



UNITED STATES
 CONSUMER PRODUCT SAFETY COMMISSION
 WASHINGTON, DC 20207

Memorandum

Date: February 9, 2006

TO : The Commission
 Todd A. Stevenson, Secretary

THROUGH: Page C. Faulk, General Counsel
 Patricia Semple, Executive Director

FROM : Jacqueline Elder, Assistant Executive Director, Office of Hazard Identification and Reduction
 Kristina M. Hatlelid, Ph.D., M.P.H., Toxicologist, Directorate for Health Sciences

SUBJECT : Staff Responses to Commissioner Moore's Questions on the Sulfuric Acid Drain Opener Petition

The U.S. Consumer Product Safety Commission (CPSC) received a request from Michael Fox, Ph.D. concerning sulfuric acid drain openers (SADOs). The request was docketed under the Federal Hazardous Substances Act (FHSA) as Petition No. HP 04-2. The CPSC staff briefing package addressing the petition was transmitted to the Commission on 6 October 2005.

In a memorandum dated 9 December 2005, Commissioner Moore requested further information from the staff. Commissioner Moore's questions and the staff's responses are detailed below.

1. *How many SADO products did staff look at to compare their labeling/packaging with the provisions of the voluntary standard and the FHSA requirements? Did staff purchase any sulfuric acid drain cleaners in preparing this package? If so, may we see the containers and any related additional packaging/hangtags?*

Staff Response: The technical staff reviewed the labeling and packaging of three sulfuric acid-based products available in local stores and purchased two of these products for detailed review. One sulfuric acid-based product¹ and one alkaline product are available to the Commission. Information on two additional sulfuric acid-based products was obtained through commercial websites. Although these two products are not sold to consumers, the labeling information provided in the websites was similar to the labeling of the three products reviewed by the staff.

2. *Since the ACP has disbanded and there is no body to disseminate or monitor the voluntary standard, what is the status of the standard? How would a new SADO manufacturer ever learn about the standard and how would they obtain it?*

Staff Response: Mr. Jim Whitlock, president of Amazing Products and former president of the ACP, told the staff that the former ACP members "elected to continue all testing and distribution

¹ The other product purchased by the staff was lost in a residential fire.

NOTE: This document has not been reviewed or accepted by the Commission.
 Initial fd Date 2/9/06

CPSC
 NO. MFR. PRODUCTS
 EXCEPTED BY
 RULEMAKING ADMIN.
 WITH PORTIONS OF...

2/9/06
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per the Industry Standards at a company level - not, however, associated with any group” (personal communication with K. Hatlelid, 3/28/05).

The staff believes that a new manufacturer’s market research could provide some knowledge of existing drain opener products and manufacturers, and manufacturers’ packaging and labeling practices. On the other hand, the staff does not have information about whether or how the written industry standards, as established by the former ACP, would be made available to a new manufacturer.

3. *The Commission had suggested to ACP that it work with an existing voluntary standards group when it was formulating its standard, but it did not. Now that ACP has disappeared, what would be the logical voluntary standards group to take over their work?*

Staff Response: There are a number of possible consensus standards organizations, such as ASTM International, that might be appropriate. Specifically, ASTM Committee D10 on Packaging includes subcommittees on containers, closures, labeling, and shipping.

4. *Can we see the data on injuries from SADOs provided to CPSC by ACP from 1996 until the group disbanded?*

Staff Response: The staff has not located any data originating from the ACP during the period 1996 to 2002, and has no record of receiving data from the ACP during this period.

5. *When the Commission directed the staff to work with industry back in 1981, it listed a number of things it felt should be included in the voluntary standard, including the use of a separate instruction booklet, improved packaging designs, heat sealed safety caps or the use of a special plug that would only permit a small amount of the product to flow at any time. Not all of these were incorporated into the voluntary standard. Do we know why?*

Staff Response: The staff does not have information concerning this aspect of the voluntary standard development.

6. *We know that lower concentration can affect the likelihood and severity of injury in both acid and alkaline drain cleaners. There appears to be a wide range of concentrations in the alkaline products, and a somewhat lesser range in the acids. What would be required in terms of staff resources and outside resources to determine: 1) what is the lowest concentration in both types of drain cleaners that will still perform reasonably well for the use for which they were designed; and 2) how much injury reduction could be expected from these lower concentrations?*

Staff Response: At present, no standard test method exists for testing the performance of chemical drain cleaners sold in the United States. A staff assessment to determine what minimal concentrations of alkaline and acidic drain cleaners are effective at clearing clogged drains would require designing a test sink and drain assembly, formulating reproducible and realistic drain obstructions, specifying appropriate methods for applying the test formulations, and establishing criteria for determining effectiveness. The staff would also have to devise test drain opener formulations, varying in acid or alkaline chemical concentration, that also contain the non-acid or non-alkaline chemical components of current product formulations. The methodology would be developed with consultation among Laboratory Sciences, Human Factors, Epidemiology, Engineering Sciences and Health Sciences. Peer review would likely be recommended to assess the adequacy of the test methodology.

The staff estimates that the cost of the peer review and the materials needed to carry out the study would be approximately \$4000. The staff estimates that four to six months would be required to complete the study.

The second part of this question could be addressed by the staff by undertaking a toxicity review and dose-response analysis. In fact, the Health Sciences (HS) toxicity review² of sulfuric acid discusses several studies that could be used to conduct a dose-response analysis for sulfuric acid. The HS review also discusses sodium hydroxide, which is an alkaline chemical used in some chemical drain openers. While the concentration of the acid or alkali in the product is an important determinant of hazard, other factors, including the pH of the product, the site of exposure, the duration of contact, and the amount of the product involved, also contribute to injury potential. Assessing the injury potential of commercial formulations, while considering all of these factors, may not be straightforward. In addition, consideration of other chemicals, such as hydrochloric acid or potassium hydroxide, would require the staff to undertake a literature search and review to assess the dose-response for these chemicals.

7. Staff found incorrect medical treatment information on one sulfuric acid drain opener product currently on the market. Has staff taken any steps to see that this information is corrected?

Staff Response: Compliance staff has not made a determination that the product in question is misbranded under the Federal Hazardous Substances Act. However, as a result of the technical memoranda prepared in response to the petition, specifically with regard to the first aid advice that is now preferred for treating ingestions of certain sulfuric acid drain openers, Compliance staff expects to send an informational letter to the drain cleaner industry. Compliance staff intends to prepare this letter after the Commission has reached a decision with regard to the petition, as the Commission's decision will affect the content of the letter.

8. Roebic claims to have done evaluations that confirm the lower temperature of its less than 84% sulfuric acid product, which they claim "significantly decreases the potential for skin burns." Would they be willing to share those evaluations with us?

Staff Response: The staff contacted Roebic Laboratories, Inc. through their outside counsel, and the firm agreed to share the evaluations with the staff.

9. Is brand name information available from the TESS data that might help to prove or disprove Roebic's claims about their product and about the value of their added safety features, i.e. the anti-glug spout and the sealed plastic product wrappings?

Staff Response: The 2000-2002 TESS data used for the analysis in the briefing package contains 13 cases known to be exposures to Roebic products, none of which are sulfuric acid products. In order to evaluate the relative safety of Roebic products, we would at a minimum need economic data giving the proportion of the drain opener market Roebic commands. However, given that TESS is not a statistical sample, the utility of the results would be expected to be minimal.

² Tab B of Briefing Package for Petition Requesting Ban of Sulfuric Acid Drain Openers for Consumer Use (2005).

10. Is Roebic willing to provide evidence to support its claims about the “beading up” properties of Drain Flow?

Staff Response: The staff contacted Roebic Laboratories, Inc. through their outside counsel, and the firm agreed to share the evaluations with the staff.

11. Does Roebic make any of these safety claims to consumers?

Staff Response: The staff was not able to locate Roebic sulfuric acid-based drain opener in local stores. Thus, we do not know the contents of the labels or associated packaging materials. However, the Roebic website does not include any safety claims, except for a statement that the heat produced during use of the product will dissolve clogs, but will not harm plastic pipes.

12. The current briefing package gives the hospitalization rate (based on the NEISS estimates) as 7% for all drain openers. What are the rates for SADOs and alkaline drain openers?

Staff Response: The staff is unable to calculate hospitalization rates for injuries related to SADOs and alkaline drain openers due to the large variability of the estimates for the numbers of these injuries.

13. What is the current estimated hospitalization rate for all consumer product-related cases treated in hospital emergency rooms? (It was under 4 percent according to the 1996 SADO briefing package.)

Staff Response: In 2004, the estimated hospitalization rate for all consumer product-related injuries treated in hospital emergency rooms was three percent.

14. In recommending that the Commission deny a similar petition in 1996, the staff stated: “If the Commission agrees with this recommendation, the staff will continue to work with the ACP. As part of this effort, the staff will collect additional information to specifically identify the unknown drain cleaners, the eruption incidents, mixture cases, and the extent of injuries from all incidents reported through NEISS involving drain cleaners.” Can staff detail how it followed up on this?

Staff Response: Since 1996, the Directorate for Epidemiology has conducted telephone follow-up investigations of every drain opener case reported through NEISS. The questionnaire used for this purpose is attached. Results of these investigations were used in preparation of the briefing package for this petition.

Attachment: Questionnaire

Task Number: _____

DRAIN-CLEANER INCIDENT QUESTIONNAIRE

Instructions: Before calling, specify today's date, the incident date, the task number, the victim's age, and the hospital where the injury was treated; also have the victim's name handy, but **DO NOT** write anyone's name on the questionnaire. The **bold print** in the questionnaire is for YOUR information, but is NOT to be read to the respondent. The "normal print in quotation marks" is to be READ ALOUD to the respondent.

1. Treatment Date: _____

2. Victim's Age _____ (Circle one: YEARS or MONTHS)

3. Hospital: _____

If the victim is UNDER 18 years old, speak to the victim's PARENT or GUARDIAN;
if the victim is 18 or OVER, speak to the VICTIM.

Record of Calls

Date	Day	Time	Result*

Date	Day	Time	Result*

* Abbreviations: C - completed CB - call back LB - line busy WN - wrong number
NWN - non-working number NA - no answer R - refused NER - no eligible
respondent (parent, relative, guardian)

"May I please speak with _____?" YES NO

If NO, ask:

"When would be the best time to reach _____?" Best Time: _____

"Thank you, Goodbye."

If YES, continue:

"Hello, I'm _____, and I am working with the U.S. Consumer Product Safety Commission and some hospitals to learn more about injuries involving drain cleaners." "I understand that (victim's name) was/were treated at (hospital name) emergency room on _____ due to a DRAIN CLEANER injury."
_____ month day year

"Is that correct?" YES NO (if NO, make corrections)

If no injury occurred terminate interview.

"The U.S. Consumer Product Safety Commission investigates product-related injuries."

"Could we ask you a few questions about the drain-cleaner incident."

"The information you give us could help prevent these injuries in the future."

"Any information you give us is confidential and will only be used for statistical totals."

"No names will be used, and it only takes 10 – 15 minutes."

"Your participation is completely voluntary."

"Will you help us learn more about these drain-cleaner incidents?" **YES** **NO**

If YES, skip to Question 6; otherwise, continue.

"Is there a better time when we could contact you?" **YES** **NO**

If YES: "When would be the best time?" _____

If NO: "Is someone else available who could help us?"

If NO: "Thank you anyway, Goodbye."

If speaking to the VICTIM skip to Question 7.

6. "What is your relation to the victim?"

The respondent is:

1 Mother of the victim	5 Sister of the victim
2 Father of the victim	6 Brother of the victim
3 Grandmother of the victim	7 Aunt of the victim
4 Grandfather of the victim	8 Uncle of the victim
9 Someone else Specify: _____	

If not speaking directly to the victim, ask if the respondent:

1 Witnessed the accident, or was nearby when the accident occurred.

2 Did not witness the accident, nor was not nearby when the accident occurred.

7. "Which of the following INJURIES occurred?"

Read each question aloud. Circle YES or NO.

1 "Chemical burns to skin?" YES NO

2 "Chemical burns to eye?" YES NO

3 "Inhalation of fumes?" YES NO

4 "Ingestion of the drain cleaner?" YES NO

5 "Some other injury? What?" _____

9 "Don't know?" YES NO

8. "Please describe in detail the INJURIES caused by the drain cleaner, including any long term effects. Please also describe which portions of the body were affected and any disfigurement or scarring that may have resulted." _____

9. "Has there been a full recovery from the injuries?" YES NO UNKNOWN

If NO, ask: "What symptoms or problems still exist?"

Record the answer below: _____

INGESTION SECTION

I-1. Was the victim a child? YES NO

IF NO, skip to I-24; otherwise, ask:

"Please describe how you think the child got to the container."

Record the answer below:

I-2. "How did anyone know or suspect that the child had gotten into the product?"

Record the answer below:

I-3. Read each question aloud. Circle YES or NO.

"In addition to ingesting the drain cleaner"

"Did drain cleaner get on the child's BODY?" YES NO

"Did drain cleaner get in the child's FACE?" YES NO

"Did drain cleaner get in the child's EYES?" YES NO

"Did drain cleaner get in the child's NOSE?" YES NO

"Did drain cleaner get in the child's MOUTH?" YES NO

"Were fumes from the drain cleaner breathed or inhaled?" YES NO

I-4. "HOW MUCH of the product was tasted, swallowed, or spilled on the child?"

Probe for specific amounts in ounces, grams, cups, or other units. If respondent cannot give specific amounts, specify proportion of full container (Full, ¾ full, ½ full, ¼ full, empty), cups, mouthfuls, tastes, etc. _____

I-5. Read each question aloud. Write the answer for each one (approximate ounces), if respondent doesn't recall specific amounts specify amounts as proportion of full container (Full, ¾ full, ½ full, ¼ full, empty)

- "How much drain cleaner was in the container when new?" _____
"How much drain cleaner was in the container before the incident?" _____
"How much drain cleaner was in the container after the incident?" _____

I-6. "Before going to the emergency room, did you or anyone else talk to a health or medical professional?"

YES NO (Skip to I-7)

If YES, ask: "Which of the following type of health or medical professionals did anyone talk to?" Read these aloud and mark ALL that apply.

- 1 "Poison control center?"
- 2 "Physician?"
- 3 "Health professional? Who?" _____
- 4 "Someone else? Who?" _____
- 9 "Not sure?"

I-7. "Was any treatment given at HOME (e.g., drank water or milk)?" YES NO

If YES, then ask:

**"Which of the following treatments was given?"
Read these aloud and mark ALL that apply.**

- 1 "Gave victim milk or water?"
- 2 "Induced vomiting by administering ipecac?"
- 3 "Induced vomiting by some other means?"
- 4 "Washed the affected area with water?"
- 9 "Something else? What?" _____

I-8. "Which of the following TREATMENTS occurred?"

Read these aloud and mark ALL that apply.

- 1 "Examined and released without treatment?"
- 2 "Treated at the emergency room and released?"
- 3 "Treated and transferred elsewhere for treatment, but not hospitalized?"
- 4 "Treated and transferred for hospitalization?"
- 5 "Hospitalized? -> How many nights were spent in the hospital?" _____
- 6 "Something else? What?" _____
- 9 "Don't know?"

I-9. IF TREATMENT WAS GIVEN AT THE EMERGENCY ROOM ask, "Which of the following treatments were given?"

Read these aloud and mark ALL that apply.

- 1 "Stomach pumped (gastric lavage)?"
- 2 "Charcoal solution administered?"
- 3 "Blood tests administered?"
- 4 "X-rays?"
- 5 "Washed the affected area with water?"
- 6 "Other treatment? What?" _____?"
- 9 "Not sure?"

I-10. "Was additional treatment received following the accident?" YES NO UNKNOWN

If YES, ask: "Which treatment?"

Record the answer below:

I-11. "Do you have the original container the drain cleaner came in?" YES NO

If NO go to I-24,

"Would you please get it while I wait?" Wait until respondent returns.

"Do you have the container in your hand now?" YES NO

If YES go to question I-12, if NO then ask,

"Could you get the container later if I call back at a more convenient time?"

If YES then ask- "When would be the best time to call back?"

Write the BEST TIME to call back here: _____

"I'll call back to verify the product information."

If NO then go to I-24.

I-12. "Before the incident, was the product in the original container?" **YES** **NO**

If YES, go to I-13; If NO, read each question aloud, and circle the response.

"Was the product in **1** another container"

2 no container" (Go to I-14)

"Was the product typically put into another container during use?" **YES** **NO**

"Was the product in another container because the original container was too large?"

YES **NO**

"Was the product put into another container because the original container was difficult to handle?"

YES **NO**

"Was the product put into another container because the original was hard to open?"

YES **NO**

"Was there another reason for putting the product into another container?" **YES** **NO**

If YES: "What was the reason?"

Give the reason below: _____

I-13. "Was there a label on the original drain cleaner container?" **YES** **NO**

If YES, read each question aloud, and circle YES or NO.

"Did the label give **FIRST AID** information?" **YES** **NO**

"Did the label give a **PHONE NUMBER** to obtain medical help?" **YES** **NO**

"Did the label give a **WARNING**?" **YES** **NO**

If YES: "What was the WARNING?"

Give the WARNING below:

I-14. "What is the BRAND NAME of the product?" _____

I-15. "What company is the MANUFACTURER of the product?" _____

I-16. "Which of the following best describes the FORM of the product?"

Read these aloud and circle the ONE that applies.

- 1 "Liquid?"
- 2 "Granules?"
- 3 "Powder?"
- 4 "Tablet?"
- 5 "Ball?"
- 9 "Some other form? Please specify:" _____

I-17. "Which of the following are listed anywhere on the label?"

Read these aloud and circle ALL that apply.

- 1 "Sulfuric acid"
 - 2 "Sodium bisulfate"
 - 3 "Lye"
 - 4 "Sodium hypochlorite"
 - 5 "Sodium hydroxide"
 - 6 "Hydrochloric acid"
 - 7 "Potassium hydroxide"
 - 8 "Any other acid"
 - 9 "Bacterial cultures or enzymes"
 - 10 "Surfactants"
- "Other contents listed? What are they?" _____

I-18. "Could you describe the container and its cap or closure, if any:"

I-19. "Was the original container supposed to be child-resistant, that is, designed to be hard for young children to open - with special instructions telling how to open it?"

YES NO UNKNOWN

I-20. "Please read the exact words or directions for opening the container."

Record the answer below:

I-21. "About when did you purchase the drain cleaner?"

Give approximate month and year: _____

I-22. "Which best describes where the DRAIN CLEANER was when the incident occurred?"

Read these aloud and mark the ONE that applies.

- 1** "In its normal storage place? Where?" _____
- 2** "In a different storage place? Where?" _____
- 3** "Left out? Where?" _____
- 4** "In a trash container? Where?" _____
- 5** "Being used? Where?" _____
- 9** "Don't know?" _____

I-23. Read each question aloud, and circle YES or NO.

- A. "Before the incident, was the container SECURELY CLOSED?"
YES NO UNKNOWN
- B. "Before the incident, was the container CLOSED, but not securely?"
YES NO UNKNOWN
- C. "Before the incident, was the ORIGINAL cap or closure on the container?"
YES NO UNKNOWN
- D. "Before the incident, was a DIFFERENT cap or closure on the container?"
YES NO UNKNOWN
- E. "Before the incident, was NO cap or closure on the container?"
YES NO UNKNOWN
- F. "Was the container OPEN because it was USUALLY left open?"
YES NO UNKNOWN
- G. "Was the container OPEN although it was NOT USUALLY left open?"
YES NO UNKNOWN
- H. "Was the container OPEN because the product was in use?"
YES NO UNKNOWN
- I. "Was the container OPEN because the original cap was hard to open?"
YES NO UNKNOWN
- J. "Was the container OPEN because of poor opening instructions?"
YES NO UNKNOWN
- K. "Was the container OPEN for some other reason?"
YES NO UNKNOWN

If YES: "What was the reason?" _____

I-24. "Thank you for your time. Your responses will be grouped with other responses and analyzed to determine how these types of injuries can be prevented."

ERUPTION, SPILLAGE, SPLASH, INHALATION SECTION

E-1. "Which of the following INCIDENTS occurred?"

Read each question aloud. Circle YES or NO.

- | | | |
|---|-----|----|
| <input type="checkbox"/> "Drain cleaner emitted toxic fumes after being poured into drain?" | YES | NO |
| <input type="checkbox"/> "Got splashed by drain cleaner while handling the container?" | YES | NO |
| <input type="checkbox"/> "Got splashed by drain cleaner while pouring it into the drain?" | YES | NO |
| <input type="checkbox"/> "Drain cleaner splashed back after being poured into drain?" | YES | NO |
| <input type="checkbox"/> "Spilled drain cleaner while pouring it in the drain?" | YES | NO |
| <input type="checkbox"/> "Got splashed by drain cleaner because the drain exploded or erupted?" | YES | NO |
| <input type="checkbox"/> "Container leaked during transportation from store or other place?" | YES | NO |
| <input type="checkbox"/> "Dropped an OPEN container which splashed victim?" | YES | NO |
| <input type="checkbox"/> "Dropped a CLOSED container which broke open and splashed victim?" | YES | NO |
| <input type="checkbox"/> "Closure was difficult to remove and contributed to the splash or leak?" | YES | NO |
| <input type="checkbox"/> "Something else? What?" _____ | | |
| <input type="checkbox"/> "Don't know?" | YES | NO |

E-2. Read each question aloud. Circle YES or NO.

- | | | |
|--|-----|----|
| "Did drain cleaner get on the victim's BODY?" | YES | NO |
| "Did drain cleaner get in the victim's ARM?" | YES | NO |
| "Did drain cleaner get in the victim's LEG?" | YES | NO |
| "Did drain cleaner get in the victim's FACE?" | YES | NO |
| "Did drain cleaner get in the victim's EYES?" | YES | NO |
| "Did drain cleaner get in the victim's NOSE?" | YES | NO |
| "Did drain cleaner get in the victim's MOUTH?" | YES | NO |
| "Were fumes from the drain cleaner breathed or inhaled?" | YES | NO |

E-3. Did a spill, splash or leak occur? YES NO

IF NO, skip to question E-6

E-4. "HOW MUCH of the product was on the victim?"

Probe for specific amounts in ounces, grams, cups, or other units. If respondent cannot give specific amounts, specify proportion of full container (Full, $\frac{3}{4}$ full, $\frac{1}{2}$ full, $\frac{1}{4}$ full, empty), cups, drops, etc. _____

E-5. Read each question aloud. Write the answer for each one (approximate ounces), if respondent doesn't recall specific amounts specify amounts as proportion of full container (Full, $\frac{3}{4}$ full, $\frac{1}{2}$ full, $\frac{1}{4}$ full, empty)

"How much drain cleaner was in the container when new?" _____

"How much drain cleaner was in the container before the incident?" _____

"How much drain cleaner was in the container after the incident?" _____

E-6. "Before going to the emergency room, did you or anyone else talk to a health or medical professional?"

YES NO

If YES, ask: "Which of the following type of health or medical professionals did anyone talk to?" Read these aloud and mark ALL that apply.

1 "Poison control center?"

2 "Physician?"

3 "Health professional? Who?" _____

4 "Someone else? Who?" _____

9 "Not sure?"

E-7. "Was any treatment given at HOME (e.g., flushed area with water)?" YES NO

If YES, then ask:

"Which of the following treatments was given?"

Read these aloud and mark ALL that apply.

1 "Washed the affected area with water?"

2 "Something else? What?" _____

E-8. "Which of the following TREATMENTS occurred?"

Read these aloud and mark ALL that apply.

- 1 "Examined and released without treatment?"
- 2 "Treated at the emergency room and released?"
- 3 "Treated and transferred elsewhere for treatment, but not hospitalized?"
- 4 "Treated and transferred for hospitalization?"
- 5 "Hospitalized? -> How many nights were spent in the hospital?" _____
- 6 "Something else? What?" _____
- 9 "Don't know?"

E-9. IF TREATMENT WAS GIVEN AT THE EMERGENCY ROOM ask, "Which of the following treatments were given?"

Read these aloud and mark ALL that apply.

- 1 "Washed the affected area with water?"
- 2 "Oxygen administered?"
- 3 "Blood tests administered?"
- 4 "X-rays?"
- 5 "Other treatment? What?" _____?"
- 9 "Not sure?"

E-10. "Was additional treatment received after being released from the Emergency Room?"

YES NO UNKNOWN

If YES, ask: "Which treatment?"

Record the answer below:

E-11. "Do you have the original container the drain cleaner came in?" YES NO

If NO go to E-35,

"Would you please get it while I wait?" Wait until respondent returns.

"Do you have the container in your hand now?" YES NO

If YES go to question E-12, if NO then ask,

"Could you get the container later if I call back at a more convenient time?"

If YES then ask- "When would be the best time to call back?"

Write the BEST TIME to call back here: _____

"I'll call back to verify the product information."

If NO then go to E-35.

E-12. "About when did you purchase the drain cleaner?"

Give approximate month and year: _____

E-13. "Was there a label on the original drain cleaner container?" YES NO

If YES, read each question aloud, and circle YES or NO.

"Did the label give FIRST AID information?" YES NO

"Did the label give a PHONE NUMBER to obtain medical help?" YES NO

"Did the label give a WARNING?" YES NO

If YES: "What was the WARNING?"

Give the WARNING below:

E-14. "What is the BRAND NAME of the product?" _____

E-15. "What company is the MANUFACTURER of the product?" _____

E-16. "Which of the following best describes the FORM of the product?"

Read these aloud and circle the ONE that applies.

- 1 "Liquid?"
- 2 "Granules?"
- 3 "Powder?"
- 4 "Tablet?"
- 5 "Ball?"
- 9 "Some other form? Please specify:" _____

E-17. "Which of the following are listed anywhere on the label?"

Read these aloud and circle ALL that apply.

- 1 "Sulfuric acid"
- 2 "Sodium bisulfate"
- 3 "Lye"
- 4 "Sodium hypochlorite"
- 5 "Sodium hydroxide"
- 6 "Hydrochloric acid"
- 7 "Potassium hydroxide"
- 8 "Any other acid"
- 9 "Bacterial cultures or enzymes"
- 10 "Surfactants"
- 11 "Other contents listed? What are they?" _____

E-18. Investigator: Did an EXPLOSION, ERUPTION, SPLASH-BACK, DRAIN BACK-UP, or FUME-EMISSION occur? YES NO

If NO, skip to E-36; otherwise, continue.

E-19. "Was any liquid already in the area where the drain cleaner was added?"
YES NO UNKNOWN

If NO, skip to question E-21; otherwise, continue.

E-20. "Which of the following best describes the TEMPERATURE of the liquid already in the area where the drain cleaner was added?"

Read these aloud and circle the ONE that applies.

1 "Room Temperature?"

2 "Cold?"

3 "Warm?"

4 "Hot?"

5 "Boiling?"

6 "Frozen?"

9 "Don't know?"

99 "Other?" Specify _____

E-21. "Did the instructions tell you to put water down the drain following a certain amount of time after putting the drain cleaner in the drain?" YES NO UNKNOWN

If NO, skip to question E-24; otherwise, continue.

E-22. "Did you put any water in AFTER putting in the drain cleaner?" YES NO

If NO, skip to question E-25; otherwise, continue.

E-23. "About how long after putting the drain cleaner in did you wait to put in the water?"

Record the answer: _____

E-24. "Which of the following best describes the TEMPERATURE of the water you put in AFTER the drain cleaner?"

Read these aloud and mark the ONE that applies.

1 "Room Temperature?"

2 "Cold?"

3 "Warm?"

4 "Hot?"

5 "Boiling?"

6 "Frozen?"

9 "Don't know?"

99 "Other?" Specify _____

E-25. "Was the drain-strainer or plug removed prior to adding the drain cleaner to the drain?"

YES NO UNKNOWN

E-26. "Had any other drain cleaner been used in this particular drain within the past month or so?"

YES NO UNKNOWN If YES, ask the following, otherwise go to Question E-29:

"Could you please give the following information:"

Read each question aloud. Write the answer for each one:

"What was the name of the drain cleaner?" _____

"When was the drain cleaner last used?" _____

"How many times was the drain cleaner used?" _____

E-27. "Which of the following best describes the FORM of the OTHER product?"

Read these aloud and mark the ONE that applies.

- 1 "Liquid?"
- 2 "Granules?"
- 3 "Powder?"
- 4 "Tablet?"
- 5 "Ball?"
- 9 "Some other form? Please specify:" _____

E-28. "Which of the following are listed on the label?"

Read these aloud and mark ALL that apply.

- 1 "Sulfuric acid"
- 2 "Sodium bisulfate"
- 3 "Lye"
- 4 "Sodium hypochlorite"
- 5 "Sodium hydroxide"
- 6 "Hydrochloric acid"
- 7 "Potassium hydroxide"
- 8 "Any other acid"
- 9 "Bacterial cultures or enzymes"
- 10 "Surfactants"
- 11 "Other contents listed? What are they?" _____

E-29. "Were any of the following tools or mechanical devices used along with the drain cleaner?"

Read these aloud and mark ALL that apply.

- 1 "Plunger?"
- 2 "Hose-end bladder?"
- 3 "Auger (which looks like a cork screw)?"
- 4 "Snake?"
- 5 "Plunger?"

E-30. "Which of the following best describes how FAST the drain cleaner was put in the drain?"

Read these aloud and mark the ONE that applies.

- 1 "Quickly?"
- 2 "Moderately?"
- 3 "Slowly?"
- 9 "Don't know?"

E-31. "Was anything placed over the drain opening (such as a pan or some other cover) after the drain cleaner was added?" YES NO UNKNOWN

If YES Please describe _____

E-32. "Which of the following best describes the DRAIN you were trying to unclog?"

Read these aloud and mark the ONE that applies.

- 1 "In a kitchen sink WITHOUT a garbage disposal?"
 - 2 "In a kitchen sink WITH a garbage disposal?"
 - 3 "In a bathroom sink?"
 - 4 "In a bathtub or shower stall?"
 - 5 "In a basement floor?"
 - 6 "In a kitchen floor?"
 - 7 "In a laundry tub or utility tub?"
 - 8 "Other? Where?"
 - 9 "Don't know?"
-

E-33. "Which of the following best describes the drain CLOG that was the problem?"

Read these aloud and mark the ONE that applies.

- 1 "Totally clogged?"
 - 2 "Partially clogged or slow drain?"
 - 3 "Other problem? What?"
 - 9 "Don't know?"
-

E-34. "What besides the drain cleaner was in the drain?"

Read these aloud and mark ALL that apply.

- 1 "Hair?"
 - 2 "Paper products?"
 - 3 "Grease?"
 - 4 "Bleach?"
 - 5 "Ammonia?"
 - 6 "Other drain cleaners?"
 - 7 "Other cleaner(s)? Which?"
 - 8 "Other items or substances? What?"
 - 9 "Don't know?"
-
-

E-35. "Thank you for your time. Your responses will be grouped with other responses and analyzed to determine how these types of injuries can be prevented."

E-38. Was the victim a child? YES NO

IF NO, skip to E-44; otherwise, ask:

"Please describe how you think the child got into the container."

Record the answer below:

E-39. "How did anyone know or suspect that the child had gotten into the product?"

Record the answer below:

E-40. "Was the original container supposed to be child-resistant, that is, designed to be hard for young children to open - with special instructions telling how to open it?"

YES NO UNKNOWN

E-41. "Please read the exact words or directions for opening the container."

Record the answer below:

E-42. "Which best describes where the DRAIN CLEANER was when the incident occurred?"

Read these aloud and mark the ONE that applies.

- 1 "In its normal storage place? Where?" _____
- 2 "Left out? Where?" _____
- 3 "In a trash container? Where?" _____
- 4 "Being used? Where?" _____
- 9 "Don't know?"

E-43. Read each question aloud, and circle YES or NO.

- | | | |
|---|-----|----|
| A. "Before the incident, was the container SECURELY CLOSED?" | YES | NO |
| B. "Before the incident, was the container CLOSED, but not securely?" | YES | NO |
| C. "Before the incident, was the ORIGINAL cap or closure on the container?" | YES | NO |
| D. "Before the incident, was a DIFFERENT cap or closure on the container?" | YES | NO |
| E. "Before the incident, was NO cap or closure on the container?" | YES | NO |
| F. "Was the container OPEN because it was USUALLY left open?" | YES | NO |
| G. "Was the container OPEN although it was NOT USUALLY left open?" | YES | NO |
| H. "Was the container OPEN because the product was in use?" | YES | NO |
| I. "Was the container OPEN because the original cap was hard to open?" | YES | NO |
| J. "Was the container OPEN because of poor opening instructions?" | YES | NO |
| K. "Was the container OPEN for some other reason?" | YES | NO |

If YES: "What was the reason?"

E-44. "Thank you for your time. Your responses will be grouped with other responses and analyzed to determine how these types of injuries can be prevented."