

CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Borax**CAS No.: 1303-96-4**

Synonyms: sodium tetraborate decahydrate, sodium borate, borax decahydrate

Physical Properties

White, odorless crystalline solid; very dusty
 Vapor pressure at 20 °C: negligible
 Melting point: approx 75 °C
 Boiling point: approx 320 °C

Exposure Limits

OSHA PEL: NE
 ACGIH TLV: 5 mg/m³

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
3	0	3	1	No	No	zirconium*

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

***Reaction with:**

Zirconium is violent, particularly when the metal is heated or finely powdered.

See Bretherick's *Handbook of Reactive Chemical Hazards* for details and for other incompatibilities.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9?

No

Reproductive toxin? Frazier and Hage state that some limited studies "suggest that boron compounds other than boric acid may be toxic to the reproductive system".

Typical symptoms of acute exposures:

Eye irritation, skin irritation, skin rash, respiratory distress caused by exposure to borax dust or solution mists. Respiratory distress can be long lasting. Also causes nosebleeding, coughing, and breathing difficulty.

Principal target organ(s) or system(s):

Eyes, skin, respiratory system.

Storage Requirements

Store with other poisons in a cool, dry, well-ventilated, and locked location.

Additional Remarks

If ingested, borax can adversely affect the central nervous system, kidneys, and liver. Repeated or prolonged skin contact can cause dermatitis.

Notes**ReadMe**

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed*. For that information and for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at www.sis.nlm.nih.gov and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed*. See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

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Date of preparation: October 19, 2000