

REPORT OF SUBCOMMITTEE ON ACCIDENTAL POISONING

STATEMENT ON HAZARDS OF BORIC ACID

BACKGROUND MATERIAL

BORIC ACID (H_3BO_3 , boracic acid, orthoboric acid) is a colorless and odorless compound occurring as crystals, granules or a white powder. It is usually prepared by action of sulfuric acid on borax (sodium borate).

Boric acid is used medicinally in ophthalmic solutions, and the powder or solution as an acidifying agent in treating the irritation produced by ammonia from the urine in diapers of infants, and in dermatology in ointments either alone or in combination with other medicinal agents. It has also been employed in gargles, mouth washes and as a preservative.

Commercial uses of boric acid are varied, but often include its use in the preparation of face or body powders in which it is added to talc. It is stated that boric acid has a suppressant effect on molds or mildews, or assists in enabling the powder mixtures to flow more freely from the containers.

The usual ointment contains 10% boric acid; the standard medicinal solution contains not less than 4.25% boric acid.

The United States Food and Drug Administration, on January 30, 1954, issued a statement to the effect that borated talcum powder containing 5% or less of boric acid is safe for use as a dusting powder on babies. The implication here is that powder using more than 5% boric acid would not be safe.

Fatalities among adults from the ingestion of boric acid have been reported from as little as 1 teaspoonful of boric acid. Another report indicates that 2 ounces of a 5% solution of boric acid were fatal to an infant.

A review of 69 articles on boric acid in the scientific literature over the past 40 to

50 years reveals scores of deaths in infants and adults from boric acid administered either intentionally or accidentally. Four or five of the articles recommended its use as a mild antiseptic for burns, but all of the remaining articles reported toxic symptoms or deaths from exposure to boric acid.

STATEMENT

The presence of boric acid in hospitals, especially in the newborn nursery and pediatric sections, constitutes a substantial health hazard and has been associated with repeated accidental deaths over the years. Less than a teaspoonful of boric acid has been fatal to infants. Because it is possible to provide satisfactory care for patients without the presence of this toxic substance, it is recommended that rigid controls over its hospital use be required. These controls should include a recommendation for the elimination of boric acid from the newborn nurseries and pediatric sections of all hospitals.

Physicians, pharmacists and other professional personnel should carefully weigh the hazards involved in introducing this substance into other departments of the hospital and the home, and place very exact and specific limitations on its use and for the disposal of unused residues.

SUBCOMMITTEE ON ACCIDENTAL POISONING

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