

Material Safety Data Sheet

27/02/2020

MSDS of Boric Acid as following:

1. Product Identification

Synonyms: ortho-Boric acid; boracic acid; Borofax, boric acid (H₃BO₃) CAS No.: 10043-35-3
Molecular Weight: 61.83 Chemical Formula: H₃BO₃

2. Composition/Information on Ingredients Ingredient: Boric Acid

CAS No.: 10043-35-3

Percent: ≥99.5%

3. Hazards Identification

Potential Acute Health Effects: Boric Acid is hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:

Carcinogenic Effects: Not available.

Mutagenic Effects: Mutagenic for bacteria and/or yeast. Teratogenic Effects: Not available.

Developmental Toxicity: Classified Reproductive system/toxin/female, Reproductive system/toxin/male. The substance may be toxic to kidneys, cardiovascular system, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.



Danger - H361d

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Skin Contact: Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists. Wash cloths and Shoes before re-use.

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.



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Registered in England and Wales No. 7723574
BS EN ISO 9001: 2008 registered company

5. Fire Fighting Measures

Fire: Boric Acid is not considered to be a fire hazard.

Explosion: A mixture of potassium and boric acid may explode on impact.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to legal authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. Handling and Storage

Keep Boric Acid in a well closed container stored under cold to warm conditions, 2 to 40 C, (36 to 104F). Protect against physical damage. Carbon steel or aluminum containers are suitable for storage. Stainless steel is needed for moist conditions. Use good housekeeping practices to prevent accumulation of dust and follow sound cleaning techniques that will keep airborne particulates at a low level. Wash hands after handling this material. Avoid contact especially when skin is cut or abraded. Containers of Boric Acid may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits: None established.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerin, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Gloves and lab coat, apron or coveralls.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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9. Physical and Chemical Properties

Appearance: Boric Acid is white powder or granules.

Odor: Odorless.

Solubility: 1g/18mL in cold water.

Density: 1.43

pH: 5.1 Aqueous solution: (0.1M)

% Volatiles by volume @ 21C (70F): 0

Boiling Point: Decomposes.

Melting Point: 169C (336F)

Vapor Density (Air=1): No information found.

Vapor Pressure (mm Hg): 2.6 @ 20C (68F)

Evaporation Rate (BuAc=1): No information found.

10. Stability and Reactivity

Stability: Boric Acid is stable under ordinary conditions of use and storage. If moisture is present, boric acid can be corrosive to iron.

Hazardous Decomposition Products: Loses chemically combined water upon heating, forming metaboric acid (HBO₂) at 212-221F, then pyroboric acid (H₂B₄O₇) at 285-320F, and Boric anhydride at higher temperatures.

Hazardous Polymerization: Will not occur.

Incompatibilities: Potassium, acetic anhydride, alkalis, carbonates, and hydroxides. Conditions to Avoid: No information found.

11. Toxicological Information

Toxicological Data: Oral rat LD₅₀: 2660 mg/kg; oral woman LDLo: 200 mg/kg; investigated as a mutagen, tumorigen, reproductive effector.

Reproductive Toxicity: May impair fertility. May cause harm to the unborn child.

-----\Cancer Lists\-----

----- NTP Carcinogen---

Ingredient ----- Known - Anticipated - IARC Category

 Boric Acid (10043-35-3) ---- No ---- No ----- None

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12. Ecological Information

Environmental Fate: Boric acid: 48 Hr EC50 water flea: 115.0 mg/L [Static]

Environmental Toxicity: The EC50/48-hour values for daphnia are over 100 mg/l. This material may be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

Chemical Weapons Convention: No; TSCA 12(b): No; CDTA: No SARA 311/312: Acute: Yes; Chronic: Yes; Fire: No; Pressure: No Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated. Poison Schedule: S5

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R36/38- Irritating to eyes and skin. R40- Possible risks of irreversible effects. R62- Possible risk of impaired fertility. S24/25- Avoid contact with skin and eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.): Health: 1

Flammability: 0

Reactivity: 0 Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

16. Other Information

Disclaimer:

Our company provides this Boric Acid MSDS information sheet contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This Boric Acid MSDS sheet is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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