ENGINEERING TEST MANUAL

REQUIREMENTS FOR RATTLES

16 CFR PART 1510

ES DOC 541002

Engineering Sciences

Engineering Laboratory

This engineering test manual has been developed to provide guidance to Commission staff members who test rattles for compliance with CPSC Rattle Regulations 16 CFR PART 1510. The test manual is not intended to supercede or limit the Rattle Regulation. In the case of discrepancy between the regulation and this manual, the regulation will supercede the test manual.

July 1985

CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C.

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I. BACKGROUND

The Consumer Product Safety Commission (CPSC) promulgated a safety regulation for rattles with an effective date of of August 21, 1978. In order to provide a uniform system of testing and reporting within the CPSC, this detailed Engineering Test Manual has been developed. Additional guidelines, with regard to potential problems which might be encountered in performing the compliance tests, have also been incorporated into this document.

II. SCOPE

This Engineering Test Manual sets forth the detailed test procedures, test equipment, test flow, and report format to be utilized by the CPSC Engineering Laboratory in the compliance testing of rattles.

III. APPLICABLE DOCUMENTS

A. Rattle Regulation - 16 CFR PART 1510 (attached).
B. Banned Toys - 16 CFR PART 1500.18(a)(1) & (15) (attached).
C. Test Methods for Simulating Use and Abuse - 16 CFR PART 1500.50 to 1500.53.

IV. GENERAL PROCEDURES

A. Safety Precautions. The Test Analyst shall be responsible for the safety, competence, and training of all testing personnel. All tests shall be conducted in such a manner as to provide the maximum protection to those individuals conducting the tests.

B. Equipment Calibration and Accuracy. All equipment used in the performance of the tests shall be maintained in conformance with the headquarters Laboratory Calibration and Maintenance Program. The selection of specific equipment to be used for each test shall be the responsibility of the Test Analyst but in all cases the equipment utilized will provide the accuracy and precision necessary to withstand the scrutiny of possible legal actions.

C. Equipment

1. Rattle Test Fixture (see Figure 1).

2. Chatillon Force Gauge - Model DPP-25, maximum 25 lbs., accurate to 0.25 lbs. (or equivalent).

3. Torque Gauge accurate to 0.2 in/lbs.

4. Compression Disc - 1 1/8 inch diameter, 3/8 inch thick, compatible with the Chatillon gauge.

5. Impact Medium - 1/8 inch thickness of Type IV vinyl-asbestos tile (as specified in Federal Specification SS-T-312A) covering at least 2 1/2 inch thick concrete with an area of at least 3 square feet.

6. Vise and assorted clamps.

7. Straight edge.

8. Tape measure.

9. Camera.

D. Sample Identification. A "sample" includes all items received under one sample number and shall consist of at least 12 subs (items). Upon receipt of a sample, each sub shall be permanently marked so that the identification will remain throughout the tests. Such markings shall not affect the results of the tests.

E. Data Acquisition and Report Format. The Engineering Test Report for Rattles (see Section VI) shall be used for all reporting of results. A copy of all field laboratory screening test reports and any data acquisition forms shall be sent to the Headquarters Engineering Laboratory.

F. Subsamples Required. A sample shall consist of at least 12 subsamples. In the event only one test method under use and abuse is appropriate to the sample, all 12 subsamples shall be tested. Accordingly, the 12 subsamples shall be evenly apportioned between each test method under use and abuse which is appropriate to the sample. For example,

if two methods are appropriate to the sample, then six subsamples shall be tested to each of the two methods, or if three methods are appropriate to the sample then four subsamples shall be subjected to each of the three methods. Except for torque and tension, no single subsample shall be subjected to more than one use and abuse test method. Where sharp points or sharp edges is appropriate, each subsample shall be subjected to the edge or point test prior to and after each applicable use and abuse test.

V. TEST CRITERIA AND PROCEDURE

A. Requirement

1. No portion of a rattle shall be capable of entering and penetrating to the full depth of the opening shown in Figure 1 under the force of its own weight. Rattles shall meet this requirement both before and after the use and abuse tests (1500.51, excepting the bite and flexure tests).

2. No rattle shall contain either internally or externally rigid wires, sharp protrusions, or loose small objects that have the potential for causing lacerations, puncture wound injury, aspiration, ingestion, or other injury (Banned Toys 16 CFR Part 1500.18(a)(1)).

In addition to this general requirement, no rattle shall have sharp points or sharp edges when tested according to the procedures of the technical requirements for sharp points and edges (16 CFR 1500.48 and 1500.49).

B. Procedure

Step 1. Hold the rattle test fixture horizontally with the opening facing upwards and insert the rattle (or portion of) from above. Each rattle may be tested in any orientation that allows the rattle to enter the opening. In determining whether the rattle protrudes or passes through the test fixture opening, no force other than the weight of the rattle itself shall be used.

The penetration of the rattle is checked using a straight edge across the rattle test fixture opening opposite the side of insertion. If the straight edge touches any portion of the rattle or if the rattle passes completely through the test fixture, measure the distance of protrusion through the side opposite rattle insertion.

Fill in the appropriate sub number for the requirement "Penetration of rattle through test fixture" and record either "Yes" or "No" and the distance of protrusions (if applicable).

Step 2. Visually examine the rattle for the presence of rigid wires, sharp protrusions, or loose small objects. Enter the appropriate sub number on the test report form for the requirement "Potential for Lacerations..." and record "Yes" or "No" for the observation. If wires, protrusions, etc. exist, describe the details in the "Comments" section and photograph the noted features of the rattle.

Test any sharp points and edges identified by visual examination in accordance with 16 CFR 1500.48 and 1500.49 as appropriate and record results in the space provided for comments.

Step 3. The rattle shall be subjected to the use and abuse tests. Refer to Section IV. F.

3a. Impact Test. The impact test is performed by dropping the rattle in random orientation 10 times from a height of 4 feet 5 1/2 inches onto a surface of vinyl-asbestos tile covered concrete. After each drop, examine the sub for cracks, splitting, etc. or other possible problems and record the observations in the comments section. Record the appropriate sub number for the impact test requirement and the total number of drops or the number of drops when breakage occurred. Photograph any breakage together with a scale in view.

3.b.1. Torque and Tension Tests. The torque test is performed on any projections of the rattle which can be grasped by the child's teeth or thumb and forefinger. A torque of 1.8 in./lbs. is applied evenly using a hand-held torque gauge equipped with a clamp to grasp the rattle. Use care to avoid damaging the sub with the test fixture. One end of the rattle is held fixed using a vise or clamp while the torque is applied to the free end. Apply the torque clockwise increasing the torque evenly over a period of 5 seconds or until a rotation of 180° has been reached.

Maintain the torque for a full 10 seconds and then remove the torque. Allow the rattle to return to a relaxed condition and repeat the test by applying the torque in a counter-clockwise direction.

Record the appropriate sub number for the torque test requirement, and the maximum torque applied or the torque applied when breakage occurred. Photograph any breakage together with a scale in view. Describe any breakage in the comments section.

3.b.2. Tension Test. Use the same sub which was torque tested and perform the tension test. Like the torque test, this is applied on any projection of the rattle which the child can grasp with the thumb and forefinger or the teeth. The tension force applied is measured using a Chatillon gauge, Model DPP-25, equipped with a clamp suitable for grasping the rattle. Clamp one end of the rattle and measure the tensile force on the rattle using the force gauge. The application of force shall be applied parallel to the major axis of the component and increased evenly over a period of 5 seconds until a force of 9.5 lbs. is reached. Maintain the 9.5 lb. force for an additional 10 seconds and then remove the force. Next, reapply the tensile force in a direction 90° to the previous pull, but also in a direction most likely to produce a failure. Apply and maintain the 9.5 lb. force as done before.

Record the sub number and the maximum tensile force applied. If breakage occurs, record the force applied to produce breakage. Describe in the comments section the breakage and the direction of force applied. Photograph any breakage together with a scale in view.

3.c. Compression Test. Perform the compression test on an untested sub. This test shall be done on surfaces of the rattle which are accessible to the child but were inaccessible to flat surface contact during the impact test. A typical area for application may be the shaft connecting the two ends of a bar-bell type rattle.

Position the rattle on a flat, hard surface such as the floor or bench top. If the normal resting postion for the rattle leaves the part to be compression tested unsupported (e.g., the stem connecting the two ends of a bar-bell type rattle), do not provide special additional support for that part. Attach the compression disc to the Chatillon force gauge. Use the gauge and compression disc to apply a force on the rattle. The flat surface of the disc shall press squarely against the rattle. Increase the force evenly over a period of 5 seconds up to a force of 19.5 lbs. is reached. Maintain the 19.5 lbs. force for an additional 10 seconds and then remove the force. Record the sub number and maximum force applied. If breakage occurs, record the force applied to produce breakage. Describe in the comments section

any breakage and photograph the break together with a scale in view.

Step 4. All subs shall again be tested for penetration to the full depth of the opening of the rattle test fixture as described in Step 1 of this section.

Repeat the visual examination, sharp point and sharp edge test as described in Step 2 of this procedure. Record the sub numbers and distance of penetration in the appropriate space provided on the test report form.

Step 5. Any parts separated from the rattle as a result of the impact, torque, tension, or compression test shall again be tested as described in Step 1 of this procedure.

VI. ENGINEERING TEST REPORTS FOR RATTLES

CPSC TEST REPORT FOR RATTLES

DATE: _____

SEAL: INTACT _____ BROKEN _____

MANUFACTURER: _____

SAMPLE NUMBER: _____

COLLECTION REPORT NUMBER: _____

MODEL OR STYLE NUMBER: _____

MODEL NAME: _____

APPROVAL RECORD

_____ _____
Test Conducted By Date

_____ _____
Approved By Date

REFERENCE PARAGRAPH	REQUIREMENT	OBSERVATION SUB 1	SUB 2	SUB 3
1510.3	No portion of rattle shall penetrate full depth of cavity. Meets criteria (Yes/No)			

Comments:

CPSC TEST REPORT FOR RATTLES

DATE: _____

SEAL: INTACT _____ BROKEN _____

MANUFACTURER: _____

SAMPLE NUMBER: _____

COLLECTION REPORT NUMBER: _____

MODEL OR STYLE NUMBER: _____

MODEL NAME: _____

APPROVAL RECORD

_____ _____
Test Conducted By Date

_____ _____
Approved By Date

CPSC TEST REPORT FOR RATTLES

Sample Number: _____

REFERENCE PARAGRAPH	REQUIREMENT	SUB NO.	OBSERVATION	
			PENETRATION (YES/NO)	DISTANCE
1510.3	Penetration of rattle through test fixture.	___ ___ ___		
1500.18(a)(1)	Potential for lacerations, puncture wound injury, aspiration, ingestion, or other injury.	___ ___ ___		
1500.51 (b)	Use and Abuse Impact	___	# of drops = Result: _____	
(c)	Torque	___	Torque applied = Result: _____	
(f)	Tension	___	Load applied = Result: _____	
(g)	Compression	___	Load applied = Result: _____	
1500.18(a)(1)	Potential for lacerations, puncture wound injury, aspiration, ingestion, or other injury after Use and Abuse Testing.	___ ___ ___ ___ ___		
			PENETRATION (YES/NO)	DISTANCE
1510.3	Penetration of rattle through test fixture.	___ ___		

Comments:

CPSC TEST REPORT FOR RATTLES

Sample Number: _____

COMMENTS

CPSC TEST REPORT FOR RATTLES

Sample Number: _____

Equipment Used for Measurements

NAME	MODEL	SERIAL NO.

VII. FIGURE 1

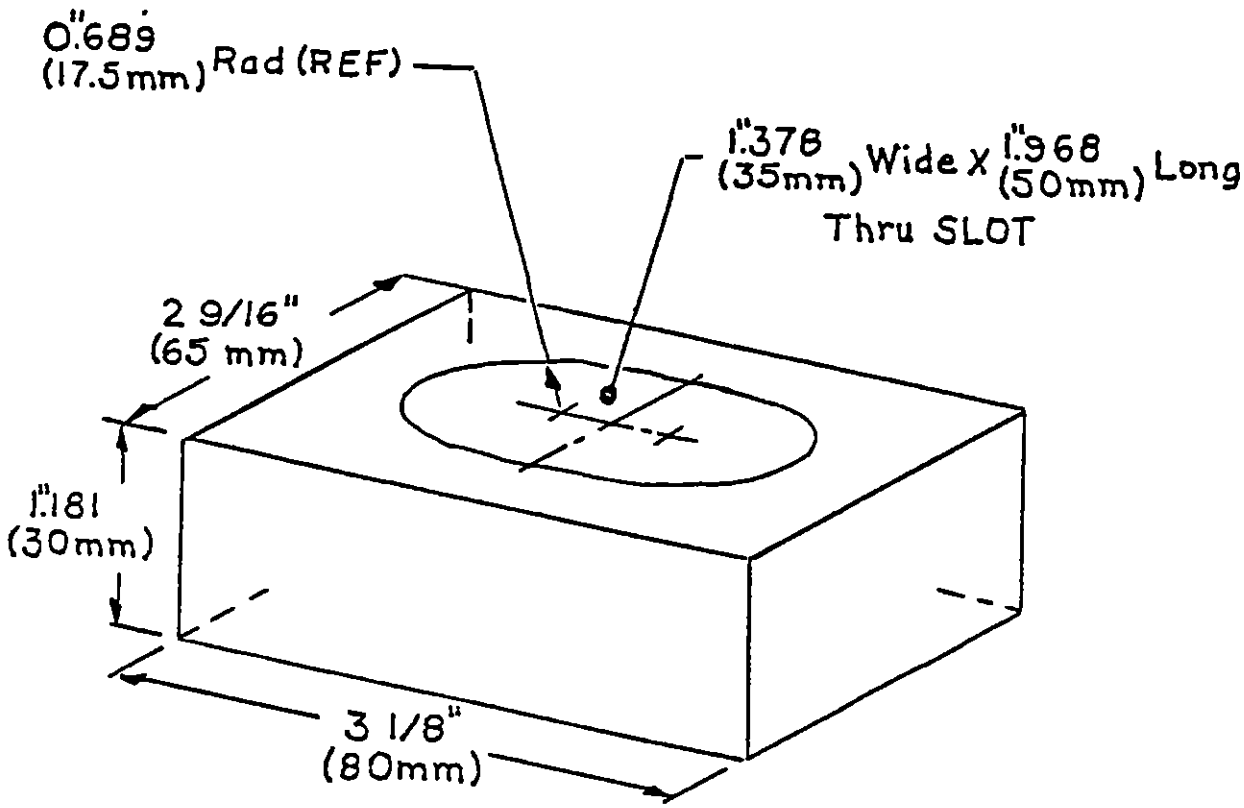

FIG 1-RATTLE TEST FIXTURE

VIII. APPENDIX

Title 16—Commercial Practices

CHAPTER II—CONSUMER PRODUCT SAFETY COMMISSION

SUBCHAPTER C—FEDERAL HAZARDOUS SUBSTANCES ACT REGULATIONS

PART 1500—HAZARDOUS SUBSTANCES AND ARTICLES; ADMINISTRATION AND ENFORCEMENT REGULATIONS

PART 1510—REQUIREMENTS FOR RATTLES

Banning of Hazardous Articles and Establishment of Safety Requirements

AGENCY: Consumer Product Safety Commission.

ACTION: Final rule.

SUMMARY: The Commission issues mandatory safety requirements for rattles in the form of a regulation banning rattles which do not have ends of a sufficient size. The regulation is designed to address choking and suffocation hazards associated with rattles by ensuring that a rattle cannot project into an infant's throat to a depth that could cause choking.

EFFECTIVE DATE: The regulation is effective August 21, 1978 The regulation is applicable to all rattles introduced into interstate commerce on or after that date.

FOR FURTHER INFORMATION CONTACT:

Elaine Besson, Office of Program Management, Consumer Product Safety Commission, Washington, D.C. 20207, 301-492-6453.

SUPPLEMENTARY INFORMATION.

BACKGROUND

In the FEDERAL REGISTER of November 18, 1977 (42 FR 59511), the Consumer Product Safety Commission (CPSC) proposed for public comment a regulation (16 CFR Part 1510) prescribing safety requirements for infant rattles and a regulation (16 CFR 1500.18(a)(15)) declaring as banned hazardous substances, rattles not meeting such safety requirements. The proposed regulation is intended to address choking and suffocation hazards associated with rattles by ensuring that a rattle cannot project into an infant's throat to a depth that could cause choking.

The Commission proposed the banning and safety requirements pursuant to section 2(f)(1)(D) of the Federal Hazardous Substances Act (FHSA) (15 U.S.C. 1261). Section 2(f)(1)(D) provides for the classification of any toy or other article intended for use by

children as a hazardous substance upon a determination by regulation that it presents a mechanical hazard. In addition, section 2(q)(1)(A) of the FHSA provides that such toy or article is automatically a banned hazardous substance. "Mechanical hazard" is defined by section 2(s) of the act, which reads in part.

An article may be determined to present a mechanical hazard if, in normal use or when subjected to reasonably foreseeable damage or abuse, its design or manufacture presents an unreasonable risk of personal injury or illness * * * (7) Because the article (or any part or accessory thereof) may be aspirated or ingested * * * or (4) because of any other aspect of the article's design or manufacture.

The need for the proposed regulation was demonstrated by injury data and death reports. At the time of the proposal, the Commission staff had identified, through indepth investigations as well as consumer complaints and death certificates, 8 choking deaths and 10 non-fatal choking incidents involving the lodging of small rattles in the throats of infants. After a review of public comments on the proposal, the Commission staff can now document a total of ten choking deaths dating as far back as 1943, and occurring as recently as 1977. The Commission now has reports of a total of 19 incidents in which infants choked but did not suffocate because the rattle was promptly removed by an adult.

Based upon a review of the injury data, the Commission concluded in the proposal document that certain rattles can cause choking and suffocation in infants because their size or design permits them to be forced (as by an infant falling with its face down) or sucked into an infant's mouth and become lodged in the throat. The Commission studied the requirements and technical rationale supporting a recent Canadian rattle regulation and concluded that the test fixture used in that regulation was a reasonable and appropriate method of addressing the choking hazard. The Commission, therefore, proposed to adopt the dimensions of the Canadian test fixture in its own banning regulation. (A copy of the Canadian rattle regulation issued on June 23, 1977 under its Hazardous Products Act is on file at the Office of the Secretary of the Commission. The technical data supporting that regulation are discussed in the Commission's proposal document and are incoprorated herein by reference.)

THE PROPOSAL

Proposed part 1510 consists basically of a definition of a rattle and a test procedure with safety requirements for rattles. In the proposal a rattle is defined as "an infant's toy, intended to be handheld, usually containing pellets or other small objects and which produces sounds when shaken." The proposed test procedure uses a fixture having a cavity with opening dimensions of 1.968 x 1.378 inches (50 x 35 millimeters). The test procedure provides that the rattle is inserted in this opening, and if any part of the rattle can penetrate and contact the lower plate in the cavity (1.181 inches (30 millimeters) below the opening), the rattle fails the test. The test procedure also provides that the rattle is to be tested after performing several of the use and abuse tests of § 1500.51 of the Commission's regulations under the FHSA. The tests under this section are designed to simulate the use and abuse of toys and other articles intended for use by children 18 months of age or less. The purpose of prescribing these additional procedures before the fixture test is to ensure that no component of a rattle released as a result of the use and abuse tests presents a choking hazard.

COMMENTS ON THE PROPOSAL

The proposal of November 18, 1977, invited interested persons to submit written comments on or before December 19, 1977. This comment period was extended at the request of an interested party until January 3, 1978, by publication of a notice in the FEDERAL REGISTER. (42 FR 63899.) A total of 21 comments were received: 15 from concerned citizens, 1 from a visiting nurses' association, 1 from a local consumer protection bureau, 3 from manufacturers, and 1 from a retailer.

Nearly all of the commenters expressed support for the banning regulation. Thirteen of the concerned citizen commenters agreed with the proposed ban and eleven mentioned specific choking or suffocation incidents involving members of their families or neighbors as the basis of their support. The local consumer protection bureau and the visiting nurses' association also favored the ban, and the consumer protection bureau noted that it had requested local stores to voluntarily withdraw from sale the rattles covered by the proposed ban.

Two concerned citizens felt that manufacturers should not be required to redesign their infant rattles and that the individual parent should accept responsibility to supervise infant play. One of these commenters suggested that a warning label be required on small rattles indicating that parental supervision is necessary.

The Commission notes that an infant's natural tendency is to put any object in its mouth and that infants may be expected to play with a simple toy such as a rattle without constant, direct supervision. In addition, the Commission points out that the nature of the hazard associated with small rattles is such that it may cause death to an infant. The Commission, therefore, concludes that nothing short of a ban of hazardous rattles will adequately protect children from the risk of injury.

The comments from the three manufacturers and one retailer indicated support of the intended purpose of the proposed regulation, but noted certain technical and language difficulties. The issues and criticism raised by these commenters and the Commission's responses are as follows:

1. DEFINITION OF A RATTLE

Three commenters requested clarification of the definition of a rattle contained in the proposal on the basis that it did not accurately describe the range of products which would fall within the scope of the ban. The commenters noted that certain stuffed toys with noisemakers inside, play keys on a ring, or games that contain parts which produce noise when shaken might be considered rattles within the definition. Two commenters suggested that an age range be added to clarify the definition. One commenter recommended that the definition more closely describe the type of rattles which have been involved in the reported incidents.

It was never the intention of the Commission to include such items in the scope of this banning regulation. While the Commission believes that the product category "rattle" has a commonly understood definition which does not include items such as stuffed toys or games, the Commission has decided that to avoid any possibility of confusion, the proposed definition should be revised to add the following list of examples of products which are not covered by the regulation: dolls, stuffed animals, crib exercisers, crib mobiles, pull toys, shoe lace holders, bells (not part of the noisemaking component of a rattle), plastic keys, games, puzzles, and musical instruments such as tambourines, castanets, and maracas. (Note: This list is not all-inclusive, but merely specifies the type of products not intended to be included within the banning regulation.) Because the Commission has revised the definition to exclude such products, and the product category subject to the regulation should now be clear, the Commission does not believe it is necessary to specify the intended user of the regulated product. Therefore, the Commission has not included an age range in its rattle definition because the Commission does not believe the inclusion would add any clarity.

As to the suggestion that the definition should more closely describe the type of rattles involved in actual incidents the Commission recognizes that the proposed ban originated because small telephone, dumbbell, safety pin,

and clothespin rattles were associated with infant deaths and serious injuries. However, the Commission has found that other designs and shapes such as the traditional "lollipop" design present the same hazard. Furthermore, because of the limited information available on the actual mechanism of choking in infants and statistically valid anthropometric data for the infant oral pharyngeal area, the Commission has decided that these requirements should serve to prohibit the sale of any rattle which can project into the throat of an infant, not merely certain previously identified sizes and shapes.

These safety requirements are intended to serve as designing and manufacturing criteria to eliminate this choking and suffocation hazard from future products as well as those current designs available in the marketplace.

The Commission believes that it has responsibility to act in a reasonable manner and at the same time act on the side of safety when establishing requirements for a product which may cause death to the user.

One commenter suggested that pacifiers be specifically excluded from the rattle requirements because the hazards of pacifiers are addressed in a separate regulation. (See 16 CFR Part 1511; 42 FR 33276.) The same commenter noted that the word "usually" is a source of confusion in the proposed rattle definition at § 1510.3, which states, in part, that rattles "usually" contain "pellets or other small objects." The commenter recommended that the word be removed.

The Commission declines to make either suggested change. As to a specific exclusion for pacifiers, the Commission notes that a pacifier cannot reasonably be mistaken for a rattle. The Commission further believes that rattles and pacifiers have sufficient distinguishing characteristics to prevent any confusion as to which set of requirements the product must meet. In response to the second comment, the Commission notes that the intent of the word "usually" in the definition is to include rattles in the ban that may have the noise-maker removed, but still present the same choking hazard as those which contain it.

2. RATTLE TEST FIXTURE

One commenter expressed concern over differences between the proposed rattle test fixture and the test fixture contained in the Canadian regulation. The commenter noted that the opening of the Canadian fixture extends completely through the block, whereas the opening in the Commission's proposed test fixture extends only partially through the block. The commenter stated that the Canadian template with its full opening is more accurate to use than the Commission's because the Canadian fixture could be placed on a flat surface coated with dve and any rattle that picks up a stain could easily be rejected as failing the test. In addition, the commenter noted that the Canadian test fixture would be less expensive to make because it is easier to cut a hole completely through a block rather than milling a "blind hole" to the required 1.181 inch (30 mm) depth. The same commenter also requested that the dimensions on the Commission's test fixture include tolerances such as those listed in the Canadian regulation.

The Commission agrees with this commenter that because the cavity in the fixture contained in the proposal is not a "through hole", there could be instances in which it would be more difficult to determine whether a rattle was or was not in compliance. Therefore, the Commission has changed the fixture which appeared in the proposal so that it contains a through hole (see figure 1 below). As to the issue of tolerances, the Commission believes that such tolerances serve only to introduce a band of uncertainty to the results of a test for compliance. For example, if the size of the entrance to the cavity in the Commission's rattle test fixture is manufactured to the upper limit of a tolerance and the size of a manufacturer's fixture is at the lower limit of a tolerance, a manufacturer could believe his rattles meet the requirements of the regulation while they may, in fact, fail if tested in the Commission's fixture. To avoid such uncertainty in test results, the Commission declines to include tolerances in the rattle requirements. The Commission notes that it will manufacture its test fixture and perform the compliance test in a manner such that any rattle failing the compliance test clearly is not in conformance with the intent of the requirements of Part 1510. The language of section 1510.4 of the final rule is that "the measurements of the opening of the Commission's test fixture will be no greater than those shown in figure 1 and the depth of the fixture used will be no less than that shown in figure 1."

3. STERLING SILVER RATTLES

One commenter, a manufacturer of silver products including sterling silver rattles, stated that the proposed requirements would increase the price of silver rattles from $5 to $8 each, from present prices of $9.75, $17.50, and $21 50 The commenter, therefore, requested separate treatment for silver rattles, noting that none of the reported incidents involved a sterling silver rattle.

The Commission points out that a silver rattle was included among the choking incidents reported in the preamble to the proposed regulation, and a second incident involving a silver rattle was reported by one of the commenters While the Commission appreciates the cost and price effects of the regulation on manufacturers of silver as opposed to plastic rattles (see the section of this preamble below entitled Economic Considerations), the Commission believes silver rattles present the same potential hazard as other rattles and therefore, declines to exempt the items from the requirements of Part 1510. The Commission also notes that silver rattles are generally purchased as special gift items and may be regarded as heirlooms. Therefore, the Commission believes many purchasers may be willing to buy at higher prices or may substitute other silver gift products such as spoons. As indicated below, the firms which manufacture silver rattles also generally manufacture other silver products, and rattles comprise only a small percentage of their total sales.

4. EFFECTIVE DATE

A retailer requested that the effective date of the final banning regulation be 120 days after publication in the FEDERAL REGISTER to allow for necessary retooling, rather than 90 days as proposed.

The Commission notes that since the Canadian regulation has been in effect for over 6 months and products for both the Canadian and American markets are manufactured by many of the same suppliers, some complying rattles are already part of manufacturers' product lines Given this circumstance, the lack of supporting evidence to demonstrate a need for a longer lead time and the fact that the nature of the hazard is such that it may cause death to an infant, the Commission believes that the proposed 90 day effective date is appropriate.

The regulation is applicable to all rattles introduced into interstate commerce on or after that date. For purposes of the regulation, introduction into interstate commerce is defined as follows: A rattle manufactured outside the United States is introduced into interstate commerce when it is first brought within a U.S. port of entry. A rattle manufactured in the United States is introduced into interstate commerce (a) at the time of its first interstate sale, or (b) at the time of its first intrastate sale if one or more of its components and/or raw materials were received interstate.

ECONOMIC EFFECTS

1. PLASTIC RATTLES

Manufacturers of plastic rattles are part of the infant products industry and are generally involved in a number of different product lines The Toy Manufacturers Association (TMA) estimates that 45 million plastic rat-

tles are sold annually, with a manufacturer's selling value of $9.4 million. These rattles are low cost, high volume items, generally retailing for between $.26 and $.69 each. In addition, there are some new, larger designs which retail for $.79 to $1.50 each.

The majority of American firms in the rattle business import their rattles from the Orient because of the lower production costs. In the U.S. approximately 5 firms manufacture plastic rattles.

Plastic rattles are manufactured by injection molding. In the Orient, molds have only a few cavities and cost an average of $3,000. In the U.S., molds contain many cavities and cost approximately $12,000 to $14,000 each. The foreign producers of plastic rattles that supply both the Canadian and American markets have already begun to modify or change their molds to meet the Canadian standard. To comply with this regulation, retooling costs will be incurred by the foreign suppliers for molds which they own and by American firms for foreign and domestic molds they own. In some cases only the mold for the handle will have to be changed at an estimated cost of $1,000 to $1,500 per handle mold. In other cases new designs will have to be conceived and additional new molds will have to be made. In addition to design and acquisition costs for new molds, other retooling costs include the costs of equipment for assembling and decorating the rattles. Also small additional costs may be incurred for packaging. Rattle manufacturers may choose to order new packaging so as to distinguish complying from non-complying rattles.

The changes that will be necessary to comply with the new regulation will probably result in increased retail prices for plastic rattles. The Commission staff estimates, however, that in most cases the item price of plastic rattles will only increase $.05 to $.10 each. Therefore, most plastic rattles will remain inexpensive. In addition, the increased amount of plastic will not add significant weight and adversely affect the utility of these products. The Commission does not expect that sales of these products will change significantly as a result of price or product changes. While sales of rattles may decrease slightly with increased prices, the Commission believes exposure to rattles will still remain high in comparison to other toys and children's products.

2. SILVER RATTLES

Sterling silver rattles are manufactured domestically. Commission staff have identified 11 firms that make these rattles. The majority of the firms manufacture other fine silver products and specialty items.

Less than one percent of the number of all rattles sold annually are silver. In contrast to the plastic rattles, these products are high cost, low volume items retailing for between $9 and $25.

The manufacturing process for silver rattles combines stamping and soldering and requires the use of dies, presses, and striking and trimming tools. Estimates of the cost for new tools and dies range from $1,500 to $4,000 per rattle design. Additional costs for development and new capital equipment may also result. As a result of the new size requirements, there will be substantial increases in the amount of silver needed. All of these costs will be reflected in the retail prices.

While a price increase of from $5 to $8 per rattle, as estimated by one manufacturer, may cause sales to decline, the Commission believes that many purchasers may be willing to buy at the higher prices since silver rattles tend to be purchased as special gift items or as heirlooms. In any event, the Commission does not believe the economic impact of this regulation will be overly burdensome to most silver rattle producing firms because silver rattles are generally a small percentage of total sales.

The Commission staff economic analysis is available from the Office of the Secretary.

ENVIRONMENTAL EFFECTS

The Commission has concluded that the rattle regulation will have no significant effects on the environment and that no environmental impact statement is necessary. The factors leading to this determination are set forth in an environmental assessment of the regulation which is on file with and available from the Commission's Office of the Secretary.

CONCLUSION

Based on the information available to the Commission, including information contained in the public comments, the Commission believes that the design of certain infant rattles (specifically the size of the rattle ends) enables the rattles to become lodged in the throats of infants, thereby presenting an unreasonable risk of personal injury to infants from choking or suffocation. The Commission finds that such rattles, in accordance with sections 2(s) and 2(f)(1)(D) of FHSA, present a mechanical hazard and should be classified as hazardous substances. Consequently, pursuant to section 2(q)(1)(A) of the FHSA, the Commission finds that such rattles must be banned from interstate commerce. In so finding, the Commission has considered the economic effects of the banning and safety requirements set forth below and has concluded that with respect to plastic rattles, neither the sales nor utility of these products will be adversely affected. While the retail price of silver rattles may rise substantially, rattles are generally a small percentage of total sales for affected silver rattle-producing firms, and purchasers may be willing to buy at the higher prices since the rattles are generally purchased as special gift items or heirlooms. After considering the severe nature of the risk of injury presented by certain plastic and silver infant rattles, the Commission concludes that this risk of injury clearly outweighs any effects of the rule on the cost, utility, and availability of infant rattles.

Accordingly, pursuant to provisions of the Federal Hazardous Substances Act (secs. 2(f)(1)(D), (q)(1)(A), (s), 3(e)(1), 74 Stat. 1304-05, 83 Stat. 187-189, 15 U.S.C. 1261, 1262) and under authority vested in the Commission by the Consumer Product Safety Act (sec. 30(a), 86 Stat. 1231; 15 U.S.C. 2079(a)), the Commission amends Title 16, Chapter II, Subchapter C by adding a new paragraph (a)(15) to § 1500.18 as follows.

§ 1500.18 Banned toys and other banned articles intended for use by children.

(a) *Toys and other children's articles presenting mechanical hazards.* Under the authority of § 2(f)(1)(D) of the act and pursuant to provisions of § 3(e) of the act, the Commission has determined that the following types of toys or other articles intended for use by children present a mechanical hazard within the meaning of § 2(s) of the act because in normal use, or when subjected to reasonably foreseeable damage or abuse, the design or manufacture presents an unreasonable risk of personal injury or illness:

* * * * *

(15) Any rattle (as defined in § 1510.2 of this chapter) that is introduced into interstate commerce on or after August 21, 1978, and that does not comply with the requirements of Part 1510 of this chapter. For purposes of the regulation, introduction into interstate commerce is defined as follows: A rattle manufactured outside the United States is introduced into interstate commerce when it is first brought within a U.S. port of entry. A rattle manufactured in the United States is introduced into interstate commerce (a) at the time of its first interstate sale, or (b) at the time of its first intrastate sale if one or more of its components and/or raw materials were received interstate.

* * * * *

Part 1510 is added to read as follows:

Sec.
1510.1 Scope and purpose of Part 1510.
1510.2 Definition.

Sec.
1510.3 Requirements.
1510.4 Test procedure

AUTHORITY: Secs. 2(f)(1)(D), (q)(1)(D), (s), 3(e)(1), 64 Stat. 372, 374, 375, as amended 80 Stat. 1304-05, 83 Stat. 187-89 (15 U.S.C. 1261, 1262); sec. 30(a), 86 Stat. 1231 (15 U.S.C. 2079(a)).

§ 1510.1 Scope and purpose of Part 1510.

This Part 1510 sets forth the requirement whereby rattles (as defined in § 1510.2) are not banned articles under § 1500.18(a)(15) of this Chapter. The purpose of these requirements is to ensure that certain infant rattles which may cause choking and/or suffocation because their design or construction permits them to enter into an infant's mouth and become lodged in the throat are eliminated from interstate commerce.

§ 1510.2 Definition.

For the purposes of this Part 1510, a rattle is an infant's toy, intended to be hand held, usually containing pellets or other small objects and which produces sounds when shaken. Examples of products which may have similar noisemaking characteristics but which are excluded from the scope of this definition are: dolls, stuffed animals, crib exercisers, crib mobiles, pull toys, shoe lace holders, bells which are not part of the noisemaking component of a rattle, plastic keys or other figures on loops or chains which produce sound by striking together, games, puzzles and musical instruments such as tambourines, castanets, and maracas.

§ 1510.3 Requirements.

No portion of a rattle, when tested in accordance with the procedure of § 1510.4 below, shall be capable of entering and penetrating to the full depth of a cavity in a test fixture with dimensions shown in figure 1. (In determining these dimensions for compliance purposes, the English measurements shall be used. Metric equivalents are included for convenience.) Rattles shall meet this requirement both before and after performing the use and abuse tests of § 1500.51 of this Chapter (excluding the bite and flexure tests of paragraphs (c) and (d)).

§ 1510.4 Test procedure.

Place the test fixture shown in Figure 1 on a horizontal plane surface. Under its own weight and in a noncompressed state apply any portion of the test sample in the most adverse orientation to the opening in the test fixture. Repeat this procedure after performing the use and abuse tests of § 1500.51 (excluding the bite and flexure tests of paragraphs (c) and (d) of this section). In testing to ensure compliance with this regulation, the measurements of the opening of the Commission's test fixture will be no greater than those shown in Figure 1 and the depth of the fixture used will be no less than that shown in Figure 1.

Dated: May 16, 1978.

SADYE E. DUNN,
Acting Secretary, Consumer Product Safety Commission.

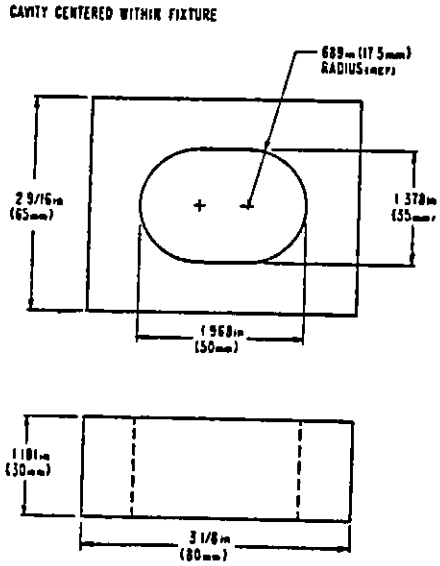

FIG 1—RATTLE TEST FIXTURE

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* U. S. GOVERNMENT PRINTING OFFICE 1978—725-753/1094