human use.

### Unclassified Drain Cleaners

Companies which were listed by Directories as sources of chemical drain cleaners but which do not presently sell drain cleaners at all are included in Table 12. No information was obtained on whether these companies were formerly involved in the drain cleaner market. The table also lists companies whose phone numbers could not be obtained and probably have moved or are out of business.

Companies whose activities in the drain cleaner market were not identified are listed in Table 13. Based on other interviews a number of these companies may no longer be active.

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TABLE 11. COMPANIES PRODUCING AND DISTRIBUTING OTHER CHEMICAL DRAIN CLEANERS

| Company                | Activity     | Location         | Product Name                    | Probable Market |
|------------------------|--------------|------------------|---------------------------------|-----------------|
| <u>Enzyme/Bacteria</u> |              |                  |                                 |                 |
| Advance (Easterday)    | Distributor  | Los Angeles, CA  | Triple S Safety<br>Walton March | C               |
| Aqua Terra             | Manufacturer | Houston, TX      |                                 | C               |
| Biochemical            | Manufacturer | Birmingham, NJ ; | Bi-Chem                         | R               |
| Clover Products        |              | Rochester, NY    | Drain-Safe                      | R               |
| CPM                    | Manufacturer | Kearney, NY      | Cloroben CPM                    | C,R             |
| Crystal Chemical       | Manufacturer | Corona, NY       | private label                   | C               |
| FX Laboratory          | Manufacturer | Fairfield, NJ    | private label                   | C,R             |
| Hercules               | Manufacturer | New York, NY     | Wham                            | C,R             |
| Higley Chemical        | Manufacturer | Dubuque, IA      | private label                   | C,R             |
| Jeffrey Chemical       | Manufacturer | Salem, VA        | private label                   | C,R             |
| Lewis Research Labs    | Manufacturer | New Jersey       | Drain Aid                       | R               |
| Misco International    | Manufacturer | Wheeling, IL     | Grease Trap<br>(emulsifier)     | C               |
| Roebec Labs            | ?            | North Haven, CT  | Roebec Drainpipe<br>Cleaner     | R               |

TABLE 11. (Continued)

| Company                | Activity                     | Location          | Product Name             | Probable Market |
|------------------------|------------------------------|-------------------|--------------------------|-----------------|
| Rooto Corporation      | ?                            | Howell, MI        | Sweet X                  | R               |
| Sexauer                | Distributor                  | White Plains, NY  | Mule Kick                | C               |
| Vigilant Products      | Manufacturer and Distributor | Ogdensburg, NJ    | Drain-Safe               | R               |
| Walton-March           | Formulator                   | Highland Park, IL | Enzyt 5                  | C               |
| Woodward Wanger        | Distributor                  | Philadelphia, PA  |                          | C               |
| <u>Organic Solvent</u> |                              |                   |                          |                 |
| Cloroben Chemical      | Formulator                   | Kearney, NJ       | Drain Pipe Solvent       | R,C             |
| Coastal                | Distributor                  | Carlstadt, NJ     | The Unstuffer            | C               |
| Drackett               | Formulator                   | Cincinnati, OH    | Kitchen Drano            | R               |
| Hercules               | Formulator                   | New York, NY      | Wham                     | R,C             |
| Stewart Hall Chemical  | Formulator                   | Mt. Vernon, NY    | Greasemaster, Septisolve | C,R             |
| Zep Chemicals          | Formulator                   | Atlanta, GA       | Scat                     | C               |

Source: Industry interviews

C = Commercial

R = Retail

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TABLE 12. COMPANIES WHICH DO NOT CURRENTLY PRODUCE OR DISTRIBUTE DRAIN CLEANERS<sup>(a)</sup>

| Company                          | Location             |
|----------------------------------|----------------------|
| <u>Confirmed<sup>(a)</sup></u>   |                      |
| Allied Bloch                     | New Eagle, PA        |
| Beaver Chemical                  | Stockton, CA         |
| Choreboy                         | Decatur, GA          |
| Classic                          | Texas                |
| Faesy & Besthoff                 | Edgewater, NJ        |
| Gamlen Chemicals                 | San Francisco, CA    |
| Holt                             | New Jersey           |
| Liberty                          | Neuco, NY            |
| Mackwin                          | Winona, MN           |
| National Chem                    | Dallas, TX           |
| National Purity Soap             | Minneapolis, MN      |
| O'Brien                          | Chicago, IL          |
| Para                             | Paterson, NJ         |
| Pollard                          | New Hyde Park, NY    |
| <u>Not Reached<sup>(b)</sup></u> |                      |
| C. L. Alexander                  | Chicago, IL          |
| C E Industries                   | Miami, FL            |
| Chemical Service                 | Baltimore, MD        |
| Chemtrust Industries             | Maywood, IL          |
| Commerce Supply                  | Philadelphia, PA     |
| E. C. Co. Products               | Santa Clara, CA      |
| Improved                         |                      |
| Levenson                         | Kansas               |
| McKay Chemical                   | Brooklyn, NY         |
| Quality Research Laboratory      | Cornwell Heights, PA |
| Ridge Tool                       | Elyria, OH           |
| Service Industries               | Philadelphia, PA     |

Source: Industry interviews and directories.

- (a) These companies were listed by directories as producers of chemical drain cleaners, but company personnel said the company was not currently producing or selling such products.
- (b) Telephone numbers could not be obtained despite consulting the source, telephone books, Directory Assistance, state industrial directories, McRae's Blue Book, and Thomas Register. These companies may have moved or gone out of business.

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TABLE 13. UNCONFIRMED PRODUCERS AND DISTRIBUTORS OF UNIDENTIFIED CHEMICAL DRAIN CLEANERS

| Company                      | Location             |
|------------------------------|----------------------|
| Amway                        | Ada, MI              |
| Ashland Chemical             | Columbus, OH         |
| Bestline                     | Boonton, NJ          |
| Cenol                        | Libertyville, IL     |
| Certified Chemical           | Texas                |
| Chardon Labs                 | Columbus, OH         |
| Chemed Corporation           | Lake Zurich, IL      |
| Dacar Chemical Products      | Pittsburgh, PA       |
| Dearborn Chemical            | Lake Zurich, IL      |
| Fould-Stalford               | Havre de Grace, MD   |
| Fuller Company               | Minneapolis, MN      |
| McVicker Chemical            | Brooklyn, NY         |
| National Laboratory          | Montale, NJ          |
| Nokomis Industries           | Hayward, CA          |
| Oakite Products              | Berkeley Heights, NJ |
| Penetone                     | Tenafly, NJ          |
| Puritan Chemical             | Atlanta, GA          |
| Ramco Chemical               | Massachusetts        |
| Randustrial                  | Cleveland, OH        |
| Rochester Germicide          | Rochester, NY        |
| SOS Products                 | Greenville, PA       |
| State Chemical Manufacturing | Cleveland, OH        |
| State Enterprises            | Farmingdale, NY      |
| Surburban Chemical           | Paterson, NJ         |
| Sunshine Chemical            | West Hartford, CT    |
| Watkins Products             | Winona, MN           |

Source: Companies listed by industrial directories or interview contacts but not interviewed so no identification of product or intended market was made.

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### Mechanical Drain Openers

Mechanical drain opener devices also can be used to clear drain stoppages. Battelle did not actively seek to identify companies selling such devices. The companies listed in Table 14 are firms whose products were observed in retail outlets, or were mentioned in interviews with participants in the chemical drain cleaner market.

Tabulated in Table 15 are companies which were listed in directories under sections on mechanical drain cleaner devices and tools. No attempt was made to confirm that these companies are presently manufacturing such tools nor to identify the intended market.

Aerosols act to clear drains by the release of compressed air or carbon dioxide which is said to push aside the obstruction. The compressed gas is released by pushing the unit down on the drain opening to release a spring mechanism thus actuating the propellant.

The Drain King product is a patented\* device consisting of a flexible rubber tube one end of which is hooked up to a faucet and the other into the drain. A valve at the lower end alternately opens and closes releasing pulsating jets of water under pressure which is said to dislodge the stoppage.

A snake is essentially a flexible coiled spring which is rotated either by a hand crank or a power mechanism. The spring is supposed either to dislodge the stoppage or push a hole through it so that water can flush away the rest. Melard has a patented version sold at retail which uses power from a home electric drill\*\*. Commercial models of snakes may be powered by gasoline engines and have a very long reach and interchangeable parts so that the optimum conditions may be selected to fix the particular problem.

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\* Task, G., "Fluid Flow Director", U.S. 3,792,708 (February 19, 1974).

\*\* Kirk, B. A., "Plumber's Snake Unit", U.S. 3,283,353 (November 8, 1966).

TABLE 14. PARTIAL LIST OF COMPANIES MANUFACTURING OR  
DISTRIBUTING MECHANICAL DRAIN OPENER DEVICES

| Type/Company Name       | Location         | Product Name                                       | Intended Market |
|-------------------------|------------------|----------------------------------------------------|-----------------|
| <u>Aerosols</u>         |                  |                                                    |                 |
| Airwick/Glamorene       | Carlstadt, NJ    | Drain Power                                        | R               |
| Drackett<br>(a)         | Cincinnati, OH   | Drano Aerosol Plunger<br>Jet Plumber               | R<br>C          |
| <u>Plungers</u>         |                  |                                                    |                 |
| (b)                     |                  |                                                    |                 |
| Stevens                 |                  | Toilaflex                                          | R               |
| <u>Water Powered</u>    |                  |                                                    |                 |
| H. D. Campbell          | Rochelle, IL     | Rite-Way Drain Cleaner                             |                 |
| G. T. Nater Products    |                  | Drain King                                         | R               |
| Petersen                | Fredonia, WI     | Drain Jet                                          | R               |
| <u>Snakes</u>           |                  |                                                    |                 |
| Chicago Specialty       |                  | Kleen Flexible Drain                               | R               |
| General Wire Spring     | McKees Rocks, PA | Handy Drain Cleaning<br>Wire                       | R               |
| Marco                   |                  | San Fernando, CA                                   | C               |
| Melard                  |                  | Power Rooter                                       | R               |
| Roto-Rooter             | Des Moines, IA   |                                                    | C               |
| Wrightway Manufacturing | Chicago, IL      | Little Pete<br>Big Pete<br>Handee Ram Rod<br>Tuffy | R<br>R          |

Source: Commercial and retail contacts.

(a) Producer was not identified.

(b) Individual companies making the conventional "plumber's friend" device were not identified.

R - Retail

C - Commercial

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TABLE 15. UNCONFIRMED PRODUCERS AND DISTRIBUTORS OF MECHANICAL DRAIN OPENER DEVICES

| Company                                           | Location          |
|---------------------------------------------------|-------------------|
| Advance Chemical                                  | Los Angeles, CA   |
| Ambory                                            | Hazel Park, MI    |
| Aqua-Dyne Engineering                             | Houston, TX       |
| Aquatech-Moro                                     | Cleveland, OH     |
| Arco Products                                     | Englewood, NJ     |
| Atlas Auger                                       | Pittsburgh, PA    |
| Aurand Manufacturing & Equipment                  | Cincinnati, OH    |
| Barnard, B.S.                                     | New York, NY      |
| Burton Industries, Powersnake Division            | San Francisco, CA |
| Clemco Industries                                 | San Francisco, CA |
| Cobra Products                                    | Willingboro, NJ   |
| Coleman, Allen                                    | Chicago, IL       |
| Colloid-A-Tron                                    | Buffalo, NY       |
| Conco                                             | Menota, IL        |
| CRC Dist/Twin Specialties                         | Bala Cynwyd, PA   |
| Cues                                              | Orlando, FL       |
| Eagle Industries                                  | South Sanford, ME |
| Electric Eel Manufacturing                        | Springfield, OH   |
| Electric Sewer Cleaning                           | Allston, MA       |
| Elgin Sweeper                                     | Elgin, IL         |
| Elliott Company                                   | Springfield, OH   |
| Engineering Unlimited                             | Minneapolis, MN   |
| Expando Seal Tools                                | Spring House, PA  |
| Flexible                                          | Culver City, CA   |
| FX-Lab                                            | Fairfield, NJ     |
| Gardner Industries                                |                   |
| Graybar Electric                                  | New York, NY      |
| Grigsby Company                                   | Landover, MD      |
| Grove Machine Works                               | Fremont, OH       |
| Hancock-Gross                                     | Philadelphia, PA  |
| Lee Healey                                        | Sun Valley, CA    |
| Huntington Labs                                   | Huntington, IN    |
| Hydraulic Manufacturing                           | Bridgeport, CT    |
| P. J. Kendall                                     | Detroit, MI       |
| Kirkhill                                          | Downey, CA        |
| Kitson Poultry Equipment                          | Morley, MI        |
| R. A. Langlotz & Associates,<br>Cleaning Services | Hagerstown, MD    |
| Lewis Products                                    | Racine, WI        |
| F. H. Maloney                                     | Houston, TX       |

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TABLE 15. (Continued)

| Company                          | Location             |
|----------------------------------|----------------------|
| Mapsco Products                  | Youngstown, OH       |
| Mattich Airdraulic Manufacturing | Chicago, IL          |
| Miller Sewer Rod                 | Chicago, IL          |
| Milwaukee Electric Tool          | Brookfield, WI       |
| Myers-Sherman                    | Streator, IL         |
| National Water Main Cleaning     | Newark, NJ           |
| O'Brien                          | Mendota, IL          |
| O.K. Machine & Manufacturing     | Tulsa, OK            |
| Partek Corporation of Houston    | Houston, TX          |
| Pipeline Cleaners                | Fort Madison, IA     |
| Plumbcraft Manufacturing         | Bedford, OH          |
| Plumb-O-Products                 |                      |
| Ridge Tool                       | Elyria, OH           |
| Rollins Supply                   | Elmhurst, IL         |
| Rotary Pipe Crawlers             | Corona, CA           |
| Sauerman Bros.                   | Bellwood, IL         |
| Schaul Manufacturing             |                      |
| J. A. Sexauer                    | White Plains, NY     |
| Seymour Manufacturing            | Seymour, OH          |
| Spartan Tool Division, Conoco    | Mendota, IL          |
| Spiral Brushes                   | Hudson, OH           |
| Stan Sax                         | Detroit, MI          |
| W. H. Stewart                    | Syracuse, NY         |
| Sweco                            | Houston, TX          |
| Teledyne Oster                   | Wickliffe, OH        |
| Thomas Drain Service             | Akron, OH            |
| West Chemical Products           | Long Island City, NY |
| Western Maintenance Products     | Daly City, CA        |
| T. D. Williamson                 | Tulsa, OK            |
| Woma Corporation                 | Linden, NJ           |
| Woodward-Wanger                  | Philadelphia, PA     |

- Sources: (1) McRae's 1979 Blue Book, 86th Edition, Hinsdale, IL (1979).  
 (2) Thomas Register, 1978, 68th Edition, Thomas Publishing Company, New York, NY (1978).  
 (3) Chilton's Hardware Age, December, 1978 issue.

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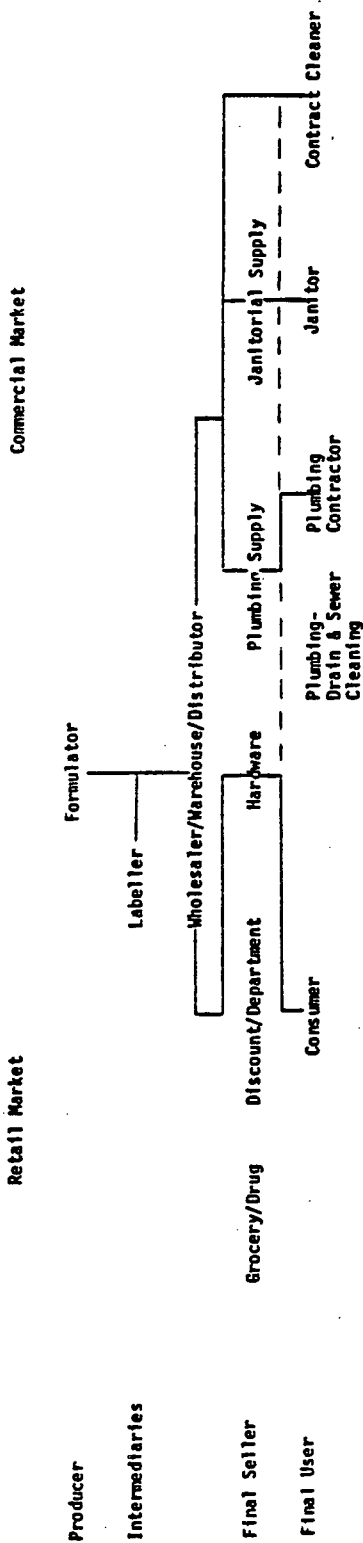
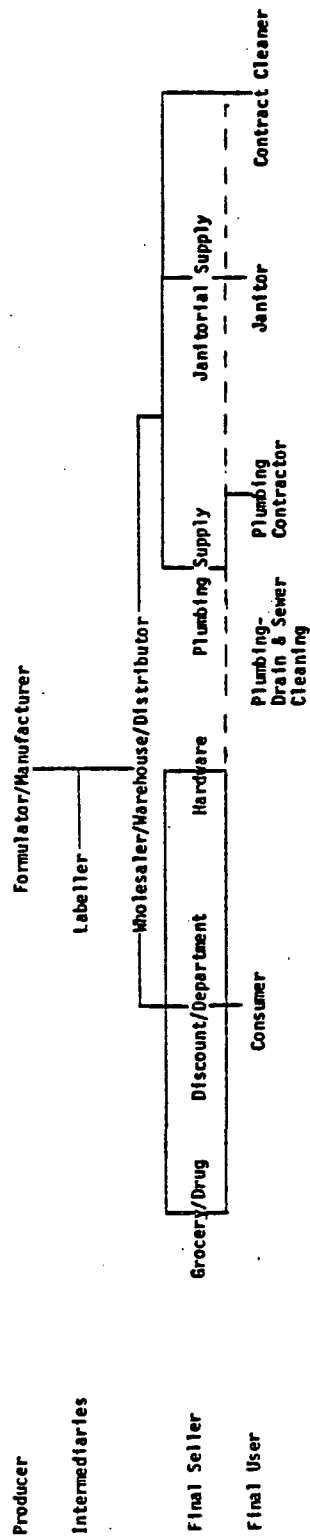
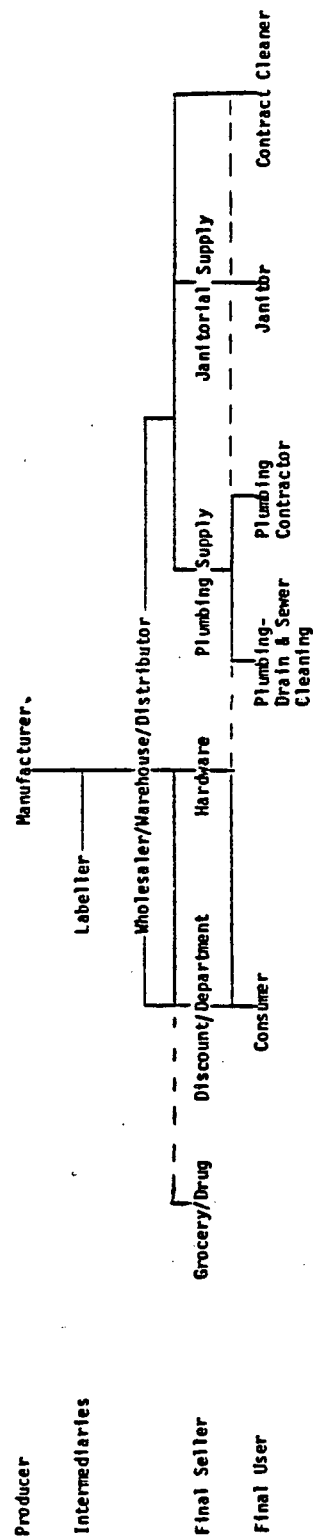
### Distribution Channels

Based on interviews and observations of retail and commercial outlets, generalizations were made by Battelle concerning distribution channels in the drain cleaner industry.

Distribution begins with suppliers of raw materials such as sulfuric acid, sodium hydroxide, potassium hydroxide, etc. The raw materials are formulated into drain cleaners by other companies which usually also bottle or package the product. Some of the producers use a company tradename while others sell the drain cleaner to a distributor company (private labeller) which sells the product under its own company tradename. One or more distributors such as a wholesaler or manufacturer's representative may provide intermediate services. The product is then sold to a wholesale supplier specific to the type of final seller (grocery, hardware, janitorial, or plumbing supply) or directly to a commercial cleaner.

Some of these interrelationships are diagrammed in Figure 1, starting after the raw material suppliers. The formulators, manufacturers, labellers, and distributors were located in all parts of the United States. Representatives of plumbing and janitorial supply outlets were interviewed in eight cities (Buffalo, New York; Columbus, Ohio; Jacksonville, Florida; Philadelphia, Pennsylvania; Portland, Oregon; Rochester, New York; San Francisco, California, and Washington, D.C.). The products sold in retail outlets were observed in seven cities (Champaign, Illinois; Columbus, Ohio; Delaware, Ohio; Manhattan, New York; Nutley, New Jersey; Philadelphia, Pennsylvania; and Rochester, New York). In addition, representatives of hardware stores were interviewed by telephone in eleven cities (Buffalo, New York; Chicago, Illinois; Jacksonville, Florida; New London, Connecticut area; Newark, New Jersey; Portland, Oregon; Queens, New York; Phoenix, Arizona; Plainfield, New Jersey area; San Diego, California; San Francisco, California; and Washington, D.C.).

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Sulfuric Acid Drain CleanersAlkaline and Other Chemical Drain CleanersMechanical Devices for Cleaning Drains

—— Major Channel  
 ----- Minor Channel

FIGURE 1. DISTRIBUTION CHANNELS IN THE DRAIN CLEANER INDUSTRY

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### Major Channels

Sulfuric acid drain cleaners appear to be sold at the retail level only in hardware stores. This conclusion was based on visits and telephone calls to retail outlets (see list of cities in the preceding section), to headquarters of one discount chain, and on extensive interviewing of producers and distributors located throughout the United States.

Acid drain cleaners intended for commercial customers are purchased by some plumbing contractors from plumbing supply outlets, by janitors or their employers, from janitorial supply outlets, and by contract cleaners. Some of these commercial customers also purchase acid drain cleaners from retail hardware stores, especially in the New York City area. Some of these stores attempt to restrict the sale of acid drain cleaners to commercial customers. Others screen customers by refusing to sell to women or to "people who don't know what they're doing" (a comment made several times).

Alkaline and other types of drain cleaners may be purchased by the consumer in grocery, drug, discount, department, and hardware stores. Commercial users obtain alkaline and other chemical drain cleaners from plumbing or janitorial supply outlets or directly from a wholesaler.

With the exception of aerosols, mechanical drain openers are not usually found in grocery and drug stores but could be purchased by a consumer in discount, department, and hardware stores. Plumbing specialists in the cleaning of drains and sewers tend to use only mechanical devices. These may be purchased through plumbing supply outlets or directly from a wholesaler or manufacturer's representative.

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Accessibility of Commercial  
Outlets to the Consumer

As was stated in the preceding section the consumer purchases sulfuric acid drain cleaners primarily through hardware stores. A consumer might, however, seek sulfuric acid drain cleaners in commercially oriented establishments such as plumbing supply and janitorial supply outlets. Battelle concludes that such access was minimal compared to the hardware route as shown in Figure 1 by dotted lines. This section of the report summarizes the observations on which this conclusion was based.

Formulators, labellers, and distributors for I & I markets stated almost uniformly that the household consumer could only obtain their products by stealing. Sellers to plumbing and janitorial outlets often said there would be little chance of consumer purchase, but some did raise the question of how a consumer would be identified as a householder or professional.

Battelle contacted a large number of establishments listed in the yellow pages of eight cities under Janitors' Supplies and Plumbing Fixtures & Supplies-Wholesale & Manufacturers. In the latter group those outlets featuring supplies were selected over the primarily fixture oriented establishments. The results are summarized in Table 16. No regional differences were detected in the interviews. As shown, some of the establishments said they would sell to consumers but that few of these customers were seen. Most of these said instructions and precautions would be given. The proportion of those selling to consumers is probably somewhat higher than shown--some of the contacts obviously felt the inquiry was a sort of Fifth Amendment question.

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TABLE 16. ASSESSMENT OF CONSUMER ACCESSIBILITY TO COMMERCIAL  
OUTLETS IN EIGHT CITIES(a) (NUMBER OF RESPONSES)

|                                                 | Commercial Outlet |                                |
|-------------------------------------------------|-------------------|--------------------------------|
|                                                 | Janitorial Supply | Plumbing Supply <sup>(b)</sup> |
| Total contacts                                  | 41                | 34                             |
| Sell drain cleaners                             | 37                | 23                             |
| Sell acid drain cleaners                        | 19                | 21                             |
| Would sell acid drain cleaner<br>to householder | 6                 | 4                              |

(a) Buffalo, New York; Columbus, Ohio; Jacksonville, Florida; Philadelphia, Pennsylvania; Portland, Oregon; Rochester, New York; San Francisco, California; Washington, D.C.

(b) Outlets that emphasized plumbing fixtures over supplies were avoided.

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Battelle looked at several plumbing and janitorial supply outlets in Columbus. Four outlets looked like retail stores, while four others appeared to be warehouses or storerooms and uninviting to the householder seeking assistance; two could not be located at all, a distinct deterrent to consumer access. One janitorial supply outlet volunteered that his premises were full of do-it-yourselfers on Saturday mornings, some of whom were likely buying drain cleaners.

Several formulators and labellers said their products were clearly labelled "For Professional Use Only". In the eyes of a desperate householder such a label might be added incentive to purchase.

Some of the contacts volunteered suggestions for restricting consumer access:

- Have the consumer sign a liability waiver
- Have the consumer sign that instructions and precautions had been read and understood
- Devise a registration system for authorized commercial customers
- Require customer identification such as union card or plumbers license or employer's authorization
- Develop a system as in the sale of controlled drugs requiring purchasers to sign a log.

#### Employment

No numbers of employees for any segment of the drain cleaner industry were available. Government data, on shipments and employees for the larger Polishes and Sanitation Goods Industry were therefore used along with trade and Battelle estimates. It was estimated that about 600 persons are employed by companies which formulate chemical drain cleaners. Fewer than 20 are employed by companies which formulate sulfuric acid drain cleaner for the retail market. The calculations are shown in Table 17.

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TABLE 17. ESTIMATED EMPLOYMENT IN THE CHEMICAL DRAIN CLEANER BUSINESS

| SIC No. | Class of Product                               | 1972 Shipments<br>(Million Dollars) | Employees             |
|---------|------------------------------------------------|-------------------------------------|-----------------------|
| 2842    | Polishes and Sanitation Goods                  | 1700 <sup>(a)</sup>                 | 24,000 <sup>(b)</sup> |
| 2842331 | Toilet Bowl Cleaner and Drain<br>Pipe Solvents | 170 <sup>(a)</sup>                  | 2,400 <sup>(c)</sup>  |
|         | Chemical Drain Cleaners                        |                                     | 600 <sup>(d)</sup>    |
|         | Sulfuric Acid Drain Cleaners                   |                                     | 70 <sup>(e)</sup>     |
|         | Retail Sulfuric Acid Drain Cleaners            |                                     | <20 <sup>(f)</sup>    |

(a) U.S. Department of Commerce, 1972 Census of Manufacturers.

(b) Average for 1972-1976 from U.S. Department of Commerce Annual Survey of Manufacturers, 1972 to 1976.

(c) Calculated from the percentage of SIC 242331 shipments to SIC 2842-i.e. 9.9 percent.

(d) Between 1972 and 1977 drain cleaners made up about 25 percent of the sum of drain cleaners and toilet bowl cleaner sales in both Supermarketing (July issues) and Chain Store Age (September issues) consumer surveys.

(e) Battelle estimated all sulfuric acid drain cleaners made up 12 percent of all chemical drain cleaners<sup>(d)</sup>.

(f) Battelle estimated retail sulfuric acid drain cleaners made up 2.9 percent of all chemical drain cleaners<sup>(d)</sup>.

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### ECONOMIC EFFECTS OF A BAN

For this task Battelle attempted to gather quantitative and qualitative information that would be useful to HIC in determining the economic effects of a regulation either to ban sale to consumers or manufacture for sale to the consumer.

#### Alternatives for the Consumer

Sulfuric acid drain cleaners are said to have primary value for very limited situations where the drain stoppage is caused by a cellulosic material such as a disposable diaper, cloth diaper, rag, sanitary napkin, or protein material such as hair. They are apparently no more effective on more common grease stoppages than are alkaline drain cleaners which are more generally used.

Before resorting to sulfuric acid use it seems likely the consumer has already tried the ubiquitous alkaline products, most likely Liquid Drano, Crystal Drano, or Liquid Plumb. Certainly these are the products most consumers mentioned when this project was discussed informally and the products most often seen on retail shelves.

#### Mechanical Devices

If there were a ban on sulfuric acid drain cleaners the consumer might try one or more retail mechanical devices. One type is the aerosol products such as are listed previously. These generally cost less than sulfuric acid drain cleaners (\$1.75 to \$2.50 with a median price of \$2.30). However several retailers of these products indicated little faith in their effectiveness.

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Other mechanical devices represent a one-time expense, so that multiple stoppages can be treated without added cost.

Plungers, also known as "plumber's friends", range from under \$1.00 to \$3.00. Sellers of these products often said they would be ineffective as replacements for sulfuric acid drain cleaners.

Another mechanical device is the patented Drain King device described earlier. Retail prices were observed between \$4.50 and \$5.50. One hardware store manager volunteered the opinion that this device would not work adequately to remove cellulosic stoppages.

A wide variety of sizes of hand-powered snakes was observed in hardware and discount stores ranging in price from \$2.00 to \$8.00. Some sellers felt these devices would work if the consumer followed directions carefully.

A few power-driven snakes were seen in retail outlets costing about \$17.00. The Melard device already mentioned attached to an electric drill and costs a little over \$11.

Another alternative is to remove the drain trap and replace it with a part costing under \$4.00. This would work only if the stoppages were in the trap portion of the pipe.

### Professional Services

If sulfuric acid drain cleaners were banned for consumer use and if other remedies failed, the consumer would probably turn to a professional for assistance. Apartment dwellers might try their own measures before contacting a janitor but there would be no increase in cost. The home owner would contact one of two groups of plumbers who are often listed in telephone book yellow pages. There is some overlap between the two groups. Plumbing contractors are more often in the construction business (but some said they used sulfuric acid).

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1/6  
1/8

The category "Plumbing-Drain & Sewer Cleaning" lists firms specializing in the use of powered mechanical equipment not only for sink stoppages but also for freeing sewer lines of root growth. One Midwestern metropolitan area of almost one million population lists 25 such services. A number of such drain cleaning services were contacted. Most said they did not use chemicals, especially sulfuric acid, but specialized in electrically or gasoline powered snakes or rods. The basis for the cost estimate varied. Some had fixed charges; some charged by the hour; some started with a fixed fee for a house call and added charges per foot of drain or sewer or per hour after a minimum was exceeded. The average house call was quoted as from \$20 to \$40, with most about \$30.

No regional differences were found in this rough assessment of practices and costs.

#### Cost of a Ban to the Consumer

To illustrate the consumer costs of a sulfuric acid drain cleaner ban, Battelle hypothesized four possible scenarios. The scenarios are based on Battelle's assessment of what a typical middle class householder might do when confronted with a clogged drain. A detailed investigation of consumer reasoning and behavior could not be carried out within the time and budget for this task.

Acid drain cleaner manufacturers recommend (in directions to the consumer) that 1/2 pint of product be used when cleaning small drains, waste lines, plumbing traps and toilets. One pint is recommended for cleaning larger drains. The most common package size for acid drain cleaners is one quart. Therefore, according to manufacturer recommendations, one quart could open four small drains or two large drains.

In the first scenario, Battelle hypothesizes the situation in which a consumer purchases an acid drain cleaner after an alkaline drain cleaner has been judged as ineffective on a cellulosic stoppage. The acid drain cleaner is used according to manufacturer recommendations and the stoppage is relieved. Since three additional applications remain in the quart bottle, the consumer is hypothesized to use acid drain cleaner for three subsequent blockages which are probably not cellulosic. An alkaline drain cleaner would have worked as effectively as acid drain cleaners in each of the latter instances. Therefore only one stoppage in four "really" requires an acid drain cleaner.

Battelle estimates that approximately 890,000 quarts of acid drain cleaners are sold annually (\$3.2 million/\$3.60). Only 1/4 of the stoppages required acid drain cleaners (about 220,000 quarts); therefore the minimum consumer costs was estimated to be \$800,000 annually.

In the second scenario the consumer purchases acid drain cleaner for a specific cellulosic stoppage but does not follow the manufacturer's recommendations. Assuming that more is better than less, the consumer uses the full quart to unclog the stoppage. Alternatively he discards the remaining acid drain cleaner to avoid storing a hazardous product. When another cellulosic stoppage occurs the consumer again purchases a bottle of acid drain cleaner to solve the problem. In this scenario the cost to the consumer was estimated to be \$3.2 million (890,000 quarts x \$3.60).

In the third and fourth scenarios the consumer is no longer able to purchase acid drain cleaners because the product has been banned. In the third scenario, as in the first, there were 220,000 assumed stoppages of which half could be successfully cleared by a mechanical means readily available to the consumer. For simplicity, Battelle assumed the mechanical means was an aerosol drain cleaner. The remaining stoppages (110,000) would require the service of a plumber costing \$30/call.

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The cost to the consumer was estimated to be \$250,000 for the aerosols ( $\$2.30 \times 110,000$ ) plus \$3.3 million for plumbers services. The consumer would save the cost of the acid drain cleaner -- \$.8 million. Total costs were estimated to be \$2.75 million.

In the fourth scenario the consumer again is no longer able to purchase acid drain cleaner because the product has been banned. Since the consumer believes that alkaline drain cleaners are ineffective on cellulosic stoppages when compared to acid drain cleaners, readily available mechanical means are tried first before calling a plumber.

Mechanical cleaners are hypothesized to unclog half of the stoppages. For simplicity Battelle assumed the mechanical means was an aerosol drain cleaner.

The costs to the consumer was estimated to be \$1.0 million for the aerosols ( $445,000 \times \$2.30$ ) plus \$13 million for the plumber services. The consumer would save \$3.2 million expense on acid drain cleaners. Total costs to the consumer were estimated to be \$11 million.

The economic impact of a consumer ban on acid drain cleaners, therefore, is estimated to range between \$2.75 million and \$11 million. It is unlikely that all consumers presently purchasing acid drain cleaners would behave as hypothesized in scenario four. Scenario four is provided as an estimate of the upper limit of consumer expenditures. It is Battelle's opinion that the real cost to the consumer of a ban would be closer to the costs in scenario three--\$2.75 million than the \$11 million costs estimated in scenario four, or \$.03 to \$.14 per household.

#### Alternative Acids

Some alternative acids have been suggested for drain cleaner use. Strong acids such as hydrochloric and nitric acids are volatile and hazardous on inhalation. Phosphoric acid would be no safer than sulfuric acid. Weak acids are often used by the dairy industry for cleaning, but probably would not readily act on the cellulosic stoppages for which sulfuric acid is generally used. Weak acids include inorganics

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such as sulfamic acid and sodium bisulfate and organic acids such as lactic, citric, hydroxyacetic, acetic, oxalic, gluconic, and glycolic acids. It is Battelle's opinion that none of these alternative acids are likely to be effective.

#### Effect on Sellers for Consumer Sale

A ban may be instituted at one of three points: against sale to consumers, against production for sale to consumers, or against introduction into commerce or distribution. Prohibition of sale to consumers would have the same net effect on a manufacturer as would prohibition of manufacture for sale, because a manufacturer would be unlikely to continue production of a product with no market. Therefore, the first two cases are considered together.

A ban on sale to consumers or manufacturer for sale to consumers would have the greatest effect on companies whose most important product is a sulfuric acid drain cleaner. This group includes San Teen.

A ban could have a lesser impact on those companies which produce or sell more than one product and for which retail acid drain cleaner is a small portion of the business. Such companies include Hercules.

Probably the least effect would be on those companies which sell to both retail and commercial markets. As the former outlet is closed off the latter could take up the slack. This group would include Action Chemical, Dyna-Mist, Galaxy, and Scotch.

Insufficient information was obtained to assess the impact of a ban on the remaining companies listed earlier as selling acid drain openers intended for the retail market (Table 7).

A ban against introduction into commerce would have a total cost impact dependent on the size of stockpiles in the distribution system including acid drain cleaners in producers and distributors inventories and on retailers' shelves. Insufficient data were obtained to make a direct cost estimate of stockpiles although limited interviews suggested

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+ 25  
= 304

some participants in the retail market have about an 8 to 10 months supply. A range of 3 to 12 months was reported. Battelle assumed about a 9 months supply is in the distribution system having a value of \$2.4 million (9/12 x \$3.2 million). Substantially more work would be required to confirm this estimate.

#### Effects on Sellers for Commercial Sale

It was concluded earlier that consumers can, in some cases, obtain sulfuric acid drain cleaners from commercial outlets, but that it is probably a minor distribution channel. If a ban is instituted, it is likely that consumer purchases from commercial outlets would increase despite the illegality of such sales.

#### Timing of a Ban

The interviewees were asked the effect of instituting a ban one, six, or twelve months after publication in the Federal Register. Participants in the commercial market generally indicated there would be little or no effect. Participants in the retail market generally indicated that the longer the time for readjustment, the better. From the interviews, a ban effective twelve months after publication would be likely to allow utilization of most of the product in the distribution system.

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ENVIRONMENTAL EFFECTS OF A BAN

There are four possible alternatives to disposal of existing stocks of sulfuric acid drain cleaners should a ban be instituted, each of which has minimal environmental impact.

- (1) Normal attrition of stocks through continuing sale to consumers. This would have the least environmental impact.
- (2) Collect stocks from hardware stores and redistribute to commercial purchasers. Stocks in warehouses could be sold directly to commercial users. This action would also have little impact on the environment.
- (3) Ask hardware store managers to dump (very carefully) existing stocks in sewer facilities. Most hardware stores visited during the project had five or fewer bottles on the shelf. Five quarts of acid in a relatively short time would probably have little effect on sewage treatment plants or the pH of streams because of the large dilution factor.
- (4) The most expensive alternative would also have little environmental effect. This would be to recall all the product in the distribution channels. If a six month's supply (a little over 200,000 quarts) were recalled, that amount of acid could be used industrially such as for a steel pickling plant. Bottles could be rinsed out and reused for a different product.

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NEISS SYSTEM A ESTIMATOR EQUATIONS

A report to the  
Division of Consumer Product Safety  
Bureau of Product Safety  
Food and Drug Administration  
PHS, DHEW

by

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November, 1971

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## NEISS SYSTEM A ESTIMATOR EQUATIONS

### 1. INTRODUCTION

Purpose. The purpose of this document is to portray the mathematical equations for national estimates of consumer product injuries, based on NEISS System A data.

The primary responsibility fo the Division of Consumer Product Safety is to protect the American consumer against unduly hazardous or potentially hazardous products used in and around the home or in recreational areas. To fulfill this responsibility the Division of Consumer Product Safety must first determine how many of such injuries occur, the severities of these injuries, and the types of products involved. The estimator equations permit national estimates of various items of interest, such as the number of injuries of a specific nature. These national estimates, in turn, may be used to provide program direction, such as:

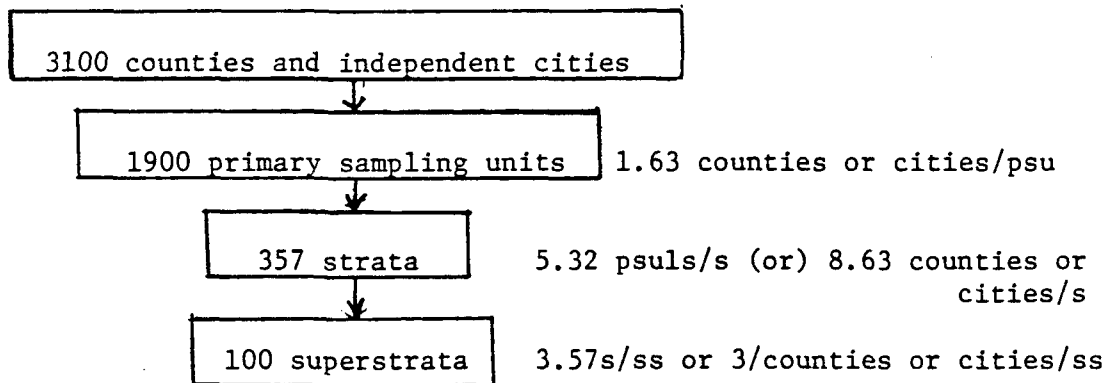
1. Identify the magnitudes of these injury problems.
2. Identify specific consumer products directly related to such injuries.
3. Suggest the need for standards, safety actions, or remedial actions.
4. Provide necessary data for evaluating the effectiveness of those items in 3, where action has been taken.
5. Assist in planning future improvements to the NEISS System A.

Background. The Division of Consumer Product Safety is currently implementing a National Electronic Injury Surveillance System (NEISS). The data collection of injuries by means of querying a probability sample of

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hospital emergency units is designated as System A within NEISS. The sampling plan used is similar to that for the Health Interview Survey (HIS), which itself is similar to that of the Current Population Survey (CPS)<sup>1</sup>.

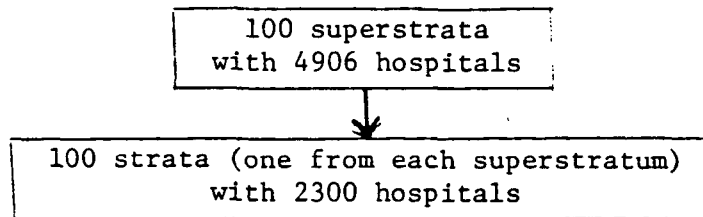
For sampling purposes the CPS constructed the following hierarchical structure for the United States: There are some 3100 counties and independent cities in the U.S. These were combined in various ways to form 1900 contiguous units called primary sampling units. These 1900 were subsequently combined to form 357 strata. Finally, the 357 strata were combined to form 100 superstrata. The sampling plan of the CPS (and also the HIS) is built around this hierarchical structure. A schematic representation of the structure is given below:



<sup>1</sup> U.S. Bureau of the Census: The Current Population Survey--  
A Report on Methodology. Technical Paper No. 7. Washington, D. C.  
U.S. Government Printing Office, 1963.

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Of the 4906 hospitals in the sampling frame, 2606 appear in the 257 strata eliminated by Stage I, and the remaining 2300 appear in the 100 strata determined by Stage I. Subsequent sampling (Stage II) is confined to sampling from these 2300 hospitals. A schematic presentation of Stage I is given below:



NEISS: Stage II. Stage II consists of sampling, from the 2300 hospitals determined by Stage I, the actual individual hospitals to be included in the survey.

A useful method of increasing the precision of injury estimates is to stratify the hospitals in the sample frame into homogeneous-units called strata. Then at least two hospitals are sampled from each stratum. For NEISS System A stratification was done on a geographical and hospital-size basis. This process yielded 39 strata internally homogeneous with regard to geographical location and hospital size.

The geographical portion of the stratification was done by combining the 100 strata determined by Stage I into 13 Blocks of approximately equal human population. The Blocks are relatively homogeneous geographically. Each Block is completely contained in one of the four regions of the U.S. (Northeast, North Central, South, or West).

The stratification by hospital-size was done by using the number of emergency room visits (ERV's) in 1968 across hospitals. To this end, the

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## 2. THE SAMPLING PLAN

The NEISS System A sampling frame consists of those hospitals in the U.S. which had emergency units in 1968, as determined by the American Hospital Association at that time. Long-term hospitals and federal penal hospitals are excluded from the frame. After these exclusions, there remain 4906 hospitals with emergency units, and it is from these 4906 that the sample of hospitals is to be drawn.

The sampling occurs in 2 stages. Stage I consists of selecting one stratum from each of the 100 superstrata. This yields 100 strata, and Stage II consists of sampling from within these 100 strata the actual individual hospitals to be included in the survey.

NEISS: Stage I. For each of the 100 superstrata, the stratum chosen to represent it by Stage I is selected at random on a population proportional basis. The probability of selecting a particular stratum within a superstratum is equal to

$$\frac{\text{human population* of the particular stratum.}}{\text{human population* of the superstratum}}$$

For example, if a superstratum consists of 3 strata whose populations are 1000, 2000, and 3000, then the probabilities that the first, second, or third of these would be selected to represent the superstratum would be  $1/6$ ,  $2/6$ , and  $3/6$ , respectively.

---

\* Human population is based on the 1960 U.S. Census

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The number of ERV's for each of the 2300 hospitals during 1968 was determined from existing records. When these were not reported the number of ERV's was estimated according to defined rules. Then the hospitals within each of the 13 Blocks were ranked by their determined number of 1968 ERV's. Next each Block was decomposed into Subblocks 1, 2, and 3 as follows:

For each Block, Subblock 1 for that Block was defined as the initial group of hospitals on the rank ordered listing accounting for 50% of the total number of ERV's within the Block. The group of hospitals accounting for the next 30% was denoted as Subblock 2. The group of smallest hospitals, accounting for the remaining 20%, was called Subblock 3. This process yielded the  $39=13 \times 3$  strata.

As an example of Subblock determinations, suppose a Block had 10 hospitals within it, as determined by Stage I, and the rank ordering of these hospitals by number of ERV's was as follows:

| Hospital     | H <sub>1</sub> | H <sub>2</sub> | H <sub>3</sub> | H <sub>4</sub> | H <sub>5</sub> | H <sub>6</sub> | H <sub>7</sub> | H <sub>8</sub> | H <sub>9</sub> | H <sub>10</sub> | Total |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| No. of ERV's | 10             | 8              | 7              | 6              | 5              | 4              | 4              | 3              | 2              | 1               | 50    |
| Subblock     | 1              |                |                | 2              |                |                | 3              |                |                |                 |       |

Subblock 1 consists of the largest hospitals accounting for 25 ERV's (50% of 50), Subblock 2 accounts for 15 ERV's (30% of 50), and Subblock 3 accounts for 10 (20% of 50).

The actual distribution of the 2300 hospitals determined in Stage I, by Block and Subblock, is given below (Table 1).

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TABLE 1

Distribution of the 2300 Hospitals determined in Stage I,  
by Block and Subblock

| Block | Subblock |     |      | Total |
|-------|----------|-----|------|-------|
|       | 1        | 2   | 3    |       |
| 1.    | 28       | 55  | 145  | 228   |
| 2.    | 38       | 51  | 110  | 199   |
| 3.    | 21       | 29  | 95   | 145   |
| 4.    | 32       | 56  | 130  | 218   |
| 5.    | 18       | 30  | 89   | 137   |
| 6.    | 19       | 27  | 119  | 165   |
| 7.    | 21       | 30  | 112  | 163   |
| 8.    | 16       | 22  | 63   | 101   |
| 9.    | 5        | 16  | 108  | 129   |
| 10.   | 16       | 33  | 111  | 160   |
| 11.   | 16       | 46  | 145  | 207   |
| 12.   | 27       | 56  | 174  | 257   |
| 13.   | 29       | 47  | 115  | 191   |
| Total | 286      | 498 | 1516 | 2300  |

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The 39 cells in Table 1 are the final strata used for NEISS System A.  
All estimates are based on these 39 strata.

It remains to determine the number of hospitals to be sampled within each stratum, and to specify the methods for selecting them. The sampling rates are, for each block, about 18% for Subblock 1, 7% for Subblock 2, and 2% for Subblock 3. Subblocks with larger hospitals are sampled at greater rates because the larger hospitals have more variation.

The total number of hospitals sampled is 119, and their distribution, by Block and Subblock, is given in Table 2.

The 5 hospitals shown in Table 2 for Subblock 1, Block 1, for instance, are randomly selected without replacement from the 28 hospitals for the same stratum in Table 1. Roughly speaking, the probabilities of selection are population proportional on a 1968 ERV basis.

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TABLE 2

Distribution of the 119 Hospitals sampled in Stage II,  
by Block and Subblock

| Block | Subblock |    |    | Total |
|-------|----------|----|----|-------|
|       | 1        | 2  | 3  |       |
| 1.    | 5        | 4  | 3  | 12    |
| 2.    | 6        | 3  | 2  | 11    |
| 3.    | 4        | 2  | 2  | 8     |
| 4.    | 5        | 4  | 3  | 12    |
| 5.    | 3        | 2  | 2  | 7     |
| 6.    | 3        | 2  | 3  | 8     |
| 7.    | 4        | 2  | 2  | 8     |
| 8.    | 3        | 2  | 2  | 7     |
| 9.    | 2        | 2  | 2  | 6     |
| 10.   | 3        | 2  | 2  | 7     |
| 11.   | 3        | 3  | 3  | 9     |
| 12.   | 5        | 4  | 4  | 13    |
| 13.   | 5        | 3  | 3  | 11    |
| Total | 51       | 35 | 33 | 119   |

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### 3. PROBABILITY CALCULATIONS

Data Required. Consider an arbitrary cell from the 39 cells in Table 2, and an arbitrary hospital,  $H_x$ , in that cell. A general expression will be derived for the probability,  $P(H_x)$ , that this hospital is included in the sample of 119 hospitals. This general expression may then be used, at least in theory, to calculate such probabilities for each of the 119 hospitals in the sample. To calculate  $P(H_x)$  we require:

- 1)  $s$ =the 1960 human population of the CPS Stratum containing  $H_x$ .
- 2)  $S$ =the 1960 human population of the CPS superstratum containing  $H_x$ .
- 3)  $m$ =the number of hospitals (Table 1) in the cell containing  $H_x$ .
- 4)  $r$ =the number of hospitals sampled (Table 2) in the cell containing  $H_x$ .
- 5) A rank ordering of the  $m$  hospitals by number of ERV's:  
Hospital:  $H_1, H_2, \dots, H_m$ .  
No. of ERV's:  $n_1 \geq n_2 \geq \dots \geq n_m$ .

Items 30, 40 and 50 are common to every hospital in the same cell of Table 2, but items 1) and 2) are not necessarily so.

Probability Formulas. With the above notation,  $r$  hospitals are randomly selected, without replacement, from the  $m$  hospitals in the cell, these  $m$  hospitals being determined by Stage I. The probability that  $H_x$  is selected is the product of a) the probability that the CPS stratum containing  $H_x$  is selected in Stage I, and b) the probability that  $H_x$  is selected as one of the  $r$  hospitals in Stage II, given that the CPS stratum containing  $H_x$  was selected in Stage I.

The probability in a) is simply  $s/S$ . For b),  $H_x$  can be selected first, second, ..., or last. Let  $p_1$  be the probability that  $H_x$  is selected first,  $p_2$  the probability  $H_x$  is selected second, etc. to  $p_r$  being the probability  $H_x$  is selected last. The probability for b) is then  $p_1 + p_2 + \dots + p_r$ , and thus

$$P(H_x) = \frac{s}{S} (p_1 + p_2 + \dots + p_r). \quad (0)$$

Let  $n = n_1 + n_2 + \dots + n_m$  be the total number of ERV's for the  $m$  hospitals in the cell. Then the probability that  $H_x$  is chosen first is  $p_1 = n_x/n$ . The probability that  $H_x$  is chosen second is

$$P = \sum^* P(n \text{ different hospital first}) P(H_x \text{ second, given the first hospital}),$$

where the  $*$  indicates the summation is to be done over all hospitals except  $H_x$ , since  $H_x$  is to be chosen second and sampling is done without replacement. Thus

$$p_2 = \sum \frac{n_i}{n} \frac{n_x}{n - n_i},$$

the summation being over the  $(m-1)$   $i$ 's different from  $x$ . This last equation may be rewritten as

$$p_2 = \frac{n_x}{n} \sum^* \frac{n_i}{n - n_i}$$

Similarly, the probability that  $H_x$  is chosen third is

$$p_3 = \frac{n_x}{n} \sum^* \frac{n_i}{n - n_i} \frac{n_j}{n - n_i - n_j}$$

the summation being over all  $i$  and  $j$  (from 1 to  $m$ ) for which  $i \neq x$ ,  $j \neq x$ , and  $i \neq j$ . Thus there are  $(m-1)(m-2)$  terms to be summed, no two of the indices  $i, j, x$  being equal in any term.

According to Table 2  $r$  is at most 6, so only  $p_1, p_2, \dots, p_6$  require mathematical expression. These formulas are:

$$p_1 = \frac{n_x}{n} \quad (1)$$

$$p_2 = \frac{n_x}{n} \sum_i^* \frac{n_i}{n-n_i} \quad (2)$$

$$p_3 = \frac{n_x}{n} \sum_{ij}^* \frac{n_i n_j}{(n-n_i)(n-n_i-n_j)} \quad (3)$$

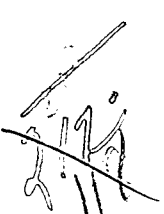
$$p_4 = \frac{n_x}{n} \sum_{ijk}^* \frac{n_i n_j n_k}{(n-n_i)(n-n_i-n_j)(n-n_i-n_j-n_k)} \quad (4)$$

$$p_5 = \frac{n_x}{n} \sum_{ijkl}^* \frac{n_i n_j n_k n_l}{(n-n_i)(n-n_i-n_j)(n-n_i-n_j-n_k)(n-n_i-n_j-n_k-n_l)} \quad (5)$$

$$p_6 = \frac{n_x}{n} \sum_{ijklt}^* \frac{n_i n_j n_k n_l n_t}{(n-n_i)(n-n_i-n_j)(n-n_i-n_j-n_k)(n-n_i-n_j-n_k-n_l)(n-n_i-n_j-n_k-n_l-n_t)} \quad (6)$$

each summation being over all possible permutations of the indices.

Thus  $p_1$  has 1 term,  $p_2$  has  $m-1$ ,  $p_3$  has  $(m-1)(m-2)$ ,  $p_4$  has  $(m-1)(m-2)(m-3)$ ,  $p_5$  has  $(m-1)(m-2)(m-3)(m-4)$ , and  $p_6$  has  $(m-1)(m-2)(m-3)(m-4)(m-5)$  terms. Equations (2) through (6) above hold for every cell of Table 2, regardless of what  $r$  is. For any particular cell of Table 2 though, where  $r$  hospitals are sampled, only  $p_1$  through  $p_r$  need be calculated, as per equation (0).

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Example. Suppose for simplicity that there are  $m=4$  hospitals in a certain cell, and  $r=3$  of them are to be sampled. Suppose the data for the 4 hospitals are as follows:

| Data  | Hospital |       |       |           |
|-------|----------|-------|-------|-----------|
|       | $H_1$    | $H_2$ | $H_3$ | $H_4$     |
| s     | 3        | 4     | 5     | 6         |
| S     | 10       | 20    | 30    | 40        |
| $n_i$ | 4        | 3     | 2     | 1, $n=10$ |

We shall find the probability,  $P(H_x)$ , that  $H_x$  is in the sample when  $x=4$ :

$$s/S = 6/40$$

$$P_1 = \frac{n_4}{n} = \frac{1}{10}$$

$$P_2 = \frac{n_4}{n} \left( \frac{n_1}{n-n_1} + \frac{n_2}{n-n_2} + \frac{n_3}{n-n_3} \right) = \frac{1}{10} \left( \frac{4}{6} + \frac{3}{7} + \frac{2}{8} \right) = \frac{113}{840} \sim 0.1345$$

$$P_3 = \frac{n_4}{n} \left[ \frac{n_1}{n-n_1} \left( \frac{n_2}{n-n_1-n_2} + \frac{n_3}{n-n_1-n_3} \right) + \frac{n_2}{n-n_2} \left( \frac{n_1}{n-n_2-n_1} + \frac{n_3}{n-n_2-n_3} \right) + \frac{n_3}{n-n_3} \left( \frac{n_1}{n-n_3-n_1} + \frac{n_2}{n-n_3-n_2} \right) \right]$$

$$= \frac{1}{10} \left[ \frac{4}{6} \left( \frac{3}{3} + \frac{2}{4} \right) + \frac{3}{7} \left( \frac{4}{3} + \frac{2}{5} \right) + \frac{2}{8} \left( \frac{4}{4} + \frac{3}{5} \right) \right] \sim 0.2143$$

$$P(H_x) = \frac{s}{S} (P_1 + P_2 + P_3) = \frac{6}{40} (0.1000 + 0.1345 + 0.2143) \sim 0.0673$$

296  $\frac{113}{119}$

Computer Calculations. The number of terms summed in the calculation of  $p_r$ , for a hospital  $H_x$  in a cell of Table 1 with  $m$  hospitals, is  $(m-1)(m-2) \dots (m-r+1)$ . This is the number of permutations of  $m-1$  things taken  $r-1$  at a time, and is approximately  $m$  to the power  $r-1$ . This number can be reduced by a factor of  $(r-1)(r-2) \dots 3 \cdot 2 \cdot 1$  by expressing formulas (1) through (6) as summations over combinations rather than permutations. The appropriate formulas, (1') through (6'), are given below, and their derivations appear in the appendix. A computer program was written to calculate  $p_1$  through  $p_r$  and this, together with a documentation for it, also appears in the appendix. The computer program was checked on a hypothetical cell of Table 2 where  $m=20$ ,  $r=6$ , and the numbers of ERV's for the 20 hospitals were in the ratios

$$1:2:3:4:\dots:18:19:20$$

A second check was done with  $m=20$  and  $r=6$  also, but with the hospital ERV's now in the ratios

$$21:22:23:24:\dots:38:39:40$$

The program was written in Fortran IV and ran on a Sigma Five digital computer. Total computation time for the two checks was slightly under one minute, or slightly under half a minute for each.

The biggest computational problems will occur in Block 2, Subblock 1 where  $m$  is about 40 and  $r$  is 6, and in Block 12, Subblock 3 where  $m$  is about 200 and  $r$  is 4. The first of these requires about  $40^5$ , or  $2^5$  times as many terms as the check run. Since  $2^5=32$  the probabilities for this cell can be calculated in about 15 minutes on a computer comparable to a Sigma Five. The second requires about  $200^3$ , or about twice as many terms as the check run, and should only take about one minute. All required probabilities can be calculated in an hour or two.

The combinatorial formulae for  $p_1$  through  $p_6$  are:

$$p_1 = n_x/n \quad (1')$$

$$p_2 = p_1 C_2 \quad (2')$$

$$p_3 = p_1 [C_3 - \binom{m-2}{1} C_2] \quad (3')$$

$$p_4 = p_1 [C_4 - \binom{m-3}{1} C_3 + \binom{m-2}{2} C_2] \quad (4')$$

$$p_5 = p_1 [C_5 - \binom{m-4}{1} C_4 + \binom{m-3}{2} C_3 - \binom{m-2}{3} C_2] \quad (5')$$

$$p_6 = p_1 [C_6 - \binom{m-5}{1} C_5 + \binom{m-4}{2} C_4 - \binom{m-3}{3} C_3 + \binom{m-2}{4} C_2] \quad (6')$$

where

$$\binom{a}{b} = \frac{a!}{b! (a-b)!}$$

and

$$C_{k+1} = \sum_{(i_1 \dots i_k)}^* \frac{n_{i_1} + \dots + n_{i_k}}{n - n_{i_1} - \dots - n_{i_k}} \quad (7)$$

the sum being over all  $\binom{m-1}{k}$  combinations of indices  $i_1, \dots, i_k$  taken from the first  $m$  integers but excluding  $x$ .

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#### 4. ESTIMATION

Notation. Let some characteristic of interest,  $C$ , be given. For example,  $C$  might be

$C$  = a male between 40 and 50 years of age  
going to a hospital emergency unit to  
obtain treatment for an accidental  
injury associated with a power lawn mower.

It is assumed that each ERV included in the sample can be classified as either having, or not having, the characteristic  $C$ . Let

$Y$  = total number of ERV's in the U.S. over  
a one year period which have the char-  
acteristic  $C$ .

$Y$  is the quantity to be estimated. Let

$h=1, \dots, 13$  denote Block subscript (Table 1);

$i=1, 2, 3$ , denote Subblock subscript (Table 1);

$j=1, \dots, r_{hi}$  denote sampled hospital within the  
( $hi$ )<sup>th</sup> cell of Table 1, where

$r_{hi}$  = number of hospitals sampled in the ( $hi$ )<sup>th</sup> cell  
(Table 2);

$n_{hij}$  = number of ERV's within the  $j$ <sup>th</sup> hospital of  
the ( $hi$ )<sup>th</sup> cell for the one year period in  
question;

$w_{hij}$  = reciprocal of the probability,  $(p_1 + \dots + p_{r_{hi}}) / S$ ,  
that the  $j$ <sup>th</sup> hospital of the ( $hi$ )<sup>th</sup> cell will  
be included in the sample;

$q_{hij}$  = reciprocal  $(1/p_1)$  of the probability,  $p_1$ , that  
this hospital was selected first for the ( $hi$ )<sup>th</sup>  
cell in Stage II.

Finally, let

$$y_{hijk} \begin{cases} 1, & \text{if the } k^{\text{th}} \text{ ERV for the } j^{\text{th}} \\ & \text{hospital of the } (hi)^{\text{th}} \text{ cell has} \\ & \text{the characteristic } C. \\ 0, & \text{if not.} \end{cases}$$

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The Estimator Equations. The number of ERV's having the characteristic C for the  $j^{\text{th}}$  hospital of the  $(hi)^{\text{th}}$  cell is

$$\hat{Y}_{hij} = \sum_{k=1}^{n_{hij}} Y_{hijk},$$

and the estimated number of ERV's with C for the  $(hi)^{\text{th}}$  cell is a weighted sum of these across the  $r_{hi}$  hospitals sampled in the cell, the weights being the reciprocals,  $w_{hij}$ :

$$\hat{Y}_{hi} = \sum_{j=1}^{r_{hi}} w_{hij} \hat{Y}_{hij}$$

Finally, the estimate  $\hat{Y}$  of Y is the sum of the  $\hat{Y}_{hi}$  over all cells:

$$\hat{Y} = \sum_{h=1}^{13} \sum_{i=1}^3 \hat{Y}_{hi}$$

Combining the last two equations, the estimate  $\hat{Y}$  of the total number of ERV's in the U.S. over a one year period which have the characteristic C is given by

$$\hat{Y} = \sum_{h=1}^{13} \sum_{i=1}^3 \sum_{j=1}^{r_{hi}} w_{hij} \hat{Y}_{hij}.$$

This is the equation for actual calculation of  $\hat{Y}$ . It is calculated from 2 sets of 119 numbers each. The first set,  $w_{hij}$ , consists of the reciprocals of the probabilities of selection for the hospitals. The second set,  $\hat{Y}_{hij}$ , consists of the total counts of ERV's having the characteristic C, by hospital.

Variance Estimation. Sampling of hospitals within a given cell is independent of sampling within other cells, so the variance of  $\hat{Y}$  is the sum of the variances of the  $\hat{Y}_{hi}$  across all 39 cells. The variance of  $\hat{Y}_{hi}$  depends only on between hospital variation within the  $(hi)^{\text{th}}$  cell. There is no within-hospital variation because sampling is complete within hospitals.

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The variation in the set  $q_{hij} \hat{Y}_{hij}$  may be expected to be less than the variation in the set  $\hat{Y}_{hij}$ , since if history repeats itself and the number of ERV's with C is proportional to the total 1968 ERV's for each hospital, the set  $c_{hij} \hat{Y}_{hij}$  will have zero variance. Thus

$$\text{var}(\hat{Y}_{hi}) = \text{var} \sum_{j=1}^{r_{hi}} \left( \frac{w_{hij}}{g_{hij}} \right) (g_{hij} \hat{Y}_{hij}) = \sum_{j=1}^{r_{hi}} \left( \frac{w_{hij}}{g_{hij}} \right)^2 \text{var}(g_{hij} \hat{Y}_{hij}),$$

Now let  $(V_{hi})^2$  be defined by

$$(V_{hi})^2 = \sum_{j=1}^{r_{hi}} \left( \frac{w_{hij}}{g_{hij}} \right)^2 \quad (9)$$

The variance of  $q_{hij} \hat{Y}_{hij}$  is estimated by

$$\text{var}(g_{hij} \hat{Y}_{hij}) = \frac{1}{r_{hi} - 1} \left[ \sum_{j=1}^{r_{hi}} (g_{hij} \hat{Y}_{hij})^2 - \frac{(\sum_{j=1}^{r_{hi}} g_{hij} \hat{Y}_{hij})^2}{r_{hi}} \right]$$

for each j. Combining the above equations, the variance of  $\hat{Y}$  is

$$\text{var}(\hat{Y}) = \sum_{h=1}^{13} \sum_{i=1}^3 \frac{(V_{hi})^2}{r_{hi} - 1} \left[ \sum_{j=1}^{r_{hi}} (g_{hij} \hat{Y}_{hij})^2 - \frac{(\sum_{j=1}^{r_{hi}} g_{hij} \hat{Y}_{hij})^2}{r_{hi}} \right] \quad (10)$$

Then, for example, 95% confidence limits for Y are given by

$$\hat{Y} \pm 1.96 \sqrt{\text{var}(\hat{Y})}. \quad (11)$$

The variance estimate is based on 3 sets of numbers:

39 of the  $(V_{hi})^2$ ,

119 of the  $q_{hij} \hat{Y}_{hij}$ ,

39 of the  $r_{hi}$ .

The  $(V_{hi})^2$  are constant whatever the characteristic C - only the  $\hat{Y}_{hij}$  change when C changes.

Regional estimates,  $\hat{Y}$  and  $\text{var}(\hat{Y})$ , can be obtained from equations (8) and (10) by summing only over the Blocks h contained in the region.

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## 5. APPENDIX

Derivation of Equations (1') through (6'). For what follows let

$$\left. \begin{aligned} N_i &= n - n_i, \quad N_{ij} = n - n_i - n_j, \quad \text{etc.}, \\ n_{ij} &= n_i + n_j, \quad n_{ijk} = n_i + n_j + n_k, \quad \text{etc.}, \end{aligned} \right\} (A1)$$

and let

$$T_2 = \sum_i^* \frac{n_i}{N_i}, \quad T_3 = \sum_{ij}^* \frac{n_i n_j}{N_i N_{ij}}, \quad T_4 = \sum_{ijk}^* \frac{n_i n_j n_k}{N_j N_{ij} N_{ijk}}, \quad \text{etc.}, \quad (A2)$$

where the sums are over all permutations of the indices excluding x.

Then from equations (A1), and (1) through (6),  $p_1 = n_x/n$  and

$$p_2 = \frac{n_x}{n} T_2, \quad p_3 = \frac{n_x}{n} T_3, \quad p_4 = \frac{n_x}{n} T_4, \quad \text{etc.} \quad (A3)$$

Next define

$$S_2 = \sum_i^* \frac{n_i}{N_i}, \quad S_3 = \sum_{ij}^* \frac{n_i}{N_{ij}}, \quad S_4 = \sum_{ijk}^* \frac{n_i}{N_{ijk}}, \quad \text{etc.}, \quad (A4)$$

Where the sums here are also over all permutations of the indices

excluding x. Finally, define

$$C_2 = \sum_i^{\circ} \frac{n_i}{N_i}, \quad C_3 = \sum_{ij}^{\circ} \frac{n_{ij}}{N_{ij}}, \quad C_4 = \sum_{ijk}^{\circ} \frac{n_{ijk}}{N_{ijk}}, \quad \text{etc.}, \quad (A5)$$

where now the sums are over all combinations of the indices excluding x,

as denoted by the circles above the summation signs. Denote by  $P_b^a$  the

number of permutations of a things taken b at a time:

$$P_b^a = a! / (a-b)!.$$

The derivation of (1') - (6') consists of showing that

$$\left. \begin{aligned} 0! T_2 &= S_2 \\ 1! T_3 &= S_3 - p_1^{m-2} S_2 \\ 2! T_4 &= S_4 - 2p_1^{m-3} S_3 + p_2^{m-2} S_2 \\ 3! T_5 &= S_5 - 3p_1^{m-4} S_4 + 3p_2^{m-3} S_3 - p_3^{m-2} S_2 \\ 4! T_6 &= S_6 - 4p_1^{m-5} S_5 + 6p_2^{m-4} S_4 - 4p_3^{m-3} S_3 + p_4^{m-2} S_2 \end{aligned} \right\} (A6)$$

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and showing that

$$S_k = (K-2)! C_k, \quad K=2, \dots, 6.$$

(A7)

Substituting (A6) in equations (A6), multiplying each side of the resulting equations by  $n_x/n$ , and using (A3) yields the desired equations (1') through (6').

The derivation of equations (A6) will be limited to showing that

$T_3 = S_3 - \frac{m-2}{1} S_2$ . The others are derived similarly. Thus, using the fact that  $\frac{a}{b(b-a)} = \frac{1}{b-a} - \frac{1}{b}$ , we get

$$\begin{aligned} T_3 &= \sum_{ij}^* \frac{n_i n_j}{N_i N_{ij}} = \sum_{ij}^* n_i \left( \frac{1}{N_{ij}} - \frac{1}{N_i} \right) = \sum_{ij}^* \frac{n_i}{N_{ij}} - \sum_{ij}^* \frac{n_i}{N_i} \\ &= S_2 - (m-2) \sum_{ij}^* \frac{n_i}{N_i} = S_3 - (m-2) S_2 = S_3 - \frac{m-2}{1} S_2. \end{aligned}$$

To show (A7) with  $K=4$ , for example, note that by symmetry

$$S_4 = \sum_{ijk}^* \frac{n_i}{N_{ijk}} = \sum_{ijk}^* \frac{n_j}{N_{ijk}} = \sum_{ijk}^* \frac{n_k}{N_{ijk}}$$

so that

$$3 S_4 = \sum_{ijk}^* \frac{n_{ijk}}{N_{ijk}},$$

and the sum is over all permutations of  $i, j, k$  excluding  $x$ . But for

fixed  $i, j, k$  the quantity  $n_{ijk}/N_{ijk}$  is invariant under the 3 permutations of

$i, j, k$ . Hence

$$3 S_4 = \sum_{ijk}^* \frac{n_{ijk}}{N_{ijk}} = 3! \sum_{ijk}^0 \frac{n_{ijk}}{N_{ijk}} = 3! C_4,$$

so that  $S_4 = (4-2)! C_4$ . The general case is similarly shown. This

completes the derivation of equations (1') through (6').

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Friday, June 6, 1980

Third Floor Hearing Room  
1111 18th Street, N.W.  
Washington, D.C.

The PUBLIC MEETING in the above-entitled matter  
commenced at 11:00 a.m., pursuant to notice, before:

BERT SIMSON, Director of the Office of  
Program Management, Chairman of the Meeting

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J.J.G.

C O N T E N T S

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P R O C E E D I N G S

MR. SIMSON: Good morning. I am Bert Simson, Director of the Office of Program Management of the Consumer Product Safety Commission. This meeting is being held at the request of Mr. Bob Steele, on behalf of several manufacturers of drain cleaners that utilize sulphuric acid. We are going to hear from several participants in the course of this one hour or so that we have set aside for this purpose.

I wanted to sort of give you the general background and the general thrust of how we generally conduct these meetings. This is a public meeting; it was announced in the public calendar. It's a meeting, as I said, requested by an outside party. We are going to allow, and make available, time for presentations of Mr. Steele and some other participants, and at the end of the presentations, we are also going to make available some time to other persons who may be in this room who would like to make a statement.

We will also reserve ourselves the option of allowing the staff to ask some questions, but we will not permit any cross-examination of staff members relating to data in previous briefing packages, et cetera, because that is simply not the purpose of this meeting.

Let me, just for those that may not be familiar with what we are talking about today, just give you chronology of events that has transpired since we received the petition

1 from the Hercules Chemical Company in October 1977, a petition  
2 which requested the Commission to issue a ban for products  
3 that contained sulphuric acid, sulphuric acid drain cleaners,  
4 directed for consumer use, differentiating it from professional  
5 use. And then, in December 1978, the Commission granted the  
6 petition and directed the staff to develop a proposed package,  
7 briefing package, containing a ban, a proposed ban, which the  
8 Commission would still have to act on, of course, once that  
9 gets before the Commission.

10 In December '79, the staff met with personnel from  
11 the Hercules Company, the petitioner, at the company's request,  
12 and at that meeting the company expressed some concern about  
13 slow action on the part of the Commission. And the staff, in  
14 return, requested some injury data from Hercules.

15 The rest of the chronology is known pretty much to  
16 all of us. We, in February this year, sent letters to nine  
17 manufacturers requesting injury data associated with the use  
18 of their products. We initially didn't get replies from many  
19 manufacturers, but then after sending out a second letter, we  
20 have now received responses from seven of the nine manufac-  
21 turers to whom the letter was sent; and we've also received,  
22 during the same time period, a request for this meeting. And  
23 that's the reason that we are here.

24 So, Mr. Steele if -- I'd like to do one other thing.  
25 Before we start the actual presentations, I'd like the members

1 of the Consumer Product Safety Commission staff to identify  
2 themselves, and then, after that, the other persons that are --  
3 in your company, Mr. Steele, to help the recorder in her job  
4 in recording the conversation.

5 I'm Bert Simson.

6 MS. WHITE: I'm Virginia White.

7 MR. SIMSON: CPSC.

8 MS. WHITE: Yes.

9 MS. ROTH: I'm Carol Roth, with the General Counsel's  
10 Office.

11 MR. MAROZZI: I'm Fred Marozzi, a pharmacologist  
12 with the Health Sciences Division.

13 MR. FELTES: Bernie Feltes, SanTeen Products.

14 MR. REMENESKI: Stan Remeneski, Chemical Services  
15 and Equipment.

16 MR. WHITLOCK: Jim Whitlock, Chemical Waste Removals.

17 MR. STEELE: Robert Steele, attorney for the  
18 Association of Chemical Producers.

19 MR. FELDMAN: Howard Feldman, Counsel, along with  
20 Mr. Steele, to the organization giving the presentation.

21 MR. SIEGEL: Jack Siegel, Scotch Manufacturing  
22 Company, Dallas.

23 MR. CARROLL: Malcolm Carroll, Carroll Company,  
24 Garland, Texas.

25 MR. BRYNIEN: Gene Brynien, Action Chemical,

1 Brooklyn, New York.

2 MR. VLAHAKIS: John Vlahakis, Venus Laboratories.

3 MR. SIMSON: Okay. Mr. Steele.

4 STATEMENT OF ROBERT J. STEELE, ON BEHALF OF  
5 ASSOCIATION OF CHEMICAL PRODUCERS

6 MR. STEELE: Thank you very much, Mr. Simson.

7 Let me just, very briefly, tell you that we have  
8 six companies now being represented as the Association of  
9 Chemical Producers, solely for the purpose of participating  
10 in these proceedings. The companies are as follows: Chemical  
11 Waste Removal, Instant Plumber, SanTeen Products, Rogo  
12 Chemical, Ruto Company, and Venus Laboratories.

13 We have gone through the introduction of the  
14 individuals involved here today, so that I'll dispense with  
15 that. Let me just say at the outset, too, that we deeply  
16 appreciate this opportunity. We recognize that the Commission  
17 is not under any legal mandate to provide this opportunity  
18 to us, and we feel that the fact that you have done so indi-  
19 cates your concern that the record have all the facts. And  
20 we are confident that the information that we will impart  
21 today will be very much worth your while.

22 Just in terms of setting forth an overall perspec-  
23 tive, before we get into the details of our companies and the  
24 reasons why we're here, let's start off by talking about the  
25 fact that the ban is, in the words of one of the staffers,

1 a radical regulatory action. It's the most extreme action  
2 that can be taken by authority of the Congress, and its  
3 purpose is, in those extraordinary cases where virtually no  
4 other product safety standard or other means available will  
5 eliminate unreasonable risks to consumers, a ban is authorized.

6         Setting forth that basic standard and knowing the  
7 sometimes confusing and vague term "reasonableness" which is  
8 what this hearing is all about, it's necessary for us to get  
9 as much information as possible to determine just exactly what  
10 is that magnitude of the risk involved with this product, and  
11 what is the economic impact of the ban. And those are the two  
12 issues that I'd like to get into today, along with my  
13 colleagues from the company and Mr. Howard Feldman from my  
14 office.

15         In terms of the reasonableness standard, what the  
16 Congress obviously intended and what the Commission has prac-  
17 ticed is to seek a sense of proportion, a sense of balance.  
18 We know that in virtually all consumer products there are  
19 going to be injuries from time to time. Some of the more  
20 innocent products which you would think, perhaps, you would  
21 have no injuries, if you take an in-depth investigation, you  
22 will find in some remote corners, perhaps, of the United  
23 States, or perhaps some isolated situations, injuries  
24 nevertheless.

25         For example, if you're going to be manufacturing

1 pens, very simple, everyone knows what it's for, easy to use,  
2 et cetera. Yet, anyone manufacturing a pen in interstate  
3 commerce knows that there are going to be accidents associated  
4 with something as simple as a pen. At some point, someone is  
5 going to swallow a pen, perhaps; someone is going to put it in  
6 his pants pocket and ruin a good suit, perhaps. And I use  
7 this only as an example to indicate that what we're striving  
8 to achieve is a sense of proportion, that we don't look simply  
9 at an injury without looking at the whole picture--what is the  
10 economic impact and how many, perhaps, millions of consumers  
11 are using a product safely and effectively every day.

12 With that in mind, I would like to go into the  
13 specifics of the data which we have been able to obtain  
14 concerning the proceedings which have already taken place,  
15 with respect to sulphuric acid drain cleaners. Going back  
16 to 1976, some very rough estimates were included in a product  
17 profile which was, basically, the sole basis of the Hercules  
18 petition. And those rough estimates apparently were based on  
19 an in-depth investigation of 70 or so cases, with about 18  
20 involving sulphuric acid.

21 That product profile came to the conclusion that it  
22 could be estimated that as much as 2200 injuries occur  
23 annually, as the result of the use of this product, 2200. Of  
24 course, it was admitted at that time, and still is, that there  
25 is no separate product code for sulphuric acid drain cleaners.

1 It's not that specific. The code goes only to drain cleaners  
2 in general and, unfortunately, it's left to the people at the  
3 Commission and persons such as ourselves, to try to sift  
4 through whatever sketchy data that does come in from hospital  
5 emergency rooms and try to make some sense out of this  
6 information.

7 Many of the assumptions underlying the product  
8 profile are obviously untested. In terms of the ability to  
9 project from a very, very minute sample, a nationwide injury  
10 estimate -- for example, one staffer has actually referred to  
11 the 1976 product profile estimates as simply a "guess," and  
12 I don't think that that is meant in a disparaging way at all.

13 I think what you're saying is, if it is a guess, it  
14 is a positive thing to at least recognize it as such. If  
15 that's the best we can do, fine; at least we can recognize it  
16 as a guess. But to ascribe more significance to a guess than  
17 that, I think, raises some serious questions, particularly  
18 when the economic impact data is also very sketchy.

19 Now in 1978, the Commission, in its efforts to  
20 update this information, came up with some injury reports from  
21 the NEISS system, based upon the 1977 analysis conducted by  
22 that group. As a result of that study, it was concluded that  
23 we could estimate 380 injuries nationwide through the use of  
24 sulphuric acid drain cleaner, a drop from 2200, the previous  
25 year, to 380, by the Commission's own estimates.

1 I think what that tells us immediately is that we're  
2 dealing with very, very sketchy information, at best. If you  
3 are going to have 80 percent drops in your estimates from year  
4 to year, that has to tell you that whether you are on the high  
5 side or the low side of those estimates that the degree of  
6 your liability has got to be a source of concern.

7 Again, proportions are the key. We can use sketchy  
8 information in its limited context and obviously the Com-  
9 mission is attempting, and so are we, to get more information,  
10 more up-to-date information, to try to make this information  
11 base more reliable, especially when we consider such a severe  
12 action as a ban.

13 Getting back to the 1977 NEISS survey. I think it  
14 is important to point out that aside from the fact that there  
15 is no separate product code for sulphuric acid, the assump-  
16 tions underlying these projections simply cannot be believed.  
17 There are several samples of one contained in the 1977 NEISS  
18 report. A sample of one obviously is fraught with  
19 infirmities statistically.

20 When you project, as the NEISS study in 1977 did,  
21 514 injuries nationwide, on the basis of one individual  
22 walking into one hospital emergency room somewhere in the  
23 country, reasonable people have got to say that that infor-  
24 mation cannot be relied upon solely or even substantially  
25 to support any kind of extreme action such as a ban. There

1 has got to be a more well-developed data base.

2 Now, obviously, the Commission has been making  
3 efforts in that regard. We have, in the short time period  
4 that we have been involved in these proceedings, attempted  
5 to compile information within our own companies to try to  
6 determine whether we can gauge from our own experience  
7 whether these estimates by NEISS and from other sources are,  
8 in fact, somewhat accurate.

9 What we have found is that based on our own actual  
10 operating statistics coming from actual company records that  
11 the estimates upon which previous actions were based are com-  
12 pletely erroneous. Now later, at the end of this presentation,  
13 we will submit an in-depth report to the Commission which  
14 you can read containing information from our own companies.  
15 My purpose here is only to summarize some of the major points  
16 along with representatives of the particular companies.

17 But let us say for the moment that we will bring  
18 out during the course of this presentation information from  
19 our own companies which will, I think, prove conclusively  
20 that many of the key underlying assumptions of the previous  
21 reports are simply false.

22 With that, I would like to talk briefly about the  
23 risk of injury in terms of the actual product itself,  
24 because it seems to us that many people not intimately  
25 familiar with the industry, not working with these companies,

1 perhaps do not have a full appreciation of the product and  
2 the actual risks or lack thereof to consumers.

3 I think sometimes a name alone can frighten some  
4 people. The idea of sulphuric acid to a novice I think,  
5 perhaps, gives rise to an impression of more danger than would  
6 be warranted if that person were more experienced in the use  
7 of this product.

8 I have a panel, Mr. Jack Siegel, Instant Plumber,  
9 who I would like now to ask to give us a five or ten-minute  
10 presentation on the actual use of this product for people who  
11 may not have had this first-hand experience with it. I can  
12 count myself among such people, having only witnessed his  
13 demonstration this morning myself for the first time.

14 I think it is important for those in a policy-making  
15 capacity to see first hand what this product will do, and  
16 most importantly, what it won't do. With that, Jack.

17 STATEMENT OF JACK SIEGEL, ON BEHALF OF  
18 INSTANT PLUMBER

19 MR. SIEGEL: We have a trap here that is the same  
20 size as a kitchen trap under your sink. It is glass so you  
21 can see it. Yours is metal. In the trap is water, always  
22 sitting in the trap under your sink. Now we are going to  
23 stop this trap up. We are going to put hair, we are going  
24 to put paper towels, we are going to put some cigarette  
25 filters. We could put chicken bones or tea bags, apple cores,

1 anything organic would be in the drain, grease, which is the  
2 main cause of stoppages, some more peper. Now that drain  
3 has these organic items in there. Whoops, I forgot a bath  
4 towel. A bath towel is in the drain. Okay.

5 We take acid drain opener. The drain has these  
6 organic items in there. If someone would like to feel this  
7 trap. Now if you will notice, it just went into the trap.  
8 Would someone like to feel the heat.

9 MS. WHITE: What concentration acid is that?

10 MR. SIEGEL: Oh, 94 percent, 96, 98. Jim, what is  
11 the concentration, 96 percent?

12 MR. WHITLOCK: Basically, your chemical is 93 percent,  
13 with the inhibitor thing.

14 MR. SIEGEL: With inhibitors. We didn't splatter,  
15 we didn't spit. We are heatin up, and the reason we are  
16 heating up is to release this grease or chicken fat. It  
17 takes heat in a drain to open a drain. So we wait five  
18 minutes, we are going to rush this up, because the heat is  
19 dissolving the grease and the hair and you can't get hair out  
20 of a trap unless you get heat in there. It won't open up  
21 without heat. The paper and the rags dissolve by the  
22 chemical. So it is in there and it is there.

23 Now, we still wait five minutes to turn the water  
24 on, I have to pour the water on, and this is water. This is  
25 Dallas water. So the trap has to set about five minutes, we

1 say on the bottle. Now we flush it out. So we turn the water  
2 on. I can't do it here, so I've got to pour it in there, and  
3 we flush out the fat and the drain is open. Now we didn't  
4 splatter, we didn't spit. Is that enough?

5 MR. STEELE: What about the other matter that you  
6 brought to my attention this morning.

7 MR. SIEGEL: Oh, okay.

8 MR. STEELE: I think many people have the  
9 misimpression that--

10 MR. SIEGEL: A lot of you have a misconception on  
11 the product. I got some in the cap here, in the cap. Now  
12 I've got it on my fingers. It's greasy. It feels like  
13 grease. Directions on all our bottles, everybody that makes  
14 this, says when you get it on your finger, wash it off, so  
15 I'm going to wash it off. This is water again, I'm going to  
16 wash it off. That is acid drain opener.

17 MR. STEELE: Thank you very much, Jack. The point  
18 of that demonstration is obviously that if there is anyone  
19 under the misconception that just simply spilling this item  
20 on your hand will result in severe injury, I think we can  
21 quickly put that to rest.

22 Getting back to the available data concerning the  
23 risk of injury and the actual injury reports. As I said  
24 before, we collected information from our own companies to  
25 see if we can get some kind of a composite of what is

1 happening in the industry. And I asked the companies which  
2 I represent to send me information concerning the number of  
3 injuries that they have had reported to their company by any  
4 means, consumers, other companies, using their products, the  
5 number of injury reports that they have gotten.

6 Now, this is not property damage, this is simply  
7 personal injury reports received by our companies during the  
8 period 1975 through 1979. And I also asked these companies  
9 to provide me with information as to the number of units  
10 sold during that same period. When I say units, I mean the  
11 bottle of the liquid involved, whether that be pint or  
12 half-gallon, gallon size.

13 Then we estimated the number of consumer applica-  
14 tion of each company's product during that same period. Based  
15 upon an average of four consumer applications per quart, and  
16 that is certainly a most conservative estimate. That assumes  
17 that a consumer will be using eight full ounces for each  
18 application, which is very high. But we want to have a con-  
19 servative estimate just to show you the magnitude of the  
20 uses safely effected by these companies' products.

21 It is safe to assume that many consumers would get  
22 one application for four ounces, so that you could double  
23 these application figures and still be well within the bounds  
24 of reason. Be that as it may, based on four applications  
25 per quart, our data suggests that we have received 37 injury

1 reports from these companies over the period 1975 to 1979.  
2 And during that same period, the units sold were 6,550,000.  
3 And based upon four applications by consumers per quart and  
4 adjusting in those cases where they are sold by the half-  
5 gallon, gallon or pint, we estimate the number of applications  
6 during that period to be 29,460,000. So you are getting 37  
7 injury complaints for almost 30 million uses. You are  
8 getting 37 injury complaints with what we know as six-and-a-  
9 half million bottles sold to consumers. This is strictly in  
10 the consumer market.

11 Now, we don't purport to have gone out to every  
12 consumer that ever purchased this product and attempted an  
13 exhaustive nationwide study of every company producing this  
14 product. But we can tell you with assurance that on these  
15 companies, the risk of injury to consumers as demonstrated  
16 by our company records, is remote.

17 With that, I would like to get into the second  
18 major issue, which was addressed in colloquy, and that is  
19 economic impact, the impact on both consumers and on the  
20 industry. Let's start with the impact on consumers first.

21 I have two gentlemen here who will assist me in  
22 this discussion. The first person is Mr. Stan Remeneski. He  
23 is a highly qualified chemist, quite familiar with this field.  
24 He will give you a little more of his background at a later  
25 point. And Mr. Bernie Feltes, who is representing

1 SanTeen Products.

2 In the first place, by eliminating virtually all  
3 consumer choice, you are shutting off this viable means of  
4 eliminating many consumer products. Both the Battell report  
5 and other studies have clearly acknowledged that there are  
6 many situations which simply cannot be rectified by any other  
7 type of cleaner other than sulfuric acid drain cleaners.

8 Now, aside from the fact that in many cases con-  
9 sumers will not have any alternative in those situations,  
10 there are obviously times when even if you assume in a  
11 laboratory that sulphuric acid drain cleaner and another drain  
12 cleaner would work to an equal degree of effectiveness. To  
13 say that the other drain cleaner should be used in those  
14 circumstances and not the sulphuric acid, is to have missed  
15 the point. The point is the consumers rely upon this pro-  
16 duct and buy it millions of times a year because they know  
17 that this product will work the first time, not only in those  
18 cases where it is the only product that will work, but also  
19 in those cases where perhaps others would work, but they  
20 don't want to waste a lot of time and effort on a hit or miss  
21 basis with products that they have had a lack of success with  
22 in the past. And that is just basic consumer behavior which  
23 I think we must all recognize and understand.

24 So we are not just talking about the universal ways  
25 consumer application where only sulphuric acid will work.

1 We are talking about a whole range of problems for which this  
2 will work effectively, regardless of whether others will work  
3 as well at the same time.

4 I would like to ask Mr. Remeneski to briefly  
5 discuss the more technical perspective. This question of  
6 the effectiveness of alkaline drain cleaners and other types  
7 of drain cleaners as compared to sulphuric acid. Perhaps  
8 he can explain to us in hopefully not too technical terms  
9 the reasons why sulphuric acid is more effective in many,  
10 many cases. Stan?

11 STATEMENT OF STAN REMENESKI, CHEMICAL SERVICES  
12 AND EQUIPMENT

13 MR. REMENESKI: Well, first of all, my background  
14 is this. I'm an analytical chemist by training. I graduated  
15 from the School of Chemistry, Institute of Technology,  
16 University of Minnesota. I have been in the chemical field  
17 for 35 years. I worked as an analytical chemist for the  
18 Minnesota State Board of Health. I've been a Professor of  
19 Chemistry at Oxford College in Minneapolis, and also Acting  
20 Head of the Chemistry Department. I have been a chemical  
21 purchasing agent for research and development for Minnesota  
22 Mining and Manufacturing Company. I have been in chemical  
23 sales for Mathieson Chemical. I have been in the metal  
24 finishing field calling on industry in the electroplating,  
25 anodizing, etc., areas. I have called on a lot of

1 industrial, many industrial plants in Minnesota, Iowa,  
2 Wisconsin. I have a lot of experience with water, water  
3 scale. And over those 35 years, I would say that the times  
4 I run into sulphuric acid and caustic formulations for  
5 removing scale, removing objects that are entrapped in pipes,  
6 etc.

7 I have found that in most cases, sulphuric acid is  
8 much more effective. And without getting too technical, I  
9 would just like to briefly give you a little bit of back-  
10 ground on the capabilities of the qualities, the actions of  
11 sulphuric acid and caustic soda.

12 First of all sulphuric acid acts in three different  
13 ways. Sulphuric is a strong, number one, it is a strong  
14 dehydrating agent. It will take water, other organic  
15 materials. Organic materials contain hydrogen, oxygen, carbon.  
16 They contain hydrogen and oxygen, many of them in a propor-  
17 tion almost the same as it is in water. So the sulphuric  
18 acid will extract water from these organic materials,  
19 degrading them.

20 As you saw in the demonstration there, the paper,  
21 the rag, the dish towel, whatever you had there, that is  
22 cellulose, so the sulphuric acid will remove water from such  
23 articles as rags, paper toweling, cotton articles of clothing,  
24 it will even take it out of wood, wood fibers, roots in  
25 the drain field. So that is one way that sulphuric acts,

1 by dehydrating.

2 Another quality of sulphuric acid, sulphuric acid  
3 is a strong oxidizing agent, so it will attack organic  
4 materials by cutting down the length of the carbon chain,  
5 and therefore, the material ends up being degraded. You  
6 get smaller molecules which are more easily soluablized, and  
7 to a certain extent with some materials, you will actually  
8 get carbon dioxide gas coming off. So number two, sulphuric  
9 acid acts as an oxidizing material. It will oxidize away  
10 organic materials.

11 Number three, sulphuric acid is an acid, like it  
12 says. It has hydrogen ions in it and that is what makes the  
13 acid effective, makes it act as an acid. Well, because it is  
14 an acid, it will react with inorganic materials, such as  
15 limestone, rust, which is iron oxide, it will dissolve that.  
16 It will even take materials like phosphates, tricalcium  
17 phosphate and render it by its action into a soluble, acid  
18 calcium phosphate, which will dissolve.

19 Now, when we consider caustic soda, and by the way,  
20 as you saw there the demonstration, when you put sulphuric  
21 acid in water, it heats up. So we know that usually hot  
22 water is more active in soluablizing or dissolving materials  
23 than cold water. So when you put sulphuric acid into water,  
24 you get a lot of heat and materials get soluablized because  
25 of the heat.

1 Now, as far as caustic soda is concerned, it  
2 usually acts only in one way. Caustic soda is a strong  
3 alkali. It reacts with fats and greases and makes a soap  
4 out of them. All right. We all know that soap will dissolve,  
5 but when soap forms, normally, especially with caustic soda,  
6 which is sodium hydroxide, we form a solid soap. A lot of  
7 times that solid soap, even though it forms, will stay in the  
8 pipe. A more efficient type of caustic cleaner would actually  
9 be one made from caustic potash, which is potassium hydroxide.  
10 But that gives you a lot more heat when you dissolve it and it  
11 is more dangerous to you.

12 But basically, either caustic soda or caustic potash  
13 do one thing, they react with fats and greases and form a  
14 soap.

15 Now, I would just like to make one comment about the  
16 caustic preparation versus acid from a safety standpoint.  
17 They are all dangerous, of course. When I was working for  
18 the Board of Health, I walked into the library one day and  
19 I was reading a book, and it said everything is dangerous,  
20 even water. You can drown in it. If you are not careful,  
21 even water is dangerous. So you have to use all of these  
22 products with some common sense.

23 But one thing about caustic soda from a safety  
24 standpoint, if you should get some in your eye or on your  
25 skin, so you rush over to the water and try to wipe it off,

1 wash it off. It is hard to wash off, very slimy. Acid,  
2 sulphuric acid, you get that on your hand, like he demon-  
3 strated over there, he left it on for several minutes before  
4 he washed it off. Of course, it came off. Acid will rinse  
5 off much more easily than alkalies. So from a safety stand-  
6 point, I feel that the caustic is more dangerous than the  
7 acid.

8 MR.STEELE: Thank you, Stan. Mr. Feltes, I would  
9 like to ask you to show us what you've got. This, I think,  
10 is a vivid example of exactly what we are talking about when  
11 we say that there are some things that simply cannot be  
12 effectively eliminated without sulphuric acid.

13 STATEMENT OF BERNIE FELTES, SANTEEN PRODUCTS

14 MR. FELTES: This is an example of one type of  
15 drain stoppage that Stan was mentioning, that is lime. And  
16 I will tell you how I happened to come in contact with it.  
17 The plumber had been called out to take care of a drain  
18 stoppage. Roto Rooter had been originally called out on it  
19 and they had given up because they couldn't get the snakes  
20 through the drain. This was the floor drain in a house.

21 Now, the plumber went out, and knowing that  
22 Roto Rooter couldn't open the drain, they went out and dug  
23 the floor up, took the pipe out, replaced it and then came  
24 back to the shop, cut the pipe to find out what was stopping  
25 it and came down to this. i want to pass that around. It is

1 a golf ball that had lodged in a half-closed pipe with, the  
2 pipe was closed with lime. And the golf ball is laying in  
3 there because it can't get through.

4 Now, the caustic type of drain cleaner would not  
5 dissolve that lime, but our sulphuric drain cleaner would go  
6 in there and dissolve the lime, thereby letting the golf ball  
7 go through. But this was probably \$500, \$600 plumbing bill  
8 on this job to take that pipe out and then recement the floor.

9 MR. STEELE: The damage to the golf ball was  
10 inflicted by the Roto Rooter.

11 MR. FELTES: That's right. The Roto Rooter there  
12 grooved the golf ball. It kept bouncing. The end of a  
13 snake has got a little wand there and that kept bouncing off  
14 of the golf ball and they had to quit because they couldn't  
15 drive it through.

16 MR. REMENESKI: While you are looking at that, I would  
17 like to make a comment about lime. One of the biggest  
18 problems we have when we are dealing with water is the forma-  
19 tion of scale, which is essentially lime. And the only really  
20 effective way of removing that scale is with an acid. I've  
21 done a fair amount of work with boilers, steam boilers, water  
22 boilers, and I don't know if any of you are familiar with  
23 that. But generally what they do in boiler maintenance, they  
24 actually add alkaline products to the water, to the boiler  
25 feed water to keep it from scaling up. And even then after

1 a couple, three, four, five years, sometimes less, the boiler  
2 will scale up. What do they use to clean it out? Acid.  
3 Here actually the alkali is contributing to the formation of  
4 the scale. If you want to get that boiler clean, you have  
5 got to use acid to clean it out.

6 MR. WHITLOCK: Because all water contains the  
7 minerals, whether it is in Texas or Washington or Lake  
8 Michigan. All waters have minerals that collect in the pipes.

9 MR. STEELE: An example such as this shows that  
10 obviously sulphuric acid would be a great help to a con-  
11 sumer. The question is what are the alternatives that would  
12 be available to the consumer, and I think that point has been  
13 amply made that in this case there are none. But some of the  
14 alternatives that have been suggested in the past were  
15 raised in the Battell Report and then quickly dismissed by  
16 the Battell Report. Let me just go through a few of those.

17 Battell indicates that one type of alternative  
18 might be the aerosol products. However, Battell notes:  
19 "Several retailers of these products indicated little faith  
20 in their effectiveness." Plungers, also known as plumbers  
21 friends, range from only a dollar to three dollars. Battell  
22 says of plumbers, "Sellers of these products often say that  
23 they would be ineffective as replacements for sulphuric acid  
24 drain cleaners.

25 They suggest mechanical devices, such as the

1 patented drain cleaner. Except then Battell goes on to say,  
2 "One hardware store manager volunteered the opinion that this  
3 device would not work adequately to remove celluoussic  
4 stoppages."

5 They say that a wide variety of sizes of hand  
6 powered snakes are available. But in this case, obviously  
7 even Rotor Rooter couldn't get the golf ball out and I  
8 wouldn't want my Aunt Bertha going with a high-powered drain  
9 cleaner, a mechanical device, and attempting to fix her own  
10 plumbing. That is why Battell says, "Only some sellers  
11 thought these devices would work and then only if the con-  
12 sumer followed directions very carefully."

13 So the list of alternatives, the mechanical  
14 devices and what not, are slim at best. So basically, the  
15 Battell Report and other reports through the Commission have  
16 suggested that the the alternative to the consumer is pro-  
17 fessional plumbing services. In the 1976 product profile,  
18 that is exactly what the Commission said.

19 Now, let's see how viable that alternative is.  
20 Well, for one thing is the obvious factor of cost. The  
21 Battell Report assumes, for the purpose of its analysis, that  
22 everyone is middle or upper middle class and easily able to  
23 afford a plumber. I think it also assumes that if you call  
24 a plumber, one is readily available at any time day or night.  
25 I think all of us in this room can safely assume that those

1 assumptions are not valid. For one thing, the Battell  
2 Report's estimate of a \$30 charge, and granted that report  
3 was some time ago, is completely inaccurate in view of today's  
4 conditions.

5 I have before me an article from a magazine called  
6 "Hardware Merchandiser", April of this year. I just quote  
7 two sentences from that article: "The cost of a plumber has  
8 risen astronomically. A recent example, a Chicago homeowner  
9 has dripping shower, calls a plumber who comes and installs  
10 new springs and washers from a packaged kit sold at retail.  
11 Time to do the job, 10 minutes. Cost, \$42." And then the  
12 article goes on to say that this is not an unusual example.

13 Many times, even when consumers can afford a  
14 plumber, the plumber is only going to come in and pour their  
15 products down the drain and clear it. The plumber is not  
16 going to come in with alkaline drain cleaners. They are  
17 going to come in with SanTeen's produce or Instant Plumber.  
18 That is what they use. So the consumer, for his or her  
19 \$75, is going to have an individual come in and pour down the  
20 drain what he or she could have purchased for \$3 at retail.  
21 I think that that point should not be overlooked.

22 I think when looking at the Battell Report, it is  
23 important to update with it with information that is readily  
24 available, such as has been shown today.

25 Assuming that not everyone in this country is

1 middle class or upper middle class and cannot drop \$75 to a  
2 plumber to come and clear a drain, many people are obviously  
3 going to be without any alternatives. That apparently is an  
4 uncomfortable thought for a lot of people, but it has also  
5 been glossed over by virtually every report that we have seen.  
6 If a consumer cannot afford a plumber and if these mechanical  
7 devices do not work, that consumer has only one remaining  
8 alternative, and that is self-help of some sort.

9 And what you are going to find, you are going to  
10 find thousands of consumers, novices, going downstairs and  
11 tampering with the plumbing, trying to do a job that a plumber  
12 perhaps could do, but which they are forced to attempt to do  
13 because they just don't have the funds to get a plumber. And  
14 we know that to be true and no one has come up with any kind  
15 of alternative to that situation. No one has tried to  
16 measure the true social costs involved with that situation,  
17 the cost of having people injure themselves, the cost of  
18 having people spend endless hours of frustration, perhaps  
19 without success, trying to take on a job that they are  
20 clearly not qualified to perform.

21 Those social costs should be and must be included  
22 in our estimates if the true impact of a ban is to be known.

23 Now, I would like to address in the closing portion  
24 of this presentation, the economic impact on the industry  
25 itself. Speaking as a representative of these six companies,

1 let me say that when I made comments regarding the Battell  
2 Report, or any of these other reports that I have noted, we  
3 recognize that they were performed in severe time and  
4 budgetary constraints, as Battell readily admits. And that  
5 serves to explain, perhaps, why their data is perhaps  
6 clearly erroneous and incomplete. But the fact that that  
7 serves to explain it doesn't justify using that information,  
8 especially in the context of such an extreme action as a ban.

9 For example, the Battell Report estimated, admittedly  
10 admittedly without looking at any small regional or local  
11 firms because they just didn't have the time or the money to  
12 do that. But from there, sketchy interviews by phone, what  
13 have you, they came up with an estimate that 20 people were  
14 involved in the production of sulphuric acid drain cleaner  
15 for consumer use in this country.

16 And I am here to tell you that Instant Plumber's  
17 operation involves 22 people in the production of sulphuric  
18 acid drain cleaner for consumer use by one company.

19 I am trying to get a sense of scale here to indi-  
20 cate how grossly inaccurate some of these underlying key  
21 assumptions really are. The Battell Report estimates that  
22 six or seven companies, perhaps, are producing this product  
23 for consumer use. I am representing six of them today and  
24 everyone here is pretty much assured that we do not represent  
25 the entire universe of producers of this product for consumer

1 use. The total sales volume for sulphuric acid drain  
2 cleaners in consumer use is \$3.2 million.

3 There are several assumptions underlying that  
4 figure, each of which is untested. For example, Battell came  
5 up with an estimate that only 20 percent of hardware stores  
6 in this country actually sell the product. Battell took a  
7 guess at how many hardware stores there are in this country.  
8 Well, appended to the statement that we are providing today  
9 will be an actual state-by-state count by an independent  
10 organization of the exact number of hardware stores in this  
11 country. Even taking the rest of Battell's assumptions to be  
12 totally accurate, which we obviously do not do, just for  
13 comparative purposes, we find that given the actual number of  
14 hardware stores selling this and based on Battell's assump-  
15 tions, that the annual sales volume would be at least  
16 \$8 million, bare minimum, \$8 million based on Battell's own  
17 estimates.

18 Obviously, we question the other assumptions under-  
19 lying that estimate and we conclude based on our own informa-  
20 tion that the annual sales volume for sulphuric acid drain  
21 cleaner to consumers is \$15 million. Perhaps if most, if  
22 more studies are conducted, we will find that that is even  
23 a conservative estimate.

24 The last point I would like to make about the  
25 Battell Report is this. I think in reading that report that

1 many of its assumptions were based upon persons and companies  
2 living in the land of Oz. In the land of Oz, every producer  
3 of this product is large and diversified, you see, so that  
4 when you knock out the entire consumer market, the impact is  
5 negligible on any one company, because every company is so  
6 large and diversified that it can withstand this loss and  
7 hardly even notice it.

8 Back here on earth, the companies that I represent,  
9 every one of the companies that are members of the Association  
10 of Chemical Producers would go out of business if this ban  
11 was issued. In many cases, the consumer line represents  
12 95 percent or more of their entire business. Even in those  
13 cases where a company may be slightly diversified in other  
14 areas, the revenues generated by the consumer line for this  
15 product far surpass their other divisions.

16 So what I am telling you is that Instant Plumber,  
17 which by comparison to other companies within this room, is  
18 a fairly large concern. Scotch Manufacturing Company would  
19 lose that division if a ban goes into effect.

20 Jim Whitlock to my right owns a small business in  
21 Kentucky, Chemical Waste Removal. Jim, I'd like you to  
22 explain to the folks here what this proposal means to you and  
23 your business and perhaps a little bit of your own company  
24 operations.  
25

## 1 STATEMENT OF JIM WHITLOCK, CHEMICAL WASTE REMOVAL

2 MR. WHITLOCK: My name is Jim Whitlock. I am  
3 president of Chemical Waste Removal, Inc. That is sort of  
4 like a boyhood dream that I've had to sit here and say that  
5 statement. You know it is quite awesome to come to the  
6 Nation's capital to do the many things like sightseeing,  
7 which I brought my son, Jimbo. But it is completely awesome to  
8 come before an agency of the Federal Government and present  
9 what is going on here today and try to make the realistic,  
10 professional presentation.

11 Let me just stop briefly and give you a little  
12 personal profile. Bob said talk to you about yourself a  
13 little bit. You know, that is probably the easiest thing  
14 for all of us to do, to talk about ourselves. But basically,  
15 I was born and raised in the Midwestern town called Oak Park,  
16 Illinois, which is a suburb of the City of Chigao. I went  
17 to high school and I went to the Western Michigan University  
18 in Kalamazoo, Michigan for four years. I got out of college  
19 and had my business degree and I went in the United States  
20 Army for two years, like many of us did, and served 15 months  
21 in Korea and came home.

22 I went back to Michigan and met a lovely girl and  
23 married her. You know, I am all-American. I think I am.  
24 I am apple pie, hot dogs and Chevrolet cars, okay. And I  
25 kept going down this road of opportunity looking for the

335  
212

1 big apple. I had a lovely daughter and I had a lovely son,  
2 and I went to work for Kaiser Aluminum and Chemical Company  
3 in Chicago in the Palmolive Building and I was really rolling  
4 at \$350 a month, company car and expense account. My dad  
5 shuddered at it. We were depression, I was a depression  
6 generation, and dad said I never heard of a guy getting a  
7 company car. I rode the streetcars.

8 Well, I worked there three years and I terminated  
9 myself and I went to work for Olin Mathieson Chemical Corpora-  
10 tion and I worked in the corporate structure for 10 years and  
11 loved it, and getting a lot of insight and education. I  
12 was doing so well they transferred me to Louisville, Kentucky,  
13 and I've been there 20 years. And during the course of that,  
14 I got disenchanted with the opportunity and the future, and  
15 I terminated. Now, my wife thinks I can't hold a job. But  
16 anyway, it was all because of an internal unrest that I had  
17 inside that I wanted to keep on ahead and see what all this  
18 talent bundled up in me could do.

19 So I went, and of all things, as a minor partner,  
20 minor because of lack of money, in an automobile business,  
21 and stayed there eight years, of which it wasn't too bad.  
22 It involved Volkswagens. Well, this went along for a while  
23 until I was down to 155 pounds and working eight hours,  
24 seven, eight days a week. I went to seeing this young man  
25 sitting behind me often enough and I wanted to give him a shot

1 at life that could be worthwhile. So I terminated.

2 Well, I walked and went to CPA's and attorneys, but  
3 I came and told my wife I terminate again, and she was  
4 getting, you know, wonderment about all this. And I went  
5 to CPA, I said somewhere out there, there has to be a business  
6 where I don't rub all the principals wrong and I can mess it  
7 up or do something wrong or make something out of it.

8 At church one day, they mentioned an individual  
9 68 years old that conceivably he is worn out enough and he  
10 might think about selling me his business. So I went over  
11 there cold, sat down, talked to him. We went for two or  
12 three months in the truck to see what he did and I was getting  
13 involved with, asked me one day if I would be interested in  
14 buying it, and I said yes.

15 Well, this was a statement that required a lot of  
16 thought because I knew I was becoming involved with a lot of  
17 liability. But I went to the bank with no credit, of course,  
18 and minimum collateral, and asked for the money to buy the  
19 business. Well, I had to reach outside my own means to my  
20 86 year old father, for collateral, in which I put the deal  
21 together.

22 MR. STEELE: This is Chemical Waste?

23 MR. WHITLOCK: This is Chemical Waste Removal  
24 Incorporated, which is a product called Liquid Fire. All  
25 these fellows are getting advertisement but me, Plumber and

1 Santeen, Liquid Fire. Now I was in a corporation, right.  
2 Sounds good. We pursued this thing for four years with all  
3 the ups and downs of businesses, all the fears that I have  
4 coming to Washington before a government agency to plead my  
5 case. I just went next door two or three months ago, and  
6 they said the building is for sale, a butler, beautiful  
7 five-year old building for sale, two back end ramps for  
8 semi-truck loading and unloading. You know, I dreaming, but  
9 they said, listen to this, there is a nine-and-a-half percent  
10 mortgage you can assume. I think that is the best reason to  
11 buy the place.

12 So I go back in hock again, and then I am in what  
13 I am into today. Well, I am getting to the point where I  
14 get a little bit nervous, but I have such a strong belief in  
15 the democratic process, in the system that I am involved  
16 with, that I am talking to you from the heart. I have no  
17 fear of being here because and I brought my son to witness it,  
18 I want him to see the great American people all trying to get  
19 a job done.

20 MR. STEELE: Jim, what percentage of your sales  
21 go to consumers?

22 MR. WHITLOCK: My percentage of sales, and whole  
23 business is built on the hardware distribution trade. So you  
24 are talking about 98 percent of our sales. I am not even in  
25 the industrial institution of janitorial supply marketing end.

1 I would take years for me to get into that market which is  
2 all captured and a part of the market that is being presented  
3 here by different organizations, not our group, but maybe  
4 even Hercules Chemical, is strong in that market, not me.  
5 I mean I can't even get started on that road. And overnight,  
6 I mean just to summarize it. Just think, as nervous as I am  
7 about it but with all the faith in the world, is a total  
8 disaster if it came to be a ban. And I really am familiar,  
9 got so familiar, so quick, so fast, so voluminous, that I  
10 have gone through it all, until 2:30 in the morning to read,  
11 to understand with you people where I stand. I actually  
12 almost know all of you by name, by interoffice memorandum,  
13 underlined and scratched and every kind of thing.

14 But I have all the faith in the world, because I  
15 will finish with one final closing statement. I have been,  
16 an naturally in a small family, discuss all the things that  
17 are going on. And of course, we don't hide anything in our  
18 family. And I've been asked by my son and by my 22 year old  
19 daughter, you know, why Dad, are you so foolish to get  
20 involved with the Federal Government. I said, it is just  
21 a process that a businessman has to go through today.

22 But understand one thing, when I made my collateral  
23 movement, indebtedness, to buy a company, I had enough  
24 background from the corporate structure and the independent  
25 background to take all the pitfalls and put them on the table

1 and understand all the liability. And I moralistically, as  
2 a moral and individual, as I feel some of the concerns that  
3 are being presented to the Commission today, that I don't want  
4 anybody injured by a product, whether it is a car, whether it  
5 is a drain pipe cleaner, whether it is a fountain pen,  
6 whatever it might be. And I realize that this is a potential  
7 with any businessman and any product.

8 It is silly to say that I saw a ladder in a  
9 hardware store that says, with a sign on it now, do not stand  
10 on the top rung. I, you know, we are getting this way and we  
11 want to protect everybody. And the philosophy is sound and I  
12 don't dispute it, but I don't know and I don't intend to have  
13 anybody hurt, and we do everything we can in our simple little  
14 business with a 41-year-old polio victim that has worked  
15 there 15 years, with a 61 year old man that has been in the  
16 business for 15 years, both in there from day one, with a  
17 23 year old boy.

18 And let me finalyze, we hear about 10 percent  
19 unemployment. I don't create the 10 percent unemployment,  
20 General Electric and Ford and the auto industry and the  
21 building business create the 10 percent unemployment. We, in  
22 this room, us manufacturers, are the guys that keep the other  
23 90 percent working. Thank you.

24 MR. STEELE: Thank you, Jim. Since we are prepared  
25 to wind this up, let me just conclude by saying we are

1 confident after you have had a chance to read our witness  
2 statement, perhaps digest what we have said here today, that  
3 you will come to the conclusions we have. Number one, the  
4 risk of injury to consumers through the use of this product  
5 has been greatly overstated, and apparently due to simply a  
6 lack of available data at the source.

7           Secondly, by far, the economic impact on both  
8 consumers and, more particularly, on the industry as demon-  
9 strated by six companies here who will fold, has been greatly  
10 underestimated. Now, we are not here to tell you that your  
11 concerns about consumer safety are misplaced in terms of  
12 your statutory mandate by the Congress. We, as an industry,  
13 are perfectly willing and able to cooperate with you in any  
14 way that you may deem most helpful to you, in terms of con-  
15 sultation with industry representatives and technical resource  
16 people to help develop whatever improvements or safety  
17 measures you may find necessary at some point in the future  
18 to help eliminate some of these injuries which have occurred.

19           For example, there is some talk about injuries  
20 resulting when a container falls over in a car and may result  
21 in a spill. If that kind of incident is occurring, obviously  
22 there is much that can be done with packaging and with better  
23 safety caps. We, in the industry, have the expertise to work  
24 with you and I want to pledge our cooperation to help you  
25 derive whatever additional safety measures you may feel are

1 necessary to protect the public without resorting to such  
2 an extreme action as a product ban.

3 I thank you very much again for this opportunity.

4 MR. SIMSON: Thank you, Mr. Steele. Anybody else  
5 for their presentations? Are there any questions from the  
6 staff, please? Mr. Martino?

7 MR. MARTINO: You faulted the Battell Report by  
8 some of the examples. We were unable to get any information  
9 on the labor force, sulphuric acid drain cleaner.  
10 Could you inform us as to how you got your statistics?

11 MR. STEELE: Yes. The companies that I represent,  
12 I have obviously been contacted over the past six weeks or  
13 so, and I have asked them to provide me with specific infor-  
14 mation as to the number of persons that they employ in this  
15 line who would be affected by the impact.

16 Now, obviously, I have compiled those returns  
17 there in the written statement. And our conclusion is that  
18 were this ban to take effect, 73 persons associated with  
19 sulphuric acid drain cleaner production by these companies  
20 would be laid off. Now, obviously, we know 73 people who are  
21 involved in this production. Perhaps there are several  
22 other companies involved that would bring that total number  
23 of employees up to perhaps 125, 150.

24 MR. MARTINO: Okay. How about your \$8 million worth  
25 of sales? How did you get that figure?

1 MR. STEELE: All right. The Battell estimates 150  
2 wholesalers times 100 retailers, hardware stores. That gives  
3 you 15,000 retailers that they estimated. Now, I have a state  
4 count published by the American Business Lists of Ralston,  
5 Nebraska giving a state-by-state breakdown of hardware dealers.  
6 Battell was only off by more than 100 percent.

7 MR. MARTINO: The hardware stores sell acid drain  
8 cleaners.

9 MR. STEELE: Right. Battell assumed that 20 percent  
10 of the universal hardware stores sell this cleaner. We took  
11 that assumption, just based it on the correct information con-  
12 cerning the number of hardware stores, changing no other  
13 assumption. With the correct information about the number of  
14 hardware stores, Battell's estimates come up to \$8 million,  
15 not ours, that's Battell's. All we do is correct one obvious  
16 misinformation.

17 MR. MARTINO: Can you give us any information about  
18 other, manufacturers other than the six you represent?

19 MR. STEELS: I only represent the six. We would  
20 love to get more involved with the Commission and perhaps  
21 with other companies in talking about these safety concerns.  
22 But as of now, I represent these six companies and those  
23 are the companies that I have been in contact with. I am  
24 certainly not authorized to ask any other companies to  
25 provide me with this information.

1 MR. MARTINO: I thought maybe you had one, to get  
2 more clients.

3 MR. SIMSON: Anybody else? Mr. Marozzi.

4 MR. MAROZZI: I think your presentation has been  
5 very informative. But perhaps you haven't addressed a  
6 problem that the Commission seems to be concerned with and  
7 that is a use type injury occurring through the process of  
8 blowout in the drain. Could you perhaps throw some light  
9 on those circumstances that might exist for such a problem  
10 to occur and how frequently does it occur. Do you have any  
11 information?

12 MR. STEELE: Well, the information that we have is  
13 basically the same information that you have concerning the  
14 number of injuries, as well as the ones we have updated with  
15 our own.

16 MR. SIEGEL: Would you mind repeating it? Do you  
17 want me to answer it?

18 MR. MAROZZI: What I'm asking, is there a set of  
19 circumstances for a particular type of stoppage that occurs  
20 in the home other, this obviously is a laboratory situation,  
21 through a certain set of circumstances, another set of  
22 circumstances where a person uses one of these drain cleaners  
23 improperly that will create the right environment for this  
24 blowout of acid.

25 MR. SIEGEL: Well, the answer to your question, if

1 I may, all household products, bleach, ammonia, any household  
2 product has a warning on there, do not mix with other house-  
3 hold chemicals. You people or whoever has this requirement  
4 on these bottles, of anything in the home. Any woman who is  
5 using bleach billions and billions gallons are used a day,  
6 says do not mix with other products. They are quite frequently  
7 mixed with other products. Many women have mixed bleach with  
8 ammonia and they have killed themselves. You have a report  
9 somewhere.

10 A typical drain in plumbing, you may be in a  
11 bathtub or shower and water is coming up to your ankle  
12 because the drain is slow draining. I didn't say stopped,  
13 it's slow, because you come back in 30 minutes the water is  
14 out of that tub or it is out of that shower. If you had  
15 put something else in that drain, it is going to be out of  
16 that drain. That was your answer.

17 MR. STEELE: You mean it will be no longer present  
18 in the drain.

19 MR. SIEGEL: That's right. Was that the question  
20 you were asking?

21 MR. MAROZZI: I don't think so.

22 MR. SIEGEL: Okay, let me have it again, then.

23 MR. MAROZZI: Granted there are a number of injuries  
24 you have detailed 300 and some odd injuries and I assume that  
25 a good number of those are probably just from accidental

1 spillage. One of the types of injuries that has been of  
2 concern has been, there seems to be a greater propensity for  
3 this drain blowout when using sulphuric acid as opposed to  
4 the alkaline, mainly because of the thermodynamics of the  
5 situation.

6 What I'm saying, can you throw any light on that.  
7 I think we will all agree that it happens.

8 MR. SIEGEL: They didn't read the directions on  
9 the household product.

10 MR. SIMSON: Well, what did they do wrong?

11 MR. SIEGEL: They didn't read the directions that  
12 say do not mix it. I'll tell you what. There have been  
13 situations where they have said there was an explosion. We  
14 analyze it and chack it out, it is not an explosion. There  
15 is no such thing, it doesn't explode. Eruption, are we  
16 going to say eruption. It doesn't explode.

17 MR. MAROZZI: Would you then be willing to say that  
18 this eruption or I have been calling it blowout, occurred,  
19 it occurs only when perhaps the acid is mixed with an  
20 alkaline cleaner that may already have been, may have been  
21 in the drain?

22 MR. SIEGEL: Possibly, but also you could have a  
23 plumbing situation where the plumbing is incorrect in the  
24 home. Now if plumbing is not done according to code, and  
25 that has happened also and been proven, that if the plumbing

1 was not according to code. Someone was a handyman and the  
2 plumbing wasn't correct, that could probably cause it, too.

3 MR. MAROZZI: I think it would be very important  
4 for you to address these issues because these have been the  
5 issues that the staff has wrestled with in terms of what are  
6 the circumstances for getting this kind of eruption.

7 MR. STEELE: Let me just come in for a second. I  
8 have seen some staff member had pointed to the four common  
9 types of problems and eruptions had been named probably as a  
10 common problem. I understand that what the staff is trying  
11 to do, and rightly so, is to try to figure out by isolating  
12 different types of injuries or different types of accidents  
13 what can and cannot be done to resolve those.

14 What we have said here at the outset is that we have  
15 to look first of all to make sure that we have a clear  
16 picture of the total universe, to know that whatever  
17 injuries we are talking about, you can bring up an example of  
18 a particular injury which we don't have all the facts on  
19 today, but you have to look at the total universe, how often  
20 that occurs.

21 Now having established, I think, pretty persuasively  
22 today that the number of injuries relative to the number of  
23 successful applications by consumers is so remote, that that  
24 should be a consideration that should be commented when you  
25 are talking about a ban. And our confusion stems from the

1 fact that if our effort is to find out how we can lead out  
2 some of these problems presented from eruptions or resulting  
3 from spillage, why have we gone to the point of talking about  
4 a ban? Why haven't we talked more constructively about  
5 other alternatives, because obviously a ban is only  
6 authorized when there are no other alternatives.

7 I think, for example, in some cases when you are  
8 talking about apillage, that kind of problem can easily be  
9 rectified by having more uniform packaging by companies.  
10 There is no reason why a bottle just tips over on a table  
11 should spill. That could be easily rectified. So you don't  
12 need a ban to take care of those accidental spillage problems.

13 In terms of an eruption, if someone is putting, in  
14 even remote cases, putting this on top of another kind of  
15 drain cleaner and causing an eruption, it is a question of  
16 how do you warn that consumer adequately. Now you can put a  
17 label on. But there are other ways that you can do the same  
18 thing. And they haven't been fully touched on and considered.

19 MR. MAROZZI: I think you are misunderstanding me  
20 a little bit. All I'm saying is that I think it would be  
21 very helpful to the Commission if you could show and say,  
22 now you told me something that I didn't realize, that this  
23 blowout or whatever we are going to call it, may be a  
24 function of poorly installed plumbing. I think it would be  
25 very beneficial to the Commission to know that, or that

1 obviously we all realize that mixing this with an alkaline  
2 drain cleaner is going to create a much greater thermal  
3 dynamic reaction in the drain.

4 But I think those are the kinds of things that  
5 would be helpful to know. You, obviously, have more expertise  
6 in that area.

7 MR. WHITLOCK: Even in the most extreme incident,  
8 you can mix them. Did you get what I read in the report,  
9 a blowback, eruption, explosion, what goes on, chemically,  
10 in a laboratory report, acid base and alkaline base together,  
11 and it takes every, I have never seen the eruption type of  
12 thing created, although there has been incidents that they  
13 speak of.

14 MR. STEELE: Let's say this. I think we are all  
15 in agreement that we have resources that can be pulled to  
16 develop further information. My only concern is this. You  
17 have to understand from the companies' perspectives, people  
18 are about to lose their companies, that they see this as a  
19 hatchet over their heads about to fall, see, and so it is not  
20 the best environment in which to start talking about specific  
21 kinds of improvements.

22 If we can get to the point where the Commission  
23 will sit down with industry representatives at our own cost  
24 and go over these, perhaps we can work out an agenda of  
25 research and recommendations. We would be more than happy to

1 talk to you about those things. But in this context, trying  
2 not to be overly negative, you have to understand that we  
3 are facing literally an economic hatchet over the heads of  
4 these people. And if we can talk constructively from now  
5 on about developing some information, and perhaps developing  
6 other consumer protection devices, that is why we are here,  
7 and I throw that out as a suggestion to you. We will work  
8 on it.

9 MR. SIMSON: Do we have any other questions? Does  
10 anybody else in the room want to make a statement before we  
11 wind this up. Yes? Chuck Jacobson, yes.

12 MR. JACOBSON: Chuck Jacobson. I think Fred has  
13 kind of gotten things on the right track, that banning cer-  
14 tainly is most extreme alternative that is available to us,  
15 what you do when you don't have any other alternative  
16 available. I realize that the demonstration and so on kind  
17 of play down the fact that these eruptions do occur. I think  
18 there is no question about that, whatever the degree, how  
19 often is something under debate there, I guess, but they do  
20 occur. I think anything that people who are very familiar  
21 with this product could suggest as a way to stop that from  
22 happening is what we are looking for. That is the alternative  
23 that we are looking for.

24 MR. STEELE: I agree with you. I do. But you have  
25 to understand that the prominent issue here is a ban. The

1 economic impact of a ban, the weighing process, that is  
2 thrust upon us. And what I am saying is that this is not,  
3 at this particular time, the best context in which to talk  
4 about specific items. Because what you have is you are  
5 asking the companies to keep providing more and more informa-  
6 tion on their own, perhaps with little guidance, and at the  
7 same time holding this meat cleaver over them and saying we  
8 are still considering a ban.

9 If we can talk constructively about industry  
10 consultations, working toward the elimination of some of  
11 these problems and come to some sort of consensus as to the  
12 exact magnitude of these problems, then I think we are all  
13 going to be better, including the consumer.

14 MR. SIMSON: Mr. Steel, let me, we are caught in  
15 sort of a procedure right now that we are, and there is a  
16 certain rhythm that we are marching to. I mean as I explained  
17 in the beginning, the Commissioners have directed the staff  
18 to prepare a briefing package for the ban. Now, that does  
19 not foreclose communication with the appropriate parties  
20 and your witnessing, an effort on the part of the staff to  
21 continue this communication. And I want to encourage you to  
22 communicate with us.

23 But there has to be at this point in time some  
24 method. We are not, you have been directed by the Commission-  
25 ers to make the decisions in the final analysis on this, to

1 present them with a briefing package describing a proposed  
2 ban, including a proposed ban together with a briefing  
3 package with all this information that we discussed today,  
4 together with this briefing package which we are trying to  
5 put together, we are shooting for some time in July to get  
6 this, complete the work by the middle of July which would  
7 bring it to the Commissioners some time in August or early  
8 this Fall.

9 We would submit any kind of suggestions that you  
10 or your colleagues might have for improving the situation that  
11 was brought to our attention with the help of these data. If  
12 that information includes a voluntary effort on the part of  
13 the industry, that the industry might want to undertake in  
14 making these products safer, we would be glad to analyze this  
15 and present the Commissioners with these facts together with  
16 what told us to do. But we have to put this back in your  
17 lap.

18 MR. FELDMAN: Mr. Simson, Howard Feldman. If I  
19 understand, I hope I don't get the impression from what you  
20 said that really you are under the gun, number one, you think  
21 staff must present the package, but that package must be in  
22 terms of a ban because that is the direction you got from the  
23 Commission.

24 Now it seems to me if at the very least from the  
25 questions of your own staff that if we have accomplished

1 nothing else this morning, what we have shown you is that the  
2 information you have relied upon we think is totally erroneous,  
3 at the very least it should raise some serious questions in  
4 your minds as to the reliability upon which your previous  
5 recommendations have gone to the staff, to the Commission.

6 But more than that, it seems to me from some of the  
7 questions of your own staff that we have brought to your  
8 attention information that you were unaware of in your earlier  
9 decision-making, and that we may be a means of bringing to  
10 your attention more information than you already have and the  
11 type of information that only the industry, in the most  
12 efficient way, can give to you.

13 Now, I have been in the government myself in a  
14 different agency. It seems to me entirely appropriate that  
15 you can submit a recommendation to the Commission, that you  
16 are not in a position to go forward at this time, that there  
17 are questions that have now been surfaced for the first time.  
18 There are means now for you to obtain more information.

19 I hope I didn't get the impression that you feel  
20 that you are locked in to a process and that really we are on  
21 the outside and we are banging on the door and, really, the  
22 next step is once the notice of proposed rulemaking comes  
23 out, then we are fighting that. Because I think we are at  
24 the point now that we can work with you and your staff to  
25 develop a more meaningful recommendation to the Commission

1 than you can at the present time.

2 That, I think, is the essence of what we have tried  
3 to bring to your attention this morning.

4 MR. SIMSON: As I said, we are listening to you.  
5 But one of the things that I want to emphasize, and I want  
6 to say this in public and make sure that you listen to all  
7 our side, is that I think that we have bent over backwards.

8 MR. FELDMAN: Yes, you have.

9 MR. SIMSON: We have came out, as I mentioned in  
10 the outline in the very beginning, and we sent the letter  
11 to nine manufacturers requesting some more information. We  
12 didn't get anything back after one whole month and we  
13 extended that period because we wanted to make sure that we  
14 do get the information. But we are working under some  
15 pressure to get our work done as well. Within the confines  
16 of that, we are going to listen and we are going to bring we  
17 think all these things into account.

18 MR. FELDMAN: May I ask you a question, sir.

19 MR. SIMSON: Of course.

20 MR. FELDMAN: I didn't get your name right, I  
21 apologise. As the question, some types of additional  
22 information if we could obtain them. Is there any other  
23 type of information that any staff member here today or in  
24 the staff would like us to try to develop as soon as possible.  
25 That would be very helpful.

1 MR. SIMSON: That is why I asked for questions.  
2 Do we have anything?

3 VOICE: It may take some time to sort all this out.

4 MR. FELDMAN: If anything comes to mind, just get  
5 in touch with us and we will do our darnest to develop that  
6 information.

7 MR. STEELE: Mr. Simson, I appreciate your comment  
8 that certain things have already taken place. There is a  
9 certain inertia involved.

10 MR. SIMSON: There is a certain inertia involved,  
11 that's right.

12 MR. STEELE: --agency proceeding. I am well aware of  
13 the fact that you haven't even read our statement yet.

14 MR. SIMSON: That's right.

15 MR. STEELE: So I can appreciate your situation.  
16 And I certainly do appreciate this opportunity to come before  
17 you.

18 I would just like to leave you with the thought  
19 that for us every time we try to collect data from diverse  
20 companies across the United States involving my time, it is  
21 running up expenses and what-have-you. I would like for us  
22 to open up fruitful discussions as early as possible in  
23 various constructive areas, and hopefully at some point soon,  
24 get a clear determination that our role here is not to fight  
25 a ban. Our role here is to work with you to find out if we can

1 have a constructive effort to develop whatever additional  
2 standards are necessary or at least open up a dialogue with  
3 you and your staff. Because that is going to mean a lot more  
4 to consumers than having lengthy rulemaking proceedings on a  
5 ban that will never touch those issues. That is the problem.  
6 And I again appreciate what you have done.

7 MR. SIMSON: I want to thank you very much for  
8 coming here, Mr. Steele, and ladies and gentlemen. I want  
9 to also encourage you to, if you do have any constructive  
10 suggestions just on your own, to make this product safer, to  
11 increase the safety of the use of this product for consumer  
12 use, that you submit to us as fast as you can because we  
13 would really like to include this information in our dis-  
14 cussion with the Commissioners.

15 Thank you.

16 (Whereupon, at 12:20 p.m., the hearing was  
17 closed.)  
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