Centuri Corporation
ESTES INDUSTRIES • COX

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April 15, 2002

Via Facsimile and by Email

Phone: 301 504 0800
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Office of the Secretary
US Consumer Product Safety Commission
4330 East-West Hwy, Room 501
Bethesda, MD 20207

Proposed Exemption for Model Rocket Propellant Devices for Surface Vehicles
HP 01-2 Supplemental Public Comment

Dear Madam/Sir:

On Friday, April 12, 2002, we submitted an independent Technical Report #20159 and video from Intertek Testing Services as a public comment in support of the Proposed Exemption for Model Rocket Propellant Devices for Surface Vehicles (Petition HP 01-2). This letter is supplemental to that comment.

As noted in the Summary of the Technical Report the Estes rocket cars comply with all applicable regulations and standards. And as can be determined from reading the Performance Review and watching the video, the rocket cars perform safely and as intended when used in accordance with the instructions and warnings. In addition, the video clearly demonstrates that the Blurzz rocket cars fail in a "safe" mode minimizing risk of injury. When run off the tether, the rocket cars did not become airborne and exhibited consistent behavior by flipping over and "skittering" about the ground for short distances. Even when ignited in a vertical position or run up a ramp the rocket cars either stopped short or returned to the ground within a very limited distance delivering such poor performance that user dissatisfaction is certain. Misuse or abuse is unlikely to continue when the performance is dissatisfying.

Please call Barry Tunick or me at 1.800.525.7563 should you have questions or require additional information.

Kind Regards,

Mary Roberts

Mary Roberts, Manager
Technical Services

Stevenson, Todd A.

Model Rocket Motors 3

From: Mark B. Bundick [mbundick@earthlink.net]
Sent: Sunday, April 14, 2002 9:21 PM
To: cpsc-os@cpsc.gov
Cc: nar-hq@nar.org; 76670.1775@compuserve.com; MCNABBS@TYSON.com; 103056.621@compuserve.com; 73121.75@compuserve.com; george@rachors.com; jpoole@cablespeed.com; 70760.2560@compuserve.com; kane@MIT.EDU; pmiller@wrangler.cisco.cc.tx.us
Subject: Proposed exemption for model rocket propellant devices for surface vehicles

DATE: April 15, 2002

TO: Office of the Secretary
Consumer Product Safety Commission
Washington, DC 20207

Telephone: (301) 504-0800
Email: cpsc-os@cpsc.gov

FROM: Mark B. Bundick
President, National Association of Rocketry
1311 Edgewood Drive
Altoona, WI 54720

Telephone: (800) 262-4872
Email: president@nar.org

RE: Proposed exemption for model rocket propellant devices for surface vehicles

Please find attached below comments submitted regarding the proposed exemption for model rocket propellant devices for surface vehicles on behalf of the National Association of Rocketry (NAR), a tax exempt, 501-3(c) educational organization for consumers of flyable sport rocket products. Five (5) copies of these comments will also be delivered via USPS to your offices.

The National Association of Rocketry appreciates this opportunity to provide public input into the proposed exemption. The NAR values its relationship with the National Fire Protection Association and the federal regulatory agencies in the promotion of consumer safety in the use of hobby rocket products.

Sincerely yours,
Mark B. Bundick, President
National Association of Rocketry
1311 Edgewood Drive
Altoona, WI 54720

Telephone: (800) 262-4872
Email: president@nar.org

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PROPOSED EXEMPTION FOR
MODEL ROCKET PROPELLANT DEVICES
FOR SURFACE VEHICLES

Public Comment: National Association of Rocketry

Background Information

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The National Association of Rocketry (NAR) is a 501-3(c) educational, service organization for consumers of flyable model rocket and high power rocket products. The organization has 5,000 members and 100 affiliated clubs. It sponsors competition events using flyable rocket products at the local, regional, and national levels. It has actively participated in international competition events hosted by the Federation Aeronautique Internationale (FAI; Paris).

Founded in 1957, the NAR has played a key role for almost 50 years in consumer safety issues regarding the use of flyable rocket products. The NAR maintains the "Model Rocket Safety Code" and "High Power Rocket Safety Code." A set of common sense rules, these codes are distributed to all consumers nationwide and provide guidance in the safe use of flyable rocket products.

Since 1957 hundreds of millions of flyable model rocket products have been used by consumers. Only one reported injury has occurred related to flyable model rocket products when the specifications of the safety code was being followed.

The NAR is A voting principle oN the Committee on Pyrotechnics (National Fire Protection Association, NFPA) and chairs the Rocketry Task Force of this Committee. The Committee writes NFPA 1122 Code for Model Rockets, NFPA 1127 Code for High Power Rocket Rockets, and NFPA 1125 Code for the Manufacture of Model Rocket & High Power Rocket Motors.

The NAR tests all model rocket motors and many high power rocket motors prior to their sale to consumers. These tests are conducted in accordance to the motor certification requirements of NFPA 1125. NAR motor certification is a pre-requisite for the sale of model rocket and high power rocket motors in the majority of states (i.e., those states that follow the provisions of the NFPA codes).

The NAR has worked with the Consumer Product Safety Commission, Department of Transportation, Bureau of Alcohol, Tobacco, & Firearms, and the Federal Aviation Administration in the drafting and writing of federal regulations pertaining to the consumer use of flyable model rocket and high power rocket products. The NAR actively works with representatives from the CPSC and ATF as non-voting members of the NFPA Committee on Pyrotechnics.

As such, the National Association of Rocketry takes particular interest in the use of model rocket motors in surface vehicles and offers a comment for the consideration of the Consumer Product Safety Commission.

Comments

1. The NAR concurs that the use of D-powered model rocket motors in rocket cars should be prohibited until the issues discovered in the CPSC tests are fully addressed. It is not a surprise to the NAR that the D-powered surface vehicles when un-tethered became airborne projectiles. The failure mode of the A-powered cars is also not unexpected as there is a power difference of a factor 8 between the A and D model rocket motors.

The use of the D-powered products restricted to individuals 18 years of age or older is a prudent approach. The NAR has worked with rocket-powered cars in the past with motors in the F and G class. These products were never used by children, and were only used by adults.

The NAR concurs with the findings of the CPSC and recommends that the exemption on rocket-powered cars be restricted to only A class or smaller motors, at this time. This would exclude B, C, and D class motors.

2. The NAR offers the following wording change to the proposed exemption:
(14) Model rocket propellant devices (model rocket motors) designed to propel lightweight surface vehicles such as model rocket rocket-powered cars…

The term "model rocket" has been used for 50 years to denote flyable

TAB C

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: October 18, 2002

TO : Terrance R. Karels
Directorate for Economic Analysis

THROUGH: Susan Ahmed, Ph.D.
Associate Executive Director
Directorate for Epidemiology

Russell Roegner, Ph.D.
Division Director
Hazard Analysis Division

FROM : Joyce McDonald
Hazard Analysis Division

SUBJECT : Model Rocket Car Petition

This memorandum updates the July 25, 2001 EPHA memorandum that was prepared in response to Petition HP 01-2 to exempt certain model rocket propellant devices for use with model rocket cars from the Federal Hazardous Substances Act. The July 25, 2001 memorandum reported on injuries and deaths associated with powered model products. The U.S. Consumer Product Safety Commission issued a proposed rule on January 30, 2002 to allow this exemption, in part.[1] This memorandum also responds to the public comments received in response to the Notice of Proposed Rulemaking.

Deaths

Since the July 2001 memorandum[2] there have been no deaths involving persons under 18 with powered models of a type that could be considered comparable to a model rocket car and its anticipated trajectory (with or without a tether).[3]

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[1] The Commission proposed an exemption from the Federal Hazardous Substances Act (FHSA) for certain model rocket propellant devices for vehicles that travel on the ground. These particular vehicles are to be marketed for children. Therefore, the incident data in this memorandum is limited to the involvement of persons age 17 and under.

[2] A search was conducted of the In-depth Investigation file, the Injury and Potential Injury file, the Death Certificate file and the National Electronic Injury Surveillance System from May 26, 2001 to April 15, 2002.

[3] Since model rocket cars do not yet exist in the marketplace, staff searched the databases for incidents with powered models that exhibit similar characteristics.

Injuries

From May 26, 2001 to April 15, 2002 there were five injuries[4] to persons under 18 that may be comparable to the type of injury that one might expect to receive from a model rocket car. The ages of the victims in these incidents ranged from 5 to 16 years of age and all of the victims were male. Appendix A (attached) contains additional details on the five injury incidents.

All five injured victims were treated and released from the hospital. The injuries included a corneal abrasion; a nasal laceration; a deep gash above the eye; a burn to the face; and flash burns to the face, hand and chest.

Three males were injured when model air rockets struck them. They were 5, 7 and 9 years old. One 14-year-old male suffered burns to his face when an unspecified type of rocket exploded.

There was one injury incident where a 16-year-old made a model rocket with 2 engines instead of one. The rocket exploded, causing flash burns to his face, hand and chest.

Summary

From May 26, 2001 to April 15, 2002, there were no deaths and five injuries reported with powered models involving persons under age 18 that may relate to what could occur with model rocket cars. It is difficult to assess the potential for serious injury or death with model rocket cars based on the data available for comparison.

Response to Public Comments

Comments Received from Centuri Corporation

Issue:

Centuri noted that the Economic Analysis portion of the briefing package states that pellet powered cars entered the marketplace in the 1950s and that current annual sales in the United States are estimated at 100,000. They go on to say that pellet-powered cars are similar to the model rocket car concept in the way the cars are propelled and that CPSC does not cite any incidents with pellet cars in the July 2001 EPHA memorandum.

Response:

A recent data search back to January 1, 1980 did not produce any reports of incidents involving pellet cars.

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[4] These injuries are neither a complete count of all that occurred during this time period nor are they a known probability of selection. However, they do provide a minimum number of injuries reported to CPSC that occurred during this time period. They also illustrate the circumstances involved in some powered model incidents.

However, when CPSC cites a number of incidents for a specified time period it is not a complete count of all that has occurred. In fact, any incidents found would constitute only what had been reported to CPSC as having occurred during a specific time period.

Issue:

Centuri disagreed with the number of estimated injuries (1,100) associated with model rockets between January 1997 and December 2000.

Response:

The estimate of 1,100 injuries associated with model rockets treated in hospital emergency rooms is based on four years of data (January 1997 to December 2000) on rocketry sets. The source of this estimate is CPSC's statistical database, the National Electronic Injury Surveillance System (NEISS).

Issue:

Centuri disagreed with wording in the July 2001 EPHA memorandum in footnote #2 which states *"The table below details the criteria used to identify reported incidents in the CPSC databases that relate to model rocket powered cars."* They state *"Centuri disagrees that all of the identified reported incidents relate to model rocket powered cars."*

Response:

The staff searched for cases involving other powered models that may have incidents comparable to the type of incidents expected to occur with a model rocket car. That is what was meant by identifying incidents that *relate* to model rocket cars; since model rocket cars are not currently produced for consumer use.

Issue:

Centuri contended that many of the 35 injury incidents cited by CPSC are not similar to model rocket powered cars.

Response:

CPSC staff believes that the incidents cited are similar in that they involve powered models or their components that behave in a manner that could be considered comparable to a model rocket car and its anticipated trajectory (with or without a tether).

In the process of compiling the update of incidents with powered models, staff found incident data in the National Electronic Injury Surveillance System (NEISS). Four out of the five incidents cited in the update portion of this memorandum are from NEISS. The original search of incident data from January 1, 1980 to May 26, 2001 did not include a search of NEISS incident reports. The reason NEISS was not searched was that often this database does not offer

a great amount of detail on the incident scenario. After looking at the current incident reports from NEISS, staff felt the level of detail was sufficient to be included.

A search of NEISS was done from January of 1980 to May of 2001 to find applicable data. That search revealed 37 additional incidents that had scenarios resulting in injuries similar to what might be expected to be seen with a model rocket car. The details of these incidents are presented in Appendix B, attached to this memorandum.

Six of the 37 incidents involved an incident where the individual was struck by a powered model. Twenty-six incidents were attributed to fires, burns or explosions. Two incidents of injury were the result of misuse. Three incidents fall into an "other" category.

Twenty-four percent (9) of these incidents involved a contusion, abrasion or laceration. Seventy percent (26) of the incidents involved burns. Seventeen injuries were to the head and facial region. There were 25 injuries to arms, hands, fingers and legs. Twelve incidents involved multiple injuries and/or the injury of multiple body parts. Some of the more serious injuries from powered models included:

- A 1-inch deep puncture wound into the chest wall to the neck region received when a model rocket came down.
- A finger amputation and powder burns to the eyes when gunpowder exploded from a toy rocket.
- An open fracture to the nasal septum and a nose laceration suffered when a toy rocket booster backfired and struck the victim's face.
- A toy rocket exploded at a hobby shop. The victim sustained burns to his face, forehead and forearm. He was transferred to a burn center.
- A model rocket penetrated the victim's arm through soft tissue.

Among the types of powered models involved were planes, rockets and a boat. Thirty-three of the incidents involved a model rocket or a component part.

Powered Models 5/26/01 to 4/15/02

	Document #	Date	Age/Sex	City and State	Mfr and Model	Narrative
INJURIES						
Struck						
1	NEISS	06/13/01	5 YR M	Unknown	Estes Air Rocket	Corneal abrasion from being hit in the eye by the soft tip of an air rocket.
2	NEISS	09/01/01	9 YR M	Unknown	Unknown	Air rocket struck him in nose. Nasal laceration.
3	010906CCC1848 H0160091A	06/02/02	7 YR M	Rocky Ridge, MD	Centuri Corporation, Estes Industries, GL-X200	Rocket is powered by compressed air from a launch pad. Child leaned over the rocket when he stepped on the release button and the rocket launched straight up, hitting the boy just above his right eye. He suffered a deep gash above his eye.
Total=3						
Fires/Burns/Explosions						
1	NEISS	06/13/01	14 YR M	Unknown	Unknown	Rocket exploded in face. Burn to face.
Total=1						
Misuse						
1	NEISS	08/01/01	16 YR M	Unknown	Unknown	Making a model rocket with 2 engines instead of one when it exploded with flash burns to his face, hand and chest.
Total=1						

Appendix B

Powered Models From NEISS 1/1/80 to 5/26/01

	Document #	Date	Age/Sex	City and State	Narrative
INJURIES					
Struck					
1	NEISS	04/26/80	7 YR M	Unknown	At school, sent to change the model airplane's direction and got hit in the nose. Laceration.
2	NEISS	10/08/83	14 YR M	Unknown	Suffered a 6 cm laceration when remote controlled model boat ran up on shore and hit his lower leg.
3	NEISS	06/16/95	16 YR M	Unknown	Playing with a model rocket and it penetrated his arm through soft tissue. Laceration.
4	NEISS	11/03/95	8 YR M	Unknown	Model rocket came down and punctured 1 inch deep into chest wall to the neck region.
5	NEISS	03/15/96	14 YR M	Unknown	Lacerations to upper arm when he got struck by a rocket while watching during a rocket launch.
6	NEISS	05/31/98	11 YR M	Unknown	Playing with a flying model airplane and it flew into his head. Lacerated scalp.
Total=6					
Fires/Burns/Explosions					
1	NEISS	03/26/81	12 YR M	Unknown	2nd degree burns to face and eyes when rocket blew up.
2	NEISS	04/16/81	15 YR M	Unknown	Lit engine in model rocket exploded. Thermal burns to hand and face.
3	NEISS	08/19/81	13 YR M	Unknown	2nd degree burn to right hand trying to fly a model rocket.
4	NEISS	03/03/82	13 YR M	Unknown	Gunpowder explosion from toy rocket. Finger amputation and powder burns to eyes.
5	NEISS	09/25/82	12 YR M	Unknown	Toy rocket with rocket fuel exploded in patient's face, burning it.

	Document #	Date	Age/Sex	City and State	Narrative
6	NEISS	06/09/83	14 YR M	Unknown	Lighting powder for model rocket and the powder flashed back, burning lower arm.
7	NEISS	10/07/83	10 YR F	Unknown	Sustained a burn to her lower trunk at neighbor's when small rocket went off next to her.
8	NEISS	06/03/85	11 YR M	Unknown	Playing with rocket. Burned on finger by flame upon ignition.
9	NEISS	08/17/85	14 YR M	Unknown	Burned thigh on rocket engine.
10	NEISS	07/11/87	12 YR M	Unknown	Lit a model rocket and it burned patient's hand. Thermal burn.
11	NEISS	04/02/88	11 YR F	Unknown	Leg burn. Playing with a homemade rocket from hobby shop. The rocket was ignited and struck her clothing.
12	NEISS	04/25/89	14 YR M	Unknown	Working on a rocket hooked up to a solar igniter which prematurely ignited. 1st and 2nd degree burns to right knee.
13	NEISS	11/26/89	14 YR M	Unknown	Playing with a model rocket and burned face and hands.
14	NEISS	04/24/90	12 YR M	Unknown	Patient burned hand on toy rocket. 2nd degree burns.
15	NEISS	06/30/91	12 YR M	Unknown	At a hobby shop and a toy rocket exploded. Burns to face, forehead and forearm. Transferred to a burn center.
16	NEISS	12/25/91	11 YR M	Unknown	Small 2nd degree burn to right palm. Patient was reloading a rocket with powder and it went off in his hand.
17	NEISS	07/29/92	14 YR M	Unknown	Burnt fingers on model rockets. Thermal burns.
18	NEISS	03/28/93	15 YR M	Unknown	Patient playing with a toy rocket booster when it backfired and struck him on the face. Open fracture to nasal septum and nose laceration.
19	NEISS	06/02/93	14 YR M & 13 YR M	Unknown	Building a rocket and the solid propellant ignited unexpectedly, burning face and hand of one boy and the face of the other.

	Document #	Date	Age/Sex	City and State	Narrative
20	NEISS	08/31/96	11 YR M	Unknown	Burned leg when set off toy rocket.
21	NEISS	03/10/97	11 YR M	Unknown	Model rocket backfired and burned the patient's chest and lacerated his arm.
22	NEISS	01/23/98	12 YR M	Unknown	Model rocket started to launch and came back at patient. 1st degree burn to face.
23	NEISS	06/17/98	13 YR M	Unknown	Playing with a model rocket that used fuel. It did not launch and exploded. Thermal burn to hand.
24	NEISS	12/28/98	13 YR M	Unknown	Thermal 2nd degree burns to face and hand from model rocket.
25	NEISS	08/10/00	13 YR M	Unknown	Shooting a rocket and it blew up in patient's hand. Thermal burns to finger.
26	NEISS	11/20/00	17 YR M	Unknown	Toy rocket blew up 10-20 feet away. Foreign body in eye and tinnitis to left ear.

Total=26

Other

1	NEISS	03/14/89	11 YR M	Unknown	Lacerated leg while playing with a model rocket launch pad.
2	NEISS	03/29/89	12 YR M	Unknown	Avulsion of left index finger tip caused by a rocket with gunpowder that was bought as a kit.
3	NEISS	02/21/98	17 YR M	Unknown	Spark from a model jet hit patient in left eye. Foreign body in eye.

Total=3

Misuse

1	NEISS	06/10/97	10 YR M	Unknown	Placed paper over a rocket and lit it with a match. Sustained thermal burns to face and hands.
2	NEISS	01/28/00	11 YR M	Unknown	Took a model rocket engine and attached it to a miniature toy car. When it ignited it burned his neck and abraded his nose.

Total=2

TAB D

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: September 6, 2002

TO : Terrance Karels, Project Manager
Model Rocket Surface Vehicles
Directorate for Economic Analysis

THROUGH: Hugh McLaurin, Associate Executive Director,
Directorate for Engineering Sciences
Robert B. Ochsman, Ph.D., Director,
Division of Human Factors

FROM : Sharon R. White, ESHF

SUBJECT : Responses to Comments on Briefing Package concerning Centuri Corporation's Petition for Exemption of Model Rocket Propellant Devices for Surface Vehicles, HP 01-02

The Commission received a petition from Centuri Corporation requesting the Commission to issue a rule exempting certain model rocket motors to be used for model rocket cars. The model cars are Centuri's large "Screamin' Eagle" and small "Blurzz". The Commission denied the petition requesting exemption for model rockets used in the large "Screamin' Eagle", but granted the petition proposing an exemption for model rocket motors for use in small cars such as the "Blurzz". Therefore, this memo responds only to comments regarding Centuri's small "Blurzz" car.

Comment: Launching Vehicle Off Tether

In their comments, Centuri repeats the CPSC staff's statements resulting from their review of Centuri's marketing study, "...unanimously, the race line is preferred because it assures speed and control. None of the boys suggested eliminating it."

Centuri also states that "the cars have been designed to be unstable when not on the tether and their performance is therefore seriously degraded so that they will not travel as far, nor will they continue to travel accurately in the direction they have been pointed. As a result the cars will likely be damaged thus discouraging further attempts to operate the cars "off-tether"."

Response

Regarding the first comment, while the race line is preferred and none of the boys suggested eliminating it, Centuri's marketing study indicates that some of the boys would want to cut off the string as an experiment to see how the car works.

Regarding the second comment, while users may be discouraged from continuous use of the car off the tether due to the car's performance under these conditions, CPSC staff believes, as Centuri acknowledges, that the race car may be operated, at least once, off the tether.

Comment: Warnings in Product Instructions

"After evaluation of the submitted Warnings and Operating Instructions, it is recommended the Warning sign consisting of the "Equilateral Triangle with Exclamation Point" be enlarged to be more visible. The wording is appropriate bringing to the attention of the consumer the possible danger associated with this product if directions are not properly followed" (Intertek Testing Service).

Response

Communications with Mr. Lipki of Intertek clarified the intent of this comment. His view is that the *entire* warning label should be larger in order to be more conspicuous. Human Factors (HF) agrees. The present warning label, as designed, is too small. The messages in the safety message panel are approximately 5 or 6 point type. This type size is difficult to read at a normal reading distance and therefore does not stand out from the rocket car operating instructions. In order to generate appropriate attention to this warning label in the instructions, HF recommends that the label be made larger.

HF recommends that the type size of the text in the message panel be increased to at least 12 point type. This would make that text easy to read, particularly for children who would use this product, and is consistent with guidelines for writing instructions.

HF recommends that the signal word of the warning label be 50% larger than the text in the message panel, and the safety alert symbol should equal or exceed the height of the signal word text. This is consistent with ANSI Z535.4 and good professional practice.

Comment: Revised Product Instructions

Centuri Corporation submitted revised instructions for the Blurzz race car for review by CPSC staff.

Response

The reading level required to understand the product instructions for the small vehicle, according to Flesch-Kincaid Grade Level (a method that computes a readability score), is fourth grade (age 9). This is an improvement from the previous reading level of fifth grade (age 10) for the original instructions. While some younger children may be able to read the instructions, adults, as indicated on page 3 of Tab E of the briefing package, are likely to purchase the small vehicle for users ages 10 and up. Therefore, it is likely that the revised instructions would be easier for children ages 10 years and older to read and understand.

Additionally, the steps in the revised instructions are listed numerically. The numbered steps make it easier for the user to follow and keep his or her place. In the original instructions, the instructions relied on arrows at points in the instructions to get a user through a procedure. These instructions were not easy to use according to the marketing study because the "...sequence was not precise enough in the step-by-step set up."

Therefore, the revised instructions are an improvement over the original instructions in that revised instructions would be easier for users ages 10 and older to follow.

TAB E

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: September 12, 2002

TO : Terrance R. Karels, Project Manager
Directorate for Economics Analysis

THROUGH: Hugh McLaurin, Associate Executive Director
Directorate for Engineering Sciences
Troy Whitfield, Acting Division Director
Division of Mechanical Engineering

FROM : Troy Whitfield, Mechanical Engineer
Directorate for Engineering Sciences

SUBJECT : Rocket Powered Model Cars - Public Comment

This memorandum is in response to comments received on the proposed rule for model rocket propellant devices for use on ground vehicles. The Commission was asked to grant an exemption from the Federal Hazardous Substances Act (FHSA) for model rocket propellant devices for use in model rocket engine powered cars. Centuri Corporation/Estes Industries, a maker of model rockets and propellant devices, located in Penrose, Colorado, requested the exemption. The Commission voted 2-1 to allow the exemption for the smaller model rocket engine powered car.

BACKGROUND

The FHSA bans toys that contain hazardous substances that are accessible to children unless specifically exempted by Commission authority. Model rocket propellant devices, also referred to as model rocket motors or engines, are included in this category. Model rocket engines for use in light-weight rockets are exempt from this ban, provided they are ignited by electrical means, contain no more than 62.5 grams (2.2 ounces) of propellant and, produce less than 80 Newton-seconds (N-sec, 17.92 pound-seconds) of total impulse with a thrust duration not less than 0.05 seconds. The FHSA regulation also exempts solid fuel pellets for model airplanes, speedboats, racing cars, ad similar models, under similar conditions. These exemptions are found in 16 CFR, Section 1500.85 (a)(8) and (10).

The petitioner developed model cars that would use model rocket motors (rather than pellets) for propulsion. On January 23, 2001, Centuri Corporation petitioned the Commission requesting an exemption from the FHSA for rocket motors used in certain model cars.

THE PRODUCTS

Model Rocket Engines

Rocket engines are typically sold through toy stores and hobby shops for use in model rocketry and occasionally with other 'flying craft' such as model airplanes and gliders. Model rockets are also available through these types of stores and come in various sizes. Because of the different sizes and weights, engines are also available in different sizes to deliver various characteristics, such as impulse, time delay, and thrust.

A model rocket engine consists of a fuel and an oxidizer compressed into a cardboard tube. The most common motor contains black powder (sulfur, charcoal, and a nitrate) and is available in sizes "1/4 A" through "O", each size providing twice the total impulse of the previous size (i.e. "1/2A"=1.25 N-sec, "A"=2.5 N-sec, "B"=5 N-sec, etc.). To start the engine, a wire igniter is inserted into the nozzle of the engine and held in place with a plastic plug. An electrical current from a battery pack (typically 4 "AA" sized batteries) energizes the igniter, which then generates heat to cause ignition of the fuel. The energy created by the chemical reaction expels the plastic plug from the nozzle and creates thrust, leading to the propulsion (launch) of the vehicle.

Model Rocket Cars

Centuri developed two prototype model rocket cars. The smaller car, named "Blurzz," is shaped like a rail dragster - a type of custom-made competitive drag racer consisting of a long narrow shape to reduce aerodynamic drag and increase speed. The car uses the "A" size engine. The larger prototype, named "Screamin' Eagle," is similarly shaped for aerodynamics and resembles a rocket on wheels. The Screamin' Eagle uses the "D" size engine. Both of these cars are designed for use with a nylon tether to provide and control the direction of travel. The tether passes through the undercarriage of the prototypes and is also affixed to the rocket engine holder. The rocket engine is inserted into the holder at the rear of the cars, and is activated by the igniter. The igniter is energized by a separate control mechanism that includes a safety interlock to prevent unintentional ignition of the engine.

Public Comment

Several comments were received in response to the Commission decision. A comment from the National Association of Rocketry (NAR) supported the decision to restrict the exemption to the smaller "Blurzz" model. The NAR also offered a wording change to avoid consumer confusion between vertically flying rockets and the horizontally traveling cars. Rather than referring to model rocket cars, the NAR suggests that the term "rocket-powered cars" be used to avoid confusion in the National Fire Protection Association (NFPA) codes and the "Model Rocket Safety Code" where the term 'model rocket' denotes a flyable (airborne) product. Engineering Sciences agrees that this terminology better describes the product and its intended path of travel.

A second comment was provided by the petitioner (Centuri Corporation/Estes Industries) in the form of third party testing (Intertek Testing Services) of the smaller car. The test results included a video of the performance testing under normal and misuse conditions. The normal conditions observed were use of the car per the instructions, with the tether line attached on a relative level surface. Misuse conditions included: no tether line, the rocket engine only, up a ramp with and without the tether line, and a vertical launch. Intertek found that "Under certain circumstances, such as launching the engine alone or launching [the] car in a vertical direction, a potentially hazardous situation may occur and may prove to be potentially dangerous." Based on these findings, Intertek recommends the consumer use the product as instructed and pay attention to the warnings.

After review of the video and the test results, it is the Engineering Sciences staff opinion that the circumstances identified as "potentially hazardous" are not related to the scope of the proposed rule. The engines are currently available for powering model rockets and can therefore be 'launched alone' regardless of the outcome of the proposed rule. The engines are designed so that they cannot be ignited without the use of the wire igniter unless they are intentionally modified, adapted, or custom-made, which is also outside the consideration of the proposed rule.

The launching of the car vertically, or any other direction from horizontal, is analogous to launching a rocket. Model rocket launch pads allow for adjustments in the launch platform to account for uneven terrain. Given this capability, it is conceivable that model rockets can be (and probably have been) launched at angles other than vertical. From the video supplied, the angled launch showed a semi-controlled flight of short duration. The car launched upward to a height of 3-to-4 feet before looping several times and falling to the ground. Given the weight of the car (2.7 oz), the short duration of engine burn (0.8s), and the lack of aerodynamic design, the rocket engine cannot sustain an airborne flight. It is Engineering Sciences staff opinion that the tether system not only restricts and/or defines the direction of travel for the surface vehicle, but also provides a significant increase in the performance characteristics of the vehicle.

TAB F

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: May 08, 2002

TO : Files

THROUGH: Warren J. Prunella, Associate Executive Director For Economic Analysis

FROM : Terrance R. Karels, EC

SUBJECT : Rocket powered cars

On May 8, 2002 I had a telephone conversation with two representatives of Intertek Testing Services (ITS). They were:
Albert J. Rapella, Supervisor, Technical Services; and
Matt Gay, Testing Administrator

The discussion regarded the independent testing performed by ITS for Centuri Corporation. The test was of the "Blurzz" model car, powered by a size "A" model rocket motor.

In its performance review, ITS stated that "Under certain circumstances, such as launching the engine alone or launching the car in a vertical direction, a potentially hazardous situation may occur and may prove to be potentially dangerous." CPSC staff asked for clarification of this sentence.

Mr: Gay, who performed the test (with Mr. Rapella as an observer), stated that the major concern was the ignition of the rocket motor alone, since the motor exhibited wildly erratic movement. I explained that staff was aware that rocket motors could exhibit such behavior, but that rocket motors alone are not the subject of the Commission's actions (and that the rocket motors are now widely available for use with rockets); rather, it is the interaction/use of the rocket motors with a model car.

Mr. Gay also explained that "launching the car in a vertical direction" refers to launching at approximately a 45 degree angle. He stated that the model car reached about 5 feet in height from such a launch, and was airborne for approximately 10 feet. When asked about the extent of energy the model car exhibited he stated "Not much." He stated that, if contact was made with a human body, the car would "mostly just bounce off," but that bruising or slight laceration could result. According to Mr. Gay, contact with the car would not result in more serious injury (such as broken bones).

Mr. Rapella stated that the plastic body would not shatter, so that a potential sharp edge would not be formed.

ITS age-graded the model car according to the CPSC guidelines, and determined that the car would be appropriate for children aged 12 and older.

I have shared this memo with Mr. Rapella and Mr. Gay to ensure the accuracy of my recollection.

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: December 20, 2002

TO : Patricia M. Pollitzer, Office of the General Counsel

THROUGH: Warren J. Prunella, Associate Executive Director For Economic Analysis

FROM : Terrance R. Karels, EC TRK

SUBJECT : Rocket-powered Model Cars --- Economic Considerations

The Federal Hazardous Substance Act (FHSA) bans, as hazardous substances, the interstate commerce in model rocket propellant devices (or "motors"). Commission regulations exempt these devices, if they meet specific requirements. Section 2 (q)(1)(A) of the FHSA defines a banned hazardous substance as an article intended for use by children containing an accessible hazardous substance. The propellant in the motor is the substance regulated by the FHSA.

On January 23, 2001, Centuri Corporation petitioned the Commission for an exemption from the FHSA to allow the use of model rocket propellant devices up to size "D" for use in rocket-powered model cars. The petitioner developed 2 prototype rocket-powered model cars, the "Blurzz," which is powered by a size "A" motor containing 4 grams of pyrotechnic material, and the "Screamin' Eagle," powered by a size "D" motor containing 25 grams of pyrotechnic material.

On November 1, 2001, the Commission voted to grant the petition as it applies to smaller model rocket cars using size "A" motors but denied the exemption for model rocket cars using larger motors. The Commission found that "....there is a reasonable probability that model rocket propellant devices for surface vehicles like the Blurzz present no unreasonable risk of injury even when operated in reasonably foreseeable misuse...." The Commission also found that the intended users of this product would be of sufficient maturity to read and heed the directions for use and warnings that accompany the product.

Since the rule is an exemption rather than the promulgation of a new regulation, the FHSA does not require the preparation of a regulatory analysis describing the potential benefits and costs of the rule.

Response to Comments

Centuri Corporation commented that, based on its own sales data, more than 11 million rocket motors in sizes "1/4 A" through "D" are sold annually, but that CPSC staff reported annual sales for these products at 5 million units. The commenter also stated that the rate of injury would be far less if the higher sales data are used.

Staff obtained the earlier estimate of annual sales directly from the commenter, Centuri Corporation. Centuri is the largest producer of these products, and other industry sources stated that Centuri is the best source of sales data. The reason for that firm's restatement of sales is unknown. Staff agrees that the rate of injury based on the adjusted sales data would be lower than the already low rate associated with the earlier estimate.

Effects on Small Entities

The Commission is required under the Regulatory Flexibility Act of 1980 (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996, to address and give particular attention to the economic effects on small businesses and other small entities. These include manufacturers and marketers, as well as government entities.

One firm, the petitioner, intends to market model rocket cars commercially, under the framework and requirements of the rule. As the major manufacturer of model rocket motors (the banned hazardous substance), this firm does not meet the definition of "small business" under Small Business Administration guidelines. In addition, the exemption does not impose additional costs on any firm (large or small), but rather relieves a restriction under the FHSA. Thus, there is expected to be no adverse economic effect on small businesses.

The staff is unaware of any federal or other governmental rules with which the exemption would duplicate, overlap, or conflict. While some local government entities may have restrictions regarding the use of model rocket motors in their jurisdiction (such as in school parking lots), the rule is not expected to conflict with these restrictions. The exemption would not affect regulations governing their use.

Thus, the exemption, which will permit the sale of rocket motors for model rocket cars rather than result in any additional restrictions on their sale, is not expected to have a significant impact on a substantial number of small entities.

Environmental Considerations

Under the National Environmental Policy Act (NEPA), the Commission is required to consider the potential environmental impact of the rule. These effects include those on existing inventories, materials of construction, and packaging and printed materials.

Since this rule is an exemption, there are no existing inventories of complying products that would require disposal or retrofitting. Centuri Corporation (the petitioner) had a small number of samples produced for marketing and testing purposes, and supplied several samples to the Commission staff for its analysis; additionally, Centuri ordered some overseas production of model rocket cars in anticipation of approval of an exemption. Since these models do not meet the requirements in the Notice of Proposed Rulemaking as published in the **Federal Register,** they will require disposal or retrofitting. However, the effect on the environment will be negligible. Additionally, packaging and printed materials produced in anticipation of the rule may require disposal or overstickering; similarly, the effect of these actions on the environment will be negligible. Materials of construction would not significantly be affected, since those materials can be adapted to accommodate any modifications necessary to comply with the exemption or could be used in the production of other products.

Therefore, no significant environmental effects would result from the exemption for certain model rocket cars.

TAB G

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: October 17, 2002

TO : Terrance R. Karels, Economic Analysis,
Project Manager, Petition HP 01-2
Directorate for Economic Analysis

THROUGH: Mary Ann Danello, Ph.D., Associate Executive Director,
Directorate for Health Sciences
Lori E. Saltzman, M.S., Director,
Division of Health Sciences

FROM : Jason R. Goldsmith, Ph.D., Physiologist,
Division of Health Sciences, x-1387

SUBJECT : Rocket-Powered Model Cars – Response to Comments

This memorandum has been prepared in response to comments received on the Commission briefing package for Petition HP 01-2. The Commission received comments on the briefing package only from the petitioner, Barry Tunick, Centuri Corporation president. Included were several comments related to the Health Sciences (HS) assessment of the injury potential associated with normal and foreseeable use of the proposed rocket-powered model cars. This memo will address the petitioner's comments to HS, and will characterize the injury potential associated with the petitioner's Blurzz vehicle. The Commission has voted to initiate the process for granting an exemption for the class of rocket-powered model cars exemplified by the Blurzz.

Although the proposed rocket-powered model cars are not yet marketed, and therefore will not be represented in CPSC injury databases, relevant injuries associated with model rockets or similar products were found. The Division of Hazard Analysis (R. Ingle, 7/25/01; J. McDonald, 7/1/02; briefing package memos) found that burn injuries were amongst the most common injury type associated with model rockets, the engines of which are similar to those now under consideration for use in rocket-powered model cars. It is not unreasonable that burn injuries could also occur with rocket-powered model cars, particularly since their engines are oriented horizontally rather than toward the ground, as is the case with model rockets.

Health Sciences staff considers a general failure to heed the safety instructions (a likely condition as pointed out in the 7/16/01, S. White, Division of Human Factors (HF) briefing package memo) or troubleshooting efforts subsequent to an engine ignition failure (misfire), as scenarios that may increase the opportunity for close contact with the car's engine and potential for burn injury. The severity of injury may be influenced by the properties of the flame and the duration of contact with the skin. (J. Goldsmith, 8/2/01/ briefing package memo).

Additionally, as captured in the market study provided by Centuri and discussed by HF (S. White, 7/16/01, briefing package memo), the "...warnings in the assembly instructions may have little to no influence on children."[1] Some are "...likely to launch the vehicle without the tether..." and "...may use it with a ramp, set up barriers, and experiment with different string tensions which may have a similar effect as when using it untethered."[1] Health Sciences staff considers that the resultant unpredictable movement of the vehicle under these conditions increases the chances of impact with other racers, observers or passers-by and presents additional opportunity for injury.

According to Intertek Testing Services (see T. Karels, 5/8/02 briefing package memo), when the car was launched at an approximately 45-degree angle, it reached about 5 feet in height, and was airborne for approximately 10 feet. Thus, although short-lived, a child could be impacted by the vehicle if they were in the vehicle's path. Depending on the kinetic energy possessed by the vehicle at the time of impact, impact with the moving vehicle has the potential to produce abrasions, contusions, and ruptures/lacerations of the skin as well as injuries involving the eyes (J. Goldsmith, 8/2/01 briefing package memo).

[1] S. White, 7/16/01, briefing package memo

TAB H

DRAFT 1/10/03 Billing Code 6355-01-P

CONSUMER PRODUCT SAFETY COMMISSION

16 CFR Part 1500

Exemptions from Classification as Banned Hazardous Substances; Exemption For Certain Model Rocket Propellant Devices For Use With Rocket-powered Model Cars

AGENCY: Consumer Product Safety Commission.

ACTION: Final Rule.

SUMMARY: The Commission is issuing a rule to exempt from the Federal Hazardous Substances Act ("FHSA") certain model rocket propellant devices for vehicles that travel on the ground. The Commission's current regulations exempt motors used for flyable model rockets. The rule exempts certain propellant devices for rocket-powered model cars if they meet requirements similar to those required for flyable model rockets and additional requirements to avoid possible injuries if the cars are operated off of their tether.

DATES: The rule becomes effective on _____[insert date of publication in the **Federal Register**].

FOR FURTHER INFORMATION CONTACT: James G. Joholske, Office of Compliance, Consumer Product Safety Commission, Washington, D.C. 20207; telephone (301) 504-0608 ext. 1419.

SUPPLEMENTARY INFORMATION:

A. Background

Section 2(q)(1)(A) of the FHSA bans toys that are or contain hazardous substances that are accessible to a child. 15 U.S.C. 1261(q)(1)(A). However, the FHSA authorizes the

Commission, by regulation, to grant exemptions from classifications as banned hazardous substances for:

> articles, such as chemistry sets, which by reason of their functional purpose require the inclusion of the hazardous substance involved, or necessarily present an electrical, mechanical, or thermal hazard, and which bear labeling giving adequate directions and warnings for safe use and are intended for use by children who have attained sufficient maturity, and may reasonably be expected to read and heed such directions and warnings.

15 U.S.C. 1261(q)(1)(A). Thus, the Commission may issue an exemption if it finds that the product requires inclusion of a hazardous substance in order for it to function, has sufficient directions and warnings, and is intended for children who are old enough to read and follow the directions and warnings. Id. The Food and Drug Administration, which administered the FHSA before the Commission was established, issued a rule under this authority that exempted from the definition of banned hazardous substances model rocket propellant devices (motors) designed for use in light-weight, recoverable, and reflyable model rockets, if they meet certain requirements. 16 CFR 1500.85(a)(8).

B. The Petition

The Commission received a petition from Centuri Corporation ("Centuri") requesting that the Commission issue a rule exempting certain model rocket propellant devices to be used for model cars that travel on the ground along a tethered line and are propelled in a manner similar to flyable rockets. The petitioner requested an exemption that would allow the sale of both of its two prototype rocket-powered model cars. The smaller car, named "Blurzz," uses an "A" motor, and is shaped like a "rail," a type of custom-made vehicle used in competitive drag racing. The larger prototype, named "Screamin' Eagle," uses a "D" motor, and is shaped like a "Bonneville Speed Record" custom vehicle. The Commission decided to grant the petition in part and

propose an exemption for model rocket propellant devices to be used for rocket-powered model cars like the smaller "Blurzz" car only.[1]

C. The Proposed Exemption

On January 30, 2002, the Commission published a notice of proposed rulemaking ("NPR") proposing to exempt model rocket propellant devices for use with smaller rocket-powered model cars like the "Blurzz." 67 FR 4373. As explained in the NPR, the Commission concluded that due to the weight, speed and the height it can reach, the larger "Screamin' Eagle" posed a significant risk of injury to any person downrange from it when it is used in the absence of the tether. The Commission, therefore, denied the petition insofar as it requested an exemption from the FHSA for model rocket propellant devices for cars like the "Screamin' Eagle." However, the Commission concluded that when the smaller "Blurzz" car was ignited without the tether, it ordinarily simply flipped onto its back and skittered around on the ground or traveled downrange only a very limited distance, and rose only a few inches in the air, before flipping onto its back. Thus, the Commission concluded that there is a reasonable probability that model rocket propellant devices for rocket-powered model cars like the "Blurzz" present no unreasonable risk of injury even when operated in reasonably foreseeable misuse without the tether. The Commission also preliminarily found that children interested in model rockets and rocket-powered model cars such as the "Blurzz" are of sufficient maturity that they may reasonably be expected to read and heed the directions for use and warnings that accompany model cars like the "Blurzz." The Commission also preliminarily found that those directions and

[1] The Commission voted 2-1 to grant the petition with regard to the smaller vehicles and deny it regarding the larger ones. Commissioners Thomas Moore and Mary Sheila Gall voted to take this action. Then-Chairman Ann Brown voted to deny the entire petition.

warnings are adequate to guide users in the safe use of the product.

D. Comments on the NPR

The Commission received three comments on the NPR from Centuri, Intertek Testing Services ("Intertek"), and the National Association of Rocketry ("NAR"). Centuri commented on some of the technical statements in the staff's memos that were part of the briefing package concerning Centuri's petition. The comment from Intertek was actually test results submitted by Centuri. Intertek suggested enlarging the safety alert symbol that appears in directions for the model car. Commission staff agrees that the entire warning label should be larger. NAR agreed with the Commission that the exemption should be limited to smaller "A" motors.

E. The Final Rule

When reviewing data for the petition, the Commission's Directorate for Epidemiology found two deaths over a 20-year period involving model airplanes (both involved adult males, 40 and 44 years of age). Centuri provided additional information about these. In one incident, the plane weighed about 5 pounds (compared to 2.7 oz. for a size "A" rocket-powered model car), and was traveling at an estimated 200 mph (compared to the top speed of 28 mph for the size "A" car). Centuri characterized the airplane in the other incident as "quite large and heavy." The staff reviewed data available after the petition briefing package (for the period May 26, 2001 to April 15, 2002) and found no deaths that could be considered comparable to deaths that might involve rocket-powered model cars.

The Commission's Human Factors staff reviewed revised instructions submitted by Centuri and concluded that the revisions were an improvement over previous instructions and would make them easier for users age 10 and up to follow.

The Commission's Engineering staff reviewed results of testing from Intertek. Intertek was primarily concerned with the dangers of launching the engine alone without the vehicle. Because such motors are currently available with other exempted products, the staff does not believe that exempting rocket-powered model cars creates or increases the hazard of igniting motors outside the vehicles. Intertek was also concerned about launching cars from a ramp or vertical support. However, the Engineering staff believes such operation would be similar to launching a model rocket, and injury data do not suggest a problem with model rockets in those types of launches.

The Commission's staff was concerned about possible injuries if rocket powered cars are operated off the tether. As discussed above, when the "Blurzz" was used without the tether it traveled only a limited distance a few inches off the ground and then flipped on its back. Such performance is not likely to injure operators or bystanders. However, Compliance staff was concerned that in the future a company may develop a rocket-powered model car that when operated off the tether could obtain sufficient height, distance and force to injure operators or bystanders. Thus, the final rule contains a limitation that vehicles must be designed so that they either cannot operate off of a track or line (i.e., tether), or if operated off the tether the vehicle will be unstable and will not travel in a guided fashion, so that the car will not strike operators or bystanders. The Commission reminds manufacturers that under section 15 of the Consumer Product Safety Act they have an obligation to report to the Commission if they have information which reasonably supports the conclusion that their product creates an unreasonable risk of serious injury or death or contains a defect which could create a substantial product hazard. 15 U.S.C. 2064(b)(2) & (3). The Commission has the authority to pursue corrective action regarding any toy or other children's article that creates a substantial risk of injury to children.

15 U.S.C. 1274(c)(1).

A small change was made to the final rule in order to correct a cross reference that conflicted with the characteristics of an A motor described in section 1500.85(a)(14)(i)(B) of the rule and to include appropriate provisions of the cross-reference in the rule itself.

F. Effective Date

This rule exempts certain model rocket propellant devices for rocket-powered model cars that would otherwise be banned under the FHSA. Because the rule grants an exemption, it is not subject to the requirement under the Administrative Procedure Act ("APA") that a rule must be published 30 days before it takes effect. 5 U.S.C 553(d)(1). The rule lifts an existing restriction and allows a product not previously permitted. Thus, the Commission believes it is appropriate for the rule to become effective upon publication in the Federal Register.

G. Impact on Small Business

The NPR discussed the Commission's assessment of the impact that a rule to exempt propellant devices for use with small rocket-powered model cars like the "Blurzz" might have on small businesses. Because the exemption would relieve manufacturers from existing restrictions, the Commission concluded that the proposed exemption would not have a significant impact on a substantial number of small businesses or other small entities. No comments or additional information alter that conclusion.

H. Environmental Considerations

Pursuant to the National Environmental Policy Act, and in accordance with the Council on Environmental Quality regulations and CPSC procedures for environmental review, the Commission assessed the possible environmental effects associated with the proposed

exemption. As discussed in the NPR, the Commission concluded that the rule would have no adverse effect on the environment, and therefore, neither an environmental assessment nor an environmental impact statement is required.

I. Executive Orders

According to Executive Order 12988 (February 5, 1996), agencies must state in clear language the preemptive effect, if any, of new regulations.

The FHSA provides that, generally, if the Commission issues a rule under section 2(q) of the FHSA to protect against a risk of illness or injury associated with a hazardous substance,"no State or political subdivision of a State may establish or continue in effect a requirement applicable to such substance and designed to protect against the same risk of illness or injury unless such requirement is identical to the requirement established under such regulations." 15 U.S.C. 1261n(b)(1)(B). (The FHSA also provides for the state or political subdivision of a state to apply for an exemption from preemption if certain requirements are met.) Thus, the rule exempting model rocket propellant devices for use with certain surface vehicles will preempt non-identical requirements for such propellant devices.

The Commission has also evaluated the rule in light of the principles stated in Executive Order 13132 concerning federalism, even though that Order does not apply to independent regulatory agencies such as CPSC. The Commission does not expect that the rule will have any substantial direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among various levels of government.

List of Subjects in 16 CFR Part 1500

Consumer protection, Hazardous materials, Hazardous substances, Imports, Infants and children, Labeling, Law enforcement, and Toys.

Conclusion

For the reasons stated above, the Commission concludes that, with the requirements stated in the exemption, model rocket propellant devices to propel small rocket-powered cars like the "Blurzz" require inclusion of a hazardous substance in order to function, have sufficient directions and warnings for safe use, and are intended for children who are mature enough that they may reasonably be expected to read and heed the directions and warnings. Therefore, the Commission amends title 16 of the Code of Federal Regulations as follows:

PART 1500 - HAZARDOUS SUBSTANCES AND ARTICLES: ADMINISTRATION AND ENFORCEMENT REGULATIONS

1. The authority for part 1500 continues to read as follows:

Authority: 15 U.S.C. 1261-1278.

2. Section 1500.85 is amended by adding a new paragraph (a)(14) to read as follows:

§ 1500.85 Exemptions from classification as banned hazardous substances.

(a) * * *

(14) Model rocket propellant devices (model rocket motors) designed to propel rocket-powered model cars, provided

(i) Such devices:

(A) Are designed to be ignited electrically and are intended to be operated from a minimum distance of 15 feet (4.6 m) away;

(B) Contain no more than 4 g. of propellant material and produce no more than 2.5 Newton-seconds of total impulse with a thrust duration not less than 0.050 seconds;

(C) Are constructed such that all the chemical ingredients are pre-loaded into a cylindrical paper or similarly constructed non-metallic tube that will not fragment into sharp, hard pieces;

(D) Are designed so that they will not burst under normal conditions of use, are incapable of spontaneous ignition, and do not contain any type of explosive or pyrotechnic warhead other than a small recovery system activation charge;

(E) Bear labeling, including labeling that the devices are intended for use by persons age 12 and older, and include instructions providing adequate warnings and instructions for safe use; and

(F) Comply with the requirements of 16 CFR § 1500.83(a)(36)(ii and iii); and

(ii) The surface vehicles intended for use with such devices:

(A) Are lightweight, weighing no more than 3.0 oz. (85 grams), and constructed mainly of materials such as balsa wood or plastics that will not fragment into sharp, hard pieces;

(B) Are designed to utilize a braking system such as a parachute or shock absorbing stopping mechanism;

(C) Are designed so that they cannot accept propellant devices measuring larger than 0.5" (13 mm) in diameter and 1.75" (44 mm) in length;

(D) Are designed so that the engine mount is permanently attached by the manufacturer to a track or track line that controls the vehicle's direction for the duration of its movement;

(E) Are not designed to carry any type of explosive or pyrotechnic material other than the model rocket motor used for primary propulsion;

(F) Bear labeling and include instructions providing adequate warnings and instructions for safe use; and

(G) Are designed to operate on a track or line that controls the vehicles' direction for the duration of their movement and either cannot operate off the track or line or, if operated off the track or line, are unstable and fail to operate in a guided fashion so that they will not strike the operator or bystanders.

3. Section 1500.83(a)(36)(i) is amended to read as follows:

§ 1500.83 Exemptions for small packages, minor hazards, and special circumstances.

(a) * * *

(36) * * *

(i) The devices are designed and constructed in accordance with the specifications in § 1500.85(a)(8), (9) or (14);

Dated: _____

_____

Todd Stevenson, Secretary
Consumer Product Safety Commission

Appendix to Preamble – List of Relevant Documents

1. Briefing memorandum from Terrance R. Karels, Directorate for Economic Analysis, to the Commission, "Exemption from Classification as Banned Hazardous Substances Rocket-powered Model Cars, _____, 2002

2. Memorandum from Joyce McDonald, Hazard Analysis Division, to Terrance R. Karels, "Model Rocket Car Petition," July 1, 2002.

3. Memorandum from Sharon R. White, Directorate for Engineering Sciences, Division of Human Factors, to Terrance R. Karels, "Responses to Comments on Briefing Package concerning Centuri Corporation's Petition for Exemption of Model Rocket Propellant Devices for Surface Vehicles, HP 01-02," September 6, 2002.

4. Memorandum from Troy W. Whitfield, Directorate for Engineering Sciences, to Terrance R. Karels, "Rocket Powered Model Cars – Public Comment," September 6, 2002.

5. Memorandum from Terrance R. Karels, Directorate for Economic Analysis, to Files, "Rocket powered cars," May 8, 2002.

6. Memorandum from Terrance R. Karels, Directorate for Economic Analysis, to Patricia M. Pollitzer, Office of General Counsel, "Rocket -powered Model Cars – Economic Considerations," September 6, 2002.