Tab D

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

CPSC/OFC OF THE SECRETARY
2001 FEB 16 P 3 21

Memorandum

Date: FEB 15 2001

TO : The Commission
Sadye E. Dunn, Secretary

FROM : Michael S Solender, General Counsel MSS
Stephen Lemberg, Assistant General Counsel SL
Patricia M. Pollitzer, Attorney PMP

SUBJECT : Dive Sticks. Final Rule

BALLOT **VOTE SHEET** DUE 6 2001

The staff recommends that the Commission issue a final rule banning dive sticks with certain hazardous characteristics A draft Federal Register notice, which includes a draft final rule, is attached at Tab D of the briefing package.

Please indicate your vote on the following options.

I. Approve the draft Federal Register notice without change.

_____ _____
Signature Date

II Approve the draft Federal Register notice with the following changes (please specify)

_____

_____

_____

_____ _____
Signature Date

CPSA 6 (b)(1) Cleared
____ No Mfrs/PrvtLblrs or Products Identified
Excepted by RTP
Furnished 2/15/01

NOTE: This document has not been reviewed or accepted by the Commission.
Initial RH Date 2/15/01

III. Do not approve the draft Federal Register notice

_____ _____

Signature Date

IV Take other action (please specify):

_____

_____

_____

_____ _____

Signature Date

BRIEFING PACKAGE FOR DIVE STICKS
FINAL RULE

For Further Information, Contact
Scott Heh
Project Manager
Directorate for Engineering Sciences
301-504-0494, ext 1308

CPSA 6 (b)(1) Cleared

____No Mfrs/PrvtLblrs or Products Identified
✓ Accepted by RTP
__ Firms Notified, 2/15/01
Reviewed

NOTE: This document has not been reviewed or accepted by the Commission.
Initial rtl **Date** 2/15/01

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Executive Summary

This briefing package transmits a staff recommendation that the U S Consumer Product Safety Commission (CPSC) issue a final rule to ban dive sticks with certain characteristics that result in a hazardous product.

Dive sticks are one of several types of devices used for underwater retrieval games in swimming pools. Hazardous dive sticks are typically made of a rigid plastic and are, or can be, weighted so that when dropped into water they sink and stand upright on the bottom of a pool. The CPSC staff is aware of nine impalement incidents between January 1990 and November 2000 that occurred when children jumped or fell into water and landed on a dive stick that was standing upright at the bottom of a pool or tub. These incidents resulted in injuries to the rectal or vaginal areas of children between the ages of three and nine years.

The final rule would ban dive sticks with the following characteristics: (1) they submerge and come to rest at the bottom of a pool of water, (2) they stand upright at the bottom, and (3) they are rigid Dive sticks that do not have all three of these characteristics would be exempt from the rule. The staff developed a definition for dive sticks that includes certain performance tests to differentiate those dive sticks that would be considered banned hazardous products from other products that may be used in a similar manner as dive sticks but do not pose the same risk of injury.

In June 1999, the CPSC Office of Compliance obtained voluntary corrective action agreements from 15 different manufacturers or importers of dive sticks that staff determined pose a risk of impalement injury On June 24, 1999, the CPSC staff transmitted a briefing package to the Commission that recommended initiation of a rulemaking proceeding that could result in a rule banning certain dive sticks. The Commission voted to issue an advance notice of proposed rulemaking (ANPR) that was published in the Federal Register on July 16, 1999 This was followed by a notice of proposed rulemaking (NPR) on July 19, 2000

The costs associated with modifying dive sticks to reduce or eliminate the injury risk are likely to be low. CPSC staff believes that changes can be made with minimal impact on tooling and other production processes. Several firms have already introduced dive sticks that comply with the proposed rule Those manufacturers whose redesigned products meet the proposed requirements are not expected to incur additional costs Furthermore, there are inexpensive substitute products for dive sticks that have similar utility and recreational value, but do not present the risk of impalement injury Consequently, it is likely that when the incremental costs of the proposed rule are spread over large production runs, the costs will not exceed the benefits of the rule -- 2 to 4 cents per dive stick manufactured.

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: FEB 15 2001

To : The Commission
Sadye E Dunn, Secretary

Through : Michael S Solender, General Counsel MSS
Pamela Gilbert, Executive Director PG

From : Ronald L Medford, Assistant Executive Director, RLM
Office of Hazard Identification and Reduction
Scott R Heh, Project Manager, SH
Directorate for Engineering Sciences,
(504-0494 ext 1308)

Subject : Dive Sticks

I. ISSUE

This briefing package transmits a staff recommendation for the Commission to issue a final rule banning dive sticks with certain characteristics that result in a hazardous product

II. BACKGROUND

Dive sticks are one of several types of devices used in swimming pools or other water environments for such activities as underwater retrieval games or swimming instruction They are typically made of rigid plastic and are weighted (or can be weighted) so that when dropped into water they sink and stand upright on the bottom of a pool. The staff is aware of nine impalement incidents involving dive sticks that were upright at the bottom of a pool or tub These injuries occurred when children jumped or fell into a pool (or sat down into a tub) and landed on an upright dive stick Four females (ages 7 to 9 years) sustained injuries when the dive stick penetrated the vagina Two males (age 3 and 7 years) and two females (ages 5 and 6 years) suffered injuries when the dive stick penetrated the rectum In the remaining incident, a seven year-old female received lacerations around the rectum after landing on a dive stick.

As a result of an investigation by the Office of Compliance (Compliance) and product safety assessments by the technical staff, the staff determined that certain dive sticks present a risk of impalement injury to children

CPSA 6 (b)(1) Cleared

____ No Mfrs/PrvtLblrs or Products Identified
____ Excepted by RTP
____ Firms Notified, 2/15/01
Comments Process

NOTE: This document has not been reviewed or accepted by the Commission.
Initial ML Date 2/15/01

In June 1999, the CPSC announced that 15 firms were recalling more than 19 million dive sticks [1] Depending on the dive sticks owned, consumers could receive a refund, replacement, or repair of the product On June 24, 1999, the CPSC staff transmitted a briefing package to the Commission that recommended initiation of a rulemaking proceeding that could result in a rule banning certain dive sticks The Commission approved and issued an ANPR, which was published in the Federal Register on July 16, 1999 The Commission voted to continue the rulemaking proceeding with the publication of a NPR on July 19, 2000

The following discussion summarizes technical staff analyses of the severity and health consequences of the injuries, the incident data, the product characteristics, and the use characteristics and risk factors associated with dive sticks. This is followed by a proposed technical definition of a hazardous dive stick. The discussion also includes a summary of the comment received in response to the NPR and a final regulatory analysis The memorandum concludes with a discussion of options available to the Commission to reduce traumatic injuries associated with dive sticks and a staff recommendation to issue a final rule.

III. DISCUSSION

A. Severity and Consequences of Penetrating Injuries to the Perineum

The Directorate for Health Sciences (HS) discussed the severity and health effects of impalement injuries to the genitalia and rectum, and the medical interventions required for the clinical management of such injuries [1]. For dive sticks, staff defines impalement injuries as injuries that occur when impact with the dive stick results in tears to the perineum and/or when the dive stick penetrates the vagina or the rectum causing injury to the surrounding tissue or the internal organs.

While penetrating injuries account for only a very small percentage of traumatic injuries in children, they are severe Falls on vertical objects may result in traumatic injuries to the perineum (the region of the body extending from the anus to the scrotum in males and from the anus to the vulva in females) The severity of rectal or vaginal lesions after impalement depends on the degree of penetration by the object. This, in turn, is dependent on the force of impact and the physical properties of the involved object (size and surface characteristics) The severity of injury could range from laceration to the rectum and sphincter, to puncture wounds and tears of the colon. High impact forces may also cause injuries to the vulva, vaginal canal, and blood vessels beneath the perineal skin in females In males, such impacts may cause perforation injuries to the genitalia, urethra, ureter and bladder. All these types of perforation or laceration injuries in males and females require hospitalization and surgery.

Because of the nature of the area, the main complication after perineal injuries is lesion infection, which may lead to abscess and possible sepsis in extreme cases. To avoid subsequent septic complications, the management of these pediatric injuries often requires aggressive and drastic surgical means Perineal injuries (with or without rectal injury) often require fecal diversion (proximal colostomy), wound drainage, and the use of a broad-spectrum antibiotic in pre- and post-operative stages The damage caused by deep penetration into the rectal or vaginal

[1] In November 1999, Compliance accepted a corrective action plan from a 16th manufacturer

area may have devastating effects on children's health In addition to long term physiological effects on children, these types of injuries may cause long lasting emotional trauma

B. Summary of the Incident Data

The Directorate for Epidemiology, Division of Hazard Analysis (EPHA) provided information on the reported incidents associated with dive sticks (Tab A).

Impalement Injuries

From January 1990 to November 2000, the staff is aware of nine[2] impalement incidents involving vertical standing dive sticks that resulted in injuries to the vaginal or rectal regions of young children One new incident was reported to the Commission since the June 2000 briefing package containing the draft NPR

Four females (ages 7 to 9 years) sustained injuries when the dive stick penetrated the vagina. Two males (ages 3 and 7 years) and two females (ages 5 and 6 years) suffered injuries when the dive stick penetrated the rectum In the remaining incident, a seven year-old female received lacerations around the rectum after landing on a dive stick Medical attention was sought after each incident, and six of the injuries required surgery to address multiple internal and external injuries

Eight of the impalement injuries occurred in shallow depth of water· wading pools with 12 to 24 inches of water (5); the top step of a spa, a three-foot pool with 27 inches of water, and a bathtub with approximately 6 inches of water The ninth incident occurred in a pool, but the type of pool and the water depth are unknown

Each of the incidents involved vertically-standing dive sticks The products were cylindrical batons, approximately 7-7/8 to 8-5/8 inches long and 7/8 to one inch in diameter

Other Injuries Resulting from Contact with Dive Stick After Submersion into Pool

In addition to genital and rectal injuries, CPSC received reports of four injuries to other body parts that occurred when the victims struck vertically-standing dive sticks.

These four injuries occurred when the children attempted to retrieve dive sticks that were standing upright at the bottom of a pool. A female victim, age 6 years, received a facial laceration when she stuck her face in the water and her face struck the product. One boy, age 8, dove head first into the pool and hit his forehead on the product The third victim, a 7 year-old male, jumped into the pool feet first and punctured his foot on the sharp edge of the dive stick

[2] In addition to the nine impalement incidents, another dive stick incident was reported involving an eleven-year-old girl who suffered a scratched rectum In this case, the complainant (the victim's grandmother) described an incident that had occurred two years previously While this injury is similar to those involving direct impact with vertical dive sticks standing at a pool bottom, the details in the incident report are not sufficient to confirm the position of the stick during impact

after it broke from the initial contact The final victim, a 9-year-old male, lacerated his back on the sharp edge of a dive stick when he dove into the pool to retrieve the product

Tab A contains detailed summaries of each of the incidents discussed above

C. Dive Stick and Pool Characteristics, Use Patterns, and the Risk of Injury

In previous briefing packages[2][3] on rulemaking concerning dive sticks, the Division of Human Factors (HF) provided assessments of the product, use patterns, and risk of injury associated with dive sticks A short summary of these issues is below

The common features of the dive sticks which contributed to the injuries described above are that they: (1) were rigid, (2) stood in a relatively stable, upright position on the floor of a pool of water; and (3) were long enough and small enough in cross section to concentrate the force of impact and allow penetration of the body via the anal or vaginal opening The injuries resulted from the impact of a vulnerable part of the body with the top surface of the stick The sticks pose a risk of injury because when force is applied in line with the long axis of the sticks, they do not move or flex.

The characteristics of the pool are a second factor affecting the risk of injury In eight of the thirteen incidents for which the information is available, the pools were generally described as wading pools with relatively shallow depths One pool was reported to be 12 feet in diameter, and another, a 6-foot spa, one incident occurred in a bathtub.

The estimated water depths reported in the incidents involving wading pools ranged from 12 to 36 inches. With a few exceptions, the descriptions of the events which occurred in shallow pools suggest that the victims were not actively using the sticks when the injury occurred; the sticks simply happened to be in the way when the child jumped or fell into the pool This is foreseeable in the informal atmosphere of backyard pool use Play is the point of the activity Toys and accessories are likely to be available in or near the pool for children to use at their discretion

Based on the information provided in the incident reports, the factors creating the highest risk of penetration injuries due to impact with dive sticks are (1) the characteristic shape, size and behavior of the sticks in water; (2) use of the sticks in small shallow pools; (3) typical behavior of children in a recreational context, and (4) a perception among adult caretakers that the product is not hazardous

D. Types of Hazardous Dive Sticks

The technical staff examined various types of dive sticks. Dive sticks may be either pre-weighted or non-weighted (or weight adjustable) Pre-weighted dive sticks are weighted so that when dropped into water, they sink and stand upright, with the bottom of the dive stick in contact with the bottom of the pool Both styles are typically about 8 inches long and less than an inch in diameter at the ends The hollow tube style is also produced in varying diameters (about 1/2 to 1

1/2 inches) and lengths (about 4 to 10 inches) Some pre-weighted dive sticks are not cylindrical, but instead have novel shapes, such as a shark or a dolphin

CPSC staff considered all of the rigid, pre-weighted dive sticks to pose a risk of injury due to impalement or perineal laceration In addition, one pre-weighted dive stick that was shaped like a shark profile was also considered to pose an impalement and/or perineal laceration hazard.

For the non-weighted, hollow-tube dive sticks, the staff concluded that these also posed a risk for impalement injury and/or perineal laceration when they stand upright at the bottom of the pool Given that the hazardous upright position is only one of several potential positions for hollow dive sticks, it is less likely that these dive sticks will present an impalement hazard as compared to pre-weighted dive sticks. However, staff found that it was not difficult to adjust the fill water in many of the hollow sticks to make them sink and stand upright on the bottom of a pool. In fact, some of these dive sticks came with package markings and/or instructions indicating that the sticks will stand upright at the pool bottom.

E. Banning Definition and Test Procedures for Dive Sticks

In order to move forward with a rule that bans dive sticks that pose a risk of impalement injury, the staff developed a definition to differentiate those dive stick items that would be considered banned hazardous products from other products that are used in a similar manner as dive sticks but do not pose the same risk of injury.

In developing this definition, the staff focused on the following characteristics of dive sticks that were involved in impalement incidents: (1) they submerge and come to rest at the bottom of a pool of water, (2) they stand upright at the bottom, and (3) they are rigid

Based on the staff's assessments of dive stick characteristics that contribute to the risk of impalement injury, ESME developed the following language to describe a dive stick that would be subject to the ban and to clarify what products would be exempt from the ban [4]

Draft § 1500.18(a)(18) specifies that the following articles are banned, "Dive sticks, and other similar articles, that are used in swimming pools or other water environments for such activities as underwater retrieval games or swimming instruction, and which, when placed in the water, submerge and rest at the bottom of the pool. This includes products that are pre-weighted to sink to the bottom and products that are designed to allow the user to adjust the weight. Dive sticks and similar articles that come to rest underwater at an angle greater than 45 degrees from vertical when measured under the test at § 1500 86(a)(7) and dive sticks and similar articles for which a maximum compressive force does not exceed 5-lbf [22 N] under the test at § 1500 86(a)(8) are exempt from this banning rule Articles that have a continuous circular or spherical shape, such as dive rings and dive disks, are also exempt "

Draft § 1500.86(a)(7) provides a test method to determine if the dive stick rests at an angle greater or lesser than 45 degrees from vertical The dive stick is dropped into a glass-sided

container of tap water and a 45-degree gauge is aligned with the dive stick under water If the dive stick rests in a position greater than 45 degrees from vertical, it is not subject to the rule

Draft § 1500 86(a)(8) provides a test method to determine whether a 5-lbf compressive force can be obtained when a load is applied in line with the long axis of the dive stick An upright dive stick is secured in a test rig that gradually applies the load at the top of the stick. If, during the test, the force gauge does not reach 5-lbf, the dive stick is exempt from the regulation

F. Summary of Comment in Response to the NPR

In response to the NPR, the Commission received one comment from Mr. Alberto Valdes, a student at Florida International University The comment concerns the proposed exemption to the rule that would allow the sale of dive sticks if they comply with a compression force test requirement at Section 1500 86(a)(8) of the proposed rule. Mr Valdes asks, "Wouldn't it be safer to just discontinue the sale of all types of dive sticks? Aren't softer models a potential danger for our children as well?" A copy of Mr. Valdes' comment and the staff response are at Tab B

Staff Response

The primary characteristics of dive sticks that contribute to impalement injury risk are: (1) they submerge and come to rest at the bottom of a pool of water, (2) they stand upright at the bottom, and (3) they are rigid As part of this rulemaking process, CPSC staff reviewed medical literature on impalement injuries In case studies of impalement injuries to children (including objects other than dive sticks), the objects involved were rigid and had vertical orientations The staff is not aware of any impalement injuries to the perineum that involved a flexible object Given this information, one approach to modifying dive sticks to reduce the risk of impalement injury is to make them flexible This approach was mentioned several times in the in-depth investigations and other materials reviewed by CPSC staff The flexible dive stick approach was proposed by an expert witness for a plaintiff injured by a dive stick (Dr. George Pearsol, Duke University), and an unnamed physician who performed surgery on one of the victims (IDI 981026CBB0050). The flexible dive stick approach is also recommended as one of the options for reducing dive stick injury risks in a Water Toy Hazard Reduction Design Guide developed by The Department of Fair Trading, New South Wales (NSW), Australia

The compression test exemption in the draft final rule was developed by CPSC staff to provide a margin of safety to effectively limit the potential for serious impalement injury by a dive stick. Dive sticks that comply with this test can be made that function in the same manner as rigid dive sticks. These products should not be subject to the ban.

G. Economic Final Regulatory Analysis

The Directorate for Economic Analysis (EC) prepared a Final Regulatory Analysis (FRA) for a rule on dive sticks (Tab C)

Market Information

Before the June 1999 recall, most dive sticks were made out of rigid plastic and weighted so that they sank to the bottom of the pool and stood upright Other dive sticks were hollow but could be weighted by the consumer so that they stood upright Since the recall, some manufacturers have introduced dive sticks that are either made out of flexible material or that do not stand upright in water

Dive sticks are usually sold in sets of 3 to 6 sticks They are also sold as part of packages that contain other toys, such as dive disks, eggs, and rings (e.g , a package may include 3 dive sticks, 3 dive rings, and 3 dive disks) They are also sold in conjunction with things such as masks, goggles, or snorkels. Retail prices are usually in the range of $4 to $7 per set or about $1 per individual stick. The observed retail prices of the redesigned dive sticks are in the same range as that of the banned dive sticks

Sales and Number Available for Use

Sales of dive sticks increased substantially during the 1990's. Based on information provided by several companies, fewer than 750,000 dive sticks were sold annually before 1993 By 1997, 4 to 5 million dive sticks were being sold annually Altogether, about 20 million dive sticks have been sold since 1990

Based on the Directorate for Economic Analysis' product population model, historical sales data, and an average product life of 1 to 4 years, we estimate that the average number of dive sticks in use each year from 1990 through 1999 was between 3 million (assuming an expected life of 1 year) and 5 5 million (assuming an expected life of 4 years) However, the estimated number in use in particular years ranges from a low of less than 200,000 in 1990 (assuming an expected life of 1 year) to more than 11 million in 1999 (assuming an expected life of 4 years).

Benefits of a Rule Banning Certain Dive Sticks

The reduction in the societal costs of the injuries represents the societal benefits of a ban on certain dive sticks. Based on estimates from the CPSC's Injury Cost Model, the costs of impalement injuries, such as those from dive sticks, may range from about $9,000 for injuries that do not require hospitalization to about $100,000 for injuries that require hospitalization.

If we assume that the only cases that required hospitalization during the 1990 – 1999 time period were the 5 incidents that required surgery[3], the total societal costs of the known incidents are about $527,000 (5 cases X $100,000 and 3 cases X $9,000) or an average of $52,700 per year since 1990 This is a low estimate of the total societal cost because it is based only on the cases known to CPSC. There may have been other injuries of which CPSC is not aware.

A useful measure for analytical purposes is the annual average injury cost per dive stick This estimate is derived by dividing the average annual societal costs of injuries by the average

[3] Based on incident data through 1999, the years prior to the dive stick recall

number of dive sticks in use each year As discussed earlier, the average number of dive sticks in use each year from 1990 to 1999 ranged from about 3 million units (assuming a 1 year product life) to about 5 5 million units (assuming a 4 year product life) Therefore, the annual societal costs of dive stick injuries may range from about one cent per dive stick in use ($52,700 – 5 5 million) to 2 cents per dive stick in use ($52,700 – 3 million)

Since dive sticks may last from one to four years, the societal costs of injuries per dive stick over the entire life of the dive stick range from about 2 cents ($0.02 X 1 year) to about 4 cents ($.01 X 4 years). Since the benefit of a ban on certain dive sticks is the reduction in the societal cost of the injuries, the benefits of a ban that eliminates these injuries is about 2 to 4 cents per banned dive stick removed from or prevented from entering the market

The average total annual cost of dive stick injuries of $52,700 is based on known injury cases from 1990 to 1999. However, as noted earlier, dive stick sales increased from less than 1 million per year to about 5 million If sales had leveled off at about 5 million units annually (the sales volume in the late 1990s), the product population model indicates that the number of dive sticks in use would have reached 8 to 20 million units within the next few years. Since we estimated that the societal cost of injuries per dive stick in use was about 1 to 2 cents, this indicates that the annual cost of dive stick impalement injuries would have reached approximately $160,000 ($0.02 X 8 million) to $200,000 ($0 01 X 20 million) per year.

Societal Costs of Banning Certain Dive Sticks

Manufacturers that produced the hazardous dive sticks (or that continue to produce these dive sticks for sale in other countries) will incur some costs to modify their products to conform to the requirements of the rule The CPSC staff believes that the modifications can be made with minimal impact on tooling and other production processes For example, some manufacturers may be able to continue to use the same molds that they used for rigid dive sticks, but with a softer or more flexible plastic. Other manufacturers may be able to use the same material as before but adjust the center of gravity of the dive sticks so that they do not stand upright in water. Consequently, it seems likely that when the incremental cost of the changes are spread over large production runs, the cost will be no more than the benefits -- 2 to 4 cents per dive stick manufactured

A ban on rigid dive sticks that stand upright may reduce consumer utility if consumers prefer the banned dive sticks to the substitute products (i.e., dive sticks that do not stand upright, flexible dive sticks, dive rings, dive disks, and so on) However, because these substitute products serve essentially the same purpose and would cost about the same, any negative impact on consumer utility is unlikely to be significant.

Impact on Small Businesses

Most of the firms that manufactured or imported dive sticks are small businesses according to the Small Business Administration guidelines. The final rule is unlikely to have a significant impact on a substantial number of small firms for several reasons. First, the costs of the rule are likely to be small Second, dive sticks probably account for only a small percentage of any individual firm's sales Additionally, any loss related to a ban on dive sticks could be

offset if sales of substitute products increase Several firms have already introduced dive sticks that comply with the draft final rule The rule will not pose an additional burden on the manufacturers beyond that imposed by the 1999 recall

Environmental Impact

Manufacturers should be able to produce dive sticks that conform to the standard by making minor changes to their designs, such as weighting them so that they lie at least 45 degrees off-vertical or are flexible rather than rigid. These changes are unlikely to have a significant impact on the use of materials, waste disposal, energy use, or otherwise affect the environment.

Alternatives Considered

The Commission considered several alternatives to issuing this rule to ban certain dive sticks These included. (1) taking no action and relying on a voluntary standard or Section 15 actions, (2) a labeling only requirement, and, (3) changing the scope of the products subject to the ban.

(1) Relying on a Voluntary Standard or Section 15 Activities

The Commission could continue to use its Section 15 authority to recall hazardous dive sticks when they are found instead of banning them outright However, this approach would require the CPSC staff to make a determination that a product was hazardous each time a new dive stick was introduced to the market Additionally, without a standard, potentially hazardous products would be available to consumers while CPSC staff was making this determination

There is no voluntary standard for dive sticks that addresses the impalement hazard, nor was a proposed standard submitted in response to the NPR. Even if one were developed, it would be difficult to enforce since dive sticks are relatively easy to manufacture and new firms could easily begin distributing the product Therefore, compliance with a voluntary standard may be low.

(2) Labeling only Requirement

The staff explored the possibility of a warning label instead of a ban. However, according to the Commission's Human Factors staff, a warning label is the least effective approach to reducing the number of injuries. A label that is highly visible and clearly communicates the hazard could have a significant impact at the point of purchase. However, a label on the package would not remain with the product after the sale, and because the product is intended for use in the water, it is likely that any label attached to the product itself would not last the life of the product. Moreover, the surface area on a dive stick is not conducive to designing an effective warning label

(3) Changing the Scope

The scope of the rule could be modified so that it applies only to pre-weighted dive sticks. However, the staff found that consumers could weight some unweighted dive sticks so that they stood vertically in water These products would then present exactly the same impalement hazard as the pre-weighted dive sticks.

IV. RECOMMENDATION

The staff recommends that the Commission publish a final rule in the Federal Register that bans dive sticks with certain characteristics that cause them to be hazardous. If the Commission bans hazardous dive sticks, the staff only has to establish that a dive stick at issue fails the requirements set by the rule and enforcement action can be taken quickly

The Office of General Counsel (OGC) prepared a draft Federal Register notice that issues a final rule for dive sticks (Tab D). The rulemaking would proceed under the Federal Hazardous Substances Act (FHSA). The rule would become effective thirty days after publication in the Federal Register.

REFERENCES

[1] Nakamura, S, U S Consumer Product Safety Commission (CPSC) Memorandum, Severity of Impalement Hazards Associated with Dive Sticks, 6/22/99, from Tab A of CPSC Briefing Package for Dive Sticks, Advance Notice of Proposed Rulemaking, June 24, 1999.

[2] U.S Consumer Product Safety Commission – Briefing Package for Dive Sticks, Advance Notice of Proposed Rulemaking, June 24, 1999.

[3] U.S. Consumer Product Safety Commission – Briefing Package for Dive Sticks, Notice of Proposed Rulemaking, June 8, 2000

[4] U.S Consumer Product Safety Commission – Briefing Package for Dive Sticks, Notice of Proposed Rulemaking, June 8, 2000 Tabs D, E, F, and G

TAB A

- July 14, 1996 -- The ten year-old female victim received an eye injury when she was hit in the eye with a dive stick

- June 29, 1997 -- The seven year-old female victim received a laceration to the face when she was hit in the head with a dive stick

- May 1998 -- The four year-old female was playing in a public pool A child threw a dive stick and the victim had a tooth broken No permanent damage was expected

- June 19, 1999 -- The forty year old male was standing in an in-ground pool His son threw a dive stick from about 20 feet away, hitting the father The victim received a bump and laceration above his eye

- June 21, 1999 -- The four year-old female victim tripped while walking with the dive stick in her mouth She had taken the rubber ends off of the product and was blowing into the dive stick When she fell, the dive stick was forced into the roof of her mouth

- June 23, 1999 -- The thirteen year old female was hit near the eye by a thrown dive stick She received a laceration requiring seven stitches

- August 22, 1999 -- The seven year-old male victim was playing in a pool The victim fell with the dive stick and received a soft palate laceration

- February 26, 2000 -- The five year-old male was struck by the dive stick when it was thrown into the pool

- June 1, 2000 -- The man (unknown age) was struck by the dive stick when it was thrown into the pool

- July 4, 2000 -- The nine year-old female was struck by the dive stick when it was thrown into the pool The incident involved a foam dive stick with a plastic weighted end, which struck the child

- July 27, 2000 -- The eight year-old male was struck by the dive stick when it was thrown into the pool

- August 1, 2000 -- The nine year-old female was struck by the dive stick when it was thrown into the pool

TAB B

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: January 24, 2001

To : File

Through : Nick Marchica, Acting Associate Executive Director
Directorate for Engineering Sciences
Roy Deppa, Acting Director, Division of Mechanical Engineering

From : Scott Heh, Dive Stick Project Manager, Division of Mechanical Engineering, Ext 1308

Subject: Comment Responding to the NPR on Dive Sticks

On July 19, 2000, the U.S Consumer Product Safety Commission (CPSC) published a notice of proposed rulemaking (NPR) to ban dive sticks with certain characteristics that cause them to be hazardous In response to the NPR, the Commission received one comment from Mr Alberto Valdes, a student at Florida International University (Attachment)

Mr Valdes' comment concerns the proposed exemption to the rule that would allow the sale of dive sticks if they comply with a compression force test requirement at Section 1500 86(a)(8) Mr Valdes asks, "Wouldn't it be safer to just discontinue the sale of all types of dive sticks? Aren't softer models a potential danger for our children as well?"

Staff Response

The primary characteristics of dive sticks that contribute to impalement injury risk are: (1) they submerge and come to rest at the bottom of a pool of water, (2) they stand upright at the bottom, and (3) they are rigid. As part of this rulemaking process, CPSC staff reviewed medical literature on impalement injuries In case studies of impalement injuries to children (including objects other than dive sticks), the objects involved were rigid and had vertical orientations.[1] The staff is not aware of any impalement injuries to the perineum that involved a flexible object Given this information, one approach to modifying dive sticks to reduce the risk of impalement injury is to make them flexible This approach was mentioned several times in the in-depth investigations and other materials reviewed by CPSC staff The flexible dive stick approach was proposed by an expert witness for a plaintiff injured by a dive stick (Dr. George Pearsol, Duke

[1] Tab F of Commission Briefing Package on Dive Sticks, July 5, 2000 Memorandum from Suad Nakamura, Ph D , Physiologist, Directorate for Health Sciences, and Scott Heh, Mechanical Engineer, Directorate for Engineering Sciences to File, "Development of an Exemption for Non-Rigid Dive Sticks," May 3, 2000

University), and an unnamed physician who performed surgery on one of the victims (IDI 981026CBB0050). The flexible dive stick approach is also recommended as one of the options for reducing dive stick injury risks in a Water Toy Hazard Reduction Design Guide developed by The Department of Fair Trading, New South Wales (NSW), Australia.

The compression test exemption in the proposed rule was developed by CPSC staff to provide a margin of safety to effectively limit the potential for serious impalement injury by a dive stick. Dive sticks that comply with this test can function in the same manner as rigid dive sticks These products should not be subject to the ban.

Dive Sticks

Stevenson, Todd A.

From: Alberto Valdes [tbgp@bellsouth net]
Sent: Thursday, September 07, 2000 12 35 AM
To: cpscos@cpsc gov
Cc: cpsc-os@cpsc gov
Subject: NPR for dive sticks

To whom it may concern:
My name is Alberto Valdes, I am a current full time student at Florida International University looking foward to comment on the dive stiks proposed rule. As a result of my research upon this rule I have found out that Dive sticks are a dangerous product mainly for kids. I understand that CPSC is aware of at least six impalement injuries and a facial injury in children between six and nine years old. As a result four of the six impalement incidents required hospitalization and even surgery and facial injury required stiches. I also understand the CPSC has placed a recall on the hard plastic models of dive sticks. Now I ask myself "would't it be safer to just dicontinue the sale of all types of dive sticks? Aren't softer models a potential danger for our children as well? Are we going to wait for a new incident is reported involving a softer model in order to take action. I believe the recalls being made should be made out to all diving sticks models before we regrae'
t another one of these incidents hapening to any other child including our own. Don't let an entertaiment turn into a nightmare
sincerely,

Alberto Valdes
Current FIU Student
Ph: (305)788-7693
E-mail: tbgp@bellsouth net
billing code 6355-01-P
FR doc.00-18058 filled 7-18-00; 8:45 am

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TAB C

UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

Memorandum

Date: 14 February 2001

TO : Scott Heh, Project Manager for Dive Sticks

THROUGH Warren Prunella, AED Directorate for Economic Analysis *WP*

FROM : Robert Franklin *RF*
Economist

SUBJECT : Draft Final Regulatory Analysis for Dive Sticks

Attached is a draft Final Regulatory Analysis of the rule that Staff is recommending that the Commission issue regarding dive sticks.

Dive Sticks:
Draft Final Regulatory Analysis
14 February 2001

Robert Franklin
Economist
Directorate for Economic Analysis

Executive Summary

Dive sticks are a type of toy used in swimming pools for underwater retrieval games and swimming instruction. They are usually cylindrical in shape Typically, the length is 10 inches or less and the diameter is one inch or less Many dive sticks have been made from rigid plastic and weighted so that they sink to the bottom of the swimming pool and stand upright.

Since 1990 approximately 20 million dive sticks have been sold. About 15 firms manufactured or imported dive sticks during this period. From 1990 through 1999, the number of dive sticks available for use each year probably averaged 3 to 5.5 million, depending on the estimated expected life of a dive stick, which may range from 1 to 4 years.

When used in shallow water, a rigid dive stick that stands upright in water may cause serious impalement injuries to the perineum. The staff is aware of 8 confirmed impalement injuries that occurred between 1990 and 1999 inclusive The average annual societal cost of these injuries is almost $53,000 or about 2 to 4 cents per dive stick over the expected useful life of the product.

The risk of impalement injury is reduced by banning dive sticks that are made of a rigid material and stand upright in water The cost to manufacturers to design and manufacture dive sticks to meet the requirements of the rule banning dive sticks is likely to be no more than the expected benefits.

The ban of rigid dive sticks that stand upright in water is unlikely to have a significant impact on a substantial number of small firms or have an adverse impact on the environment.

Dive Sticks: Draft Final Regulatory Analysis

Introduction

The Commission is promulgating a rule intended to reduce the risk of injury from certain dive sticks. A dive stick is a type of pool toy used for underwater retrieval games and swimming and diving instruction. The Commission is aware of several incidents where children have been seriously injured when they jumped or fell onto a dive stick and the dive stick impaled the child in the rectal or genital region (the perineum).

The rule bans dive sticks with certain characteristics that create the potential for impalement injuries when used in shallow water Banned are dive sticks that are rigid and are or can be weighted so that they stand upright in water. The rule establishes a test method for distinguishing those dive sticks that are banned from those that are not banned.

Other types of dive toys such as dive rings and dive disks are unaffected by the rule. Products known as "dive eggs" are covered by the rule. However, the staff believes that most dive eggs already meet the requirements of the rule since they do not rest vertically on the bottom of the pool.

The rule, which is issued under the authority of the Federal Hazardous Substances Act (FHSA), declares certain dive sticks to be a banned hazardous substance. When the Commission issues a rule declaring something to be a banned hazardous substance it must publish a final regulatory analysis (FRA). The FRA must contain the following information:

(A) A description of the potential benefits and potential costs of the regulation, including costs and benefits that cannot be quantified in monetary terms, and the identification of those likely to receive the benefits and bear the costs

(B) A description of any alternatives to the final regulation which were considered by the Commission together with a summary description of their potential benefits and costs and brief explanation of the reasons why these alternatives were not chosen.

(C) A summary of any significant issues raised by the comments submitted during the public comment period in response to the preliminary regulatory analysis, and a summary of the assessment by the Commission of such issues.

This report contains the information required for the FRA. However, there were no significant issues raised in the public comments in response to the preliminary regulatory analysis

Previous Commission Activity

The CPSC staff became aware of the impalement hazard associated with dive sticks in early 1999. The Commission undertook a two-pronged effort to address the hazard. The Office of Compliance began working with manufacturers to recall the dive sticks that were deemed hazardous On 24 June 1999, CPSC announced that it had reached agreements with 15 manufacturers and importers to voluntarily recall their dive sticks.

Simultaneously with the compliance activity, the Commission staff began investigating the product to determine if the Commission should initiate a regulatory proceeding to address this hazard. The Commission staff prepared a briefing package for the Commission, dated 24 June 1999, recommending that the Commission initiate a rulemaking proceeding that could result in a rule banning certain types of dive sticks. The Commission voted to accept the staff's recommendation and an advance notice of proposed rulemaking (ANPR) was published in the Federal Register on 16 July 1999. The Commission published the notice of proposed regulation (NPR), including a preliminary regulatory analysis, in the Federal Register on 19 July 2000.

Product and Market Information

Dive sticks are a type of dive toy intended for use in swimming pools. They are usually cylindrical in shape, but some have novelty shapes such as shark silhouettes. Other dive sticks are generally cylindrical in shape but have cross sections resembling an "X " Typically, the length is 10 inches or less, and the diameter is one inch or less. Dive sticks are often numbered with a point value (e g., 10 through 60) for counting up totals in games. In some cases, the units with the higher point values may be shorter than those with lower point values.

Before the June 1999 recall, most dive sticks were made out of rigid plastic and weighted so that they would sink to the bottom of the pool and stand upright. Other dive sticks were hollow but could be weighted by the consumer so that they would stand upright. Since the recall, some manufacturers have introduced dive sticks that are either made out of flexible material or that do not stand upright in water.

When used for swimming or diving instruction or retrieval games in relatively deep-water, rigid and upright dive sticks do not pose any apparent impalement hazard. Based on the confirmed incident data, the impalement hazard exists when dive sticks are used in relatively shallow water, such as in backyard wading pools, bath tubs, hot tubs, or the steps of swimming pools.[1] The CPSC staff does not have any information regarding the proportion of the dive sticks that are used exclusively in deeper water or the proportion that are at least occasionally used in shallow water.

[1] A "safe" depth has not been determined Impalement injuries have occurred in water as much as 27 inches deep

By the summer of 2000, at least 5 companies had introduced new dive sticks that were either not rigid or that did not stand upright in water. These dive sticks are not likely to cause the impalement injuries that the rule is intended to prevent Other companies that had manufactured dive sticks either had not yet developed dive sticks that would meet the requirements of the rule or had at least temporarily discontinued the production of dive sticks. According to one company source, it was not surprising that some manufacturers did not introduce redesigned dive sticks by the summer of 2000. Many firms schedule the production of summer pool toys during the preceding fall. Therefore, companies that had not decided how to redesign their products by the end of the summer of 1999 would not have been expected to have dive sticks ready for year 2000 swimming season. The number of companies offering dive sticks that meet the requirements of the rule in the summer of 2001 will probably be higher

Dive sticks are usually sold in sets of 3 to 6 sticks They are also sold in packages that contain other toys, such as dive disks, eggs, and rings (e g., a package may include 3 dive sticks, 3 dive rings, and 3 dive disks). They are also sold in conjunction with things such as masks, goggles, or snorkels Retail prices are usually in the range of $4 to $7 per set or about $1 per individual stick. The observed retail prices of the redesigned dive sticks are in the same range as that of the banned dive sticks

Sales and Number Available for Use

Sales of dive sticks increased substantially during the 1990's Based on information provided by several companies, fewer than 750,000 dive sticks were sold annually before 1993. By 1997, 4 to 5 million dive sticks were being sold annually. Altogether, about 20 million dive sticks have been sold since 1990.

According to one industry source, sales increased after mass merchants began to sell dive sticks in the early 1990's. Prior to the early 1990's, dive sticks were sold almost exclusively by specialty pool and water toy dealers. When mass merchants began carrying dive sticks a larger proportion of the population became aware of the product and began buying them.

The number of dive sticks in use in any given year is dependent upon both the number of dive sticks sold each year and the expected life of a dive stick. Although the expected product life of a dive stick is not known based on any direct study, it is likely to be in the range of 1 to 4 years. Some models of dive sticks may be physically durable, but the relatively low cost of the product decreases the incentive of the owners to be careful in storing and using the product. As a result, many dive sticks are likely lost or discarded after 1 or 2 swimming seasons Other dive sticks may not be used after several years as the recreational interests of the household change. For example, as a household's children grow, they may be less interested in playing in wading pools or with dive sticks.

Based on the Directorate for Economic Analysis' product population model, historical sales data, and an average product life of 1 to 4 years, we estimate that the

average number of dive sticks in use each year from 1990 through 1999 was between 3 million (assuming an expected life of 1 year) and 5.5 million (assuming an expected life of 4 years) However, the estimated number in use in particular years ranges from a low of less than 200,000 in 1990 (assuming an expected life of 1 year) to more than 11 million in 1999 (assuming an expected life of 4 years).

Analysis of Benefits and Costs of Final Rule

Societal Benefits of Banning Certain Dive Sticks

When used in shallow water, rigid dive sticks that stand upright in water can cause serious impalement injuries to the perineum The CPSC is aware of eight confirmed impalement injuries that occurred prior to the 1999 recall A ninth injury occurred in April 2000. However, because the recall of dive sticks had an unknown impact on the number of dive sticks in use,[2] our analysis of the societal costs of dive stick injuries is limited to the eight occurring from 1990 through 1999.

All victims received medical attention after the injury and at least five required surgery.[3] In one case a temporary colostomy was performed. The CPSC is aware of 17 non-impalement injuries associated with dive sticks. Four of these incidents involved submerged dive sticks and resulted in lacerations that required stitches or surgical glue to close. Although the rule is not directly aimed at reducing these injuries, some of these injuries may have been prevented by the rule.

The reduction in the societal costs of injuries represents the societal benefits of a ban on certain dive sticks. Based on estimates from the CPSC's Injury Cost Model, the costs of impalement injuries, such as those from dive sticks, may range from about $9,000 for injuries that do not require hospitalization to about $100,000 for injuries that require hospitalization. These estimates are based on the costs of injuries involving punctures or lacerations to the victims' lower trunk or pubic region for children 5 to 9 years-of-age (the age range of most victims) These cost estimates include the cost of medical treatment, pain and suffering, lost work time (including that lost by parents and caregivers), and legal and liability costs.

If we assume that the only cases that required hospitalization were the 5 incidents that required surgery, the total societal costs of the known incidents are about $527,000 (5 cases X $100,000 and 3 cases X $9,000) or an average of $52,700 a year since 1990. This is a low estimate of the total societal cost because it is based only on the cases known to CPSC There may have been other injuries of which CPSC is not aware

A useful measure for analytical purposes is the annual average injury cost per dive stick This estimate is derived by dividing the average annual societal costs of

[2] An estimate of the number of dive sticks in use is needed to estimate the pre-regulatory risk of injury that will be addressed by the regulation

[3] CPSC Memorandum from Debra Sweet, to Scott Heh, Project Manager for Dive Sticks, 24 January 2001

injuries by the average number of dive sticks in use each year As discussed earlier, the average number of dive sticks in use each year from 1990 to 1999 ranged from about 3 million units (assuming a 1 year product life) to about 5.5 million units (assuming a 4 year product life). Therefore, the annual societal costs of dive stick injuries may range from about one cent per dive stick in use ($52,700 – 5.5 million) to 2 cents per dive stick in use ($52,700 – 3 million).

Since dive sticks may last from one to four years, the societal costs of injuries per dive stick over the entire life of the dive stick range from about 2 cents ($0.02 X 1 year) to about 4 cents ($ 01 X 4 years). Since the benefit of a ban on certain dive sticks is the reduction in the societal cost of the injuries, the benefits of a ban that eliminates these injuries is about 2 to 4 cents per banned dive stick removed from or prevented from entering the market.

The average total annual cost of dive stick injuries of $52,700 is based on known injury cases from 1990 to 1999. However, as noted earlier, dive stick sales increased from less than 1 million per year to about 5 million. If sales had leveled off at about 5 million units annually (the sales volume in the late 1990s), the product population model indicates that the number of dive sticks in use would have reached 8 to 20 million units within the next few years. Since we estimated that the societal cost of injuries per dive stick in use was about 1 to 2 cents, this indicates that the annual cost of dive stick impalement injuries would have reached approximately $160,000 ($0 02 X 8 million) to $200,000 ($0 01 X 20 million) per year.

The benefits of eliminating dive stick injuries most directly affect households with children, since all victims have been 9 years old or younger However, since medical costs are generally pooled through insurance, and some of the benefits include a reduction in lost worktime of caregivers, the monetary benefits of the proposed rule would be diffused through society as a whole.

Societal Costs of Banning Certain Dive Sticks

Rigid dive sticks that stand upright were removed from the U.S market in 1999 when the Commission recalled dive sticks Since then, when the CPSC has become aware of a rigid dive stick that stands upright being available in this country, the staff has taken action under the authority of Section 15 of the FHSA to remove the dive stick from the market. The rule being issued now formalizes the ban on these dive sticks and establishes a performance standard for dive sticks. The performance standard establishes criteria for distinguishing dive sticks that are unlikely to pose impalement risks (and so are not banned) from dive sticks that may impose impalement risks (and therefore, are banned).

Manufacturers that produced the hazardous dive sticks (or that continue to produce these dive sticks for sale in other countries) will incur some costs to modify their products to conform to the requirements of the rule. The CPSC staff believes that the modifications can be made with minimal impact on tooling and other production

processes For example, some manufacturers may be able to continue to use the same molds that they used for rigid dive sticks, but with a softer or more flexible plastic. Other manufacturers may be able to use the same material as before but adjust the center of gravity of the dive sticks so that they do not stand upright in water. Consequently, it seems likely that when the incremental cost of the changes are spread over large production runs, the cost will be no more than the benefits -- 2 to 4 cents per dive stick manufactured.[4]

A ban on rigid dive sticks that stand upright may reduce consumer utility if consumers prefer the banned dive sticks to the substitute products (i.e., dives sticks that do not stand upright, flexible dive sticks, dive rings, dive disks, and so on). However, because these substitute products serve essentially the same purpose and would cost about the same,[5] the negative impact on consumer utility, if any, is unlikely to be significant.

Impact on Small Businesses

The Regulatory Flexibility Act requires that the Commission consider the impact of its actions on small entities, including small businesses Most of the firms that have manufactured or imported dives sticks are small businesses according to the Small Business Administration (SBA) guidelines. According to SBA criteria, an importer is considered to be "small" if it has fewer than 100 employees; a manufacturer is considered "small" if it has fewer than 500 employees.

The rule is unlikely to have a significant impact on a substantial number of small firms. As discussed in the previous section, the Commission has already worked with most manufacturers to voluntarily remove rigid dive sticks that stand upright in water from the market The rule itself formalizes a ban on these dive sticks and establishes a performance standard that will be used to distinguish dive sticks that are unlikely to present an impalement hazard from those that may pose an impalement hazard Several firms have already introduced dive sticks that comply with the rule The rule will not pose an additional burden on the manufacturers beyond that imposed by the 1999 recall.

Moreover, dive sticks probably account for only a small percentage of any firm's sales. Most dive stick manufacturers produce or import other products, such as other types of toys and games or other types of pool supplies and equipment. Most also manufacture or import products that are close substitutes for dive sticks, such as dive rings, dive disks, and new dive sticks that comply with the standard To the extent that

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[4] Manufacturers that enter the dive stick market after the rule goes into effect may not incur any additional costs associated with "redesigning" dive sticks because they would design their products from the start to comply with the rule's requirements

[5] Dive rings appeared to retail for approximately the same price per package as dive sticks, but there are generally fewer dive rings per package as dive sticks For example, packages of dive sticks often contained 6 dive sticks; packages of dive rings seldom contain more than 4 rings The retail prices of dive disks appear to be roughly equal to the retail prices of dive sticks Modified dive sticks (that are either not rigid or that do not stand upright) retail for close to the prices of the banned dive sticks

the sales of these substitute products increase it will offset the loss from the sale of the banned dive sticks.

Environmental Impact

The National Environmental Policy Act requires that the Commission consider the impact of its actions on the environment. The rule formalizes a ban on certain dive sticks and establishes a performance standard for determining which dive sticks may pose an impalement hazard.

Manufacturers should be able to produce dive sticks that conform to the standard by making minor changes to their designs, such as weighting them so that they lie at least 45 degrees off-vertical or are flexible rather than rigid. These changes are unlikely to have a significant impact on the use of materials, waste disposal, energy use, or otherwise affect the environment.

Alternatives Considered

The Commission considered several alternatives to issuing this rule to ban certain dive sticks. These included (1) taking no action and relying on a voluntary standard or Section 15 actions, (2) a labeling only requirement, and (3) changing the scope of the products subject to the ban.

Taking No Action and Relying on a Voluntary Standard or Section 15 Activities

The Office of Compliance has successfully negotiated recalls with many of the firms that manufactured or imported the dive sticks. Other firms for which recalls were not negotiated have voluntarily ceased distributing these dive sticks. However, since it is relatively easy for firms to enter this market, new firms could begin selling non-complying dive sticks in the absence of a standard CPSC is aware of at least one firm that was not involved in the June 1999 recall but was distributing dive sticks after June 1999.

The Commission could continue to use its Section 15 authority to recall hazardous dive sticks when they are found instead of banning them outright. However, this approach would require the CPSC staff to make a determination that a product was hazardous each time a new dive stick was introduced to the market. Additionally, without a standard, potentially hazardous products would be available to consumers while CPSC staff were making this determination.

There is no voluntary standard for dive sticks that addresses the impalement hazard, nor was a proposed standard submitted in response to the NPR. Even if one were

developed, it would be difficult to enforce since dive sticks are relatively easy to manufacture and new firms could easily begin distributing the product. Therefore, compliance with a voluntary standard may be low.

Labeling Only Requirement

The staff explored the possibility of a warning label instead of a ban. However, according to the Commission's Human Factors staff, a warning label is the least effective approach to reducing the number of injuries. A label that is highly visible and clearly communicates the hazard could have a significant impact at the point of purchase However, a label on the package would not remain with the product after the sale, and because the product is intended for use in the water, it is likely that any label attached to the product itself would not last the life of the product. Moreover, the surface area on a dive stick is not conducive to designing an effective warning label

Changing the Scope

The scope of the rule could be modified so that it applies only to pre-weighted dive sticks. However, the staff found that consumers could weight some unweighted dive sticks so that they stood vertically in water. These products would then present exactly the same impalement hazard as the pre-weighted dive sticks