

MATERIAL SAFETY DATA SHEET**Product Name:** Boric acid**CAS No.:** 10043-35-3**Version:** 0**1. Identification**

Product Code : 90131, 90349, 90132, 90350,
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
BORIC ACID	10043-35-3	100 %

3. Hazards Identification**Hazard classification****Health hazards**

Serious eye damage/eye irritation : Category 2
Toxic to reproduction : Category 1
Specific target organ toxicity - single exposure : Category 3

Labels elements**Hazard symbol**

Signal word : Danger
Hazard statement : Causes eye irritation.
May damage fertility or the unborn child.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary statement

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Avoid breathing dust.

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- Response** : IF exposed or concerned: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Storage:** Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : None.

4. First Aid Measures

- General information** : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation** : Move to fresh air. If breathing stops, provide artificial respiration. Get medical attention.
- Skin contact** : Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Most important symptoms/effects, acute and delayed** : Irritating to eyes, respiratory system and skin. Harmful if swallowed.
- Indication of immediate medical attention and special treatment needed** : Treat symptomatically. Symptoms may be delayed.

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5. Fire fighting measures

- General fire hazards** : No unusual fire or explosion hazards noted.
- Suitable (and unsuitable) extinguishing media**
- Suitable extinguishing media** : Use fire-extinguishing media appropriate for surrounding materials.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : During fire, gases hazardous to health may be formed.
- Special protective equipment and precautions for firefighters**
- Special fire fighting procedures** : Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
- Special protective equipment for fire-fighters** : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA .

6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures** : Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust .
- Methods and material for containment and cleaning up** : Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination .
- Notification Procedures** : Inform authorities if large amounts are involved.
- Environmental precautions** : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

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7. Handling and Storage

- Precautions for safe handling** : Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin. Avoid inhalation of dust.
- Conditions for safe storage, including any incompatibilities** : Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.

8. Exposure Controls Personal Protection

Control parameters
Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
BORIC ACID	TWA	2 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)
	STEL	6 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)
	AN ESL	1 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	ST ESL	10 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)

Appropriate engineering controls : No data available.
Individual protection measures, such as personal protective equipment

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection : Wear safety glasses with side shields (or goggles).
Hand protection : Chemical resistant gloves .
Other : Wear suitable protective clothing.

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- Respiratory protection** : In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.
- Hygiene measures** : Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and Chemical Properties

- Appearance** : White Crystals or powder Solid
- Odor** : Odorless .
- pH** : 5.1 0.1 molar solution .
- Melting point/freezing point** : 170.9 °C .
- Initial boiling point and boiling range** : 300 °C .
- Flash Point** : Not applicable
- Vapor pressure** : Not applicable
- Vapor density** : Not applicable
- Relative density** : 1.43 (20 °C) .
- Solubility in water** : Slightly Soluble .
- Solubility (other)** : No data available.
- Formula** : BH_3O_3 .
- Molecular Weight** : 61.84 g/mol .

10. Stability and Reactivity

- Reactivity** : No dangerous reaction known under conditions of normal use.
- Chemical stability** : Material is stable under normal conditions.
- Possibility of hazardous reactions** : Hazardous polymerization does not occur. Decomposes on heating.
- Conditions to avoid** : Water, moisture.
- Incompatible materials** : Strong oxidizing agents. Alkalies. Potassium .
- Hazardous decomposition products** : Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological Information**Information on likely routes of exposure**

- Ingestion** : May be Harmful if swallowed.
- Inhalation** : Dust may irritate respiratory system.
- Skin contact** : Causes mild skin irritation.

MATERIAL SAFETY DATA SHEET**Product Name:** Boric acid**CAS No.:** 10043-35-3**Version:** 0**Eye contact** : Causes eye irritation.**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)****Oral Product** : LD 50 (Rat): 2,660 mg/kg .**Dermal Product** : LD 50 (Rabbit): > 2,000 mg/kg .**Inhalation Product** : LC 50 (Rat, 4 h): > 0.002 mg/l .**Repeated dose toxicity Product** : No data available.**Skin corrosion/irritation Product** : Causes mild skin irritation.**Serious eye damage/eye irritation Product** : Irritating to eyes.**Respiratory or skin sensitization Product** : Not a skin or a respiratory sensitizer.**Carcinogenicity Product** : This substance has no evidence of carcinogenic properties .**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE** : No carcinogenic components identified.**US. National Toxicology Program (NTP) Report on Carcinogens DIOXANE** : No carcinogenic components identified.**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050** : No carcinogenic components identified.**Germ cell mutagenicity In vitro Product** : No mutagenic components identified.**In vivo Product** : No mutagenic components identified.**Reproductive toxicity Product** : May damage fertility or the unborn child.**Specific target organ toxicity - single exposure Product** : Respiratory tract irritation. May cause drowsiness or dizziness .**Specific target organ toxicity - repeated exposure Product** : None known .**Aspiration hazard Product** : Not classified.**Other effects** : None known .**12. Ecological Information****Ecotoxicity****Acute hazards to the aquatic environment :****Fish Product** : LC 50 (Colorado squawfish (Ptychocheilus lucius), 96 h): 216 - 360 mg/l Mortality .**Specified substance(s):** : EC 50 (Water flea (Daphnia magna), 24 h): 264,300 - 496,700 mg/l Intoxication
BENZOIC ACID : LC 50 (Opossum shrimp (Americamysis bahia), 96 h): 52.8 - 148 mg/l Mortality .

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- Aquatic invertebrates Product** : No data available.
- Chronic hazards to the aquatic environment :**
- Fish Product** : No data available.
- Aquatic invertebrates Product** : No data available.
- Toxicity to Aquatic Plants Product:** : LC 50 (Waterweed (Elodea canadensis), 21 d): 5 mg/l Mortality .
- Persistence and degradability**
- Biodegradation Product** : The product is not readily biodegradable.
- BOD/COD ratio Product** : No data available.
- Bioaccumulative potential**
- Bioconcentration factor (BCF) Product** : No data available on bioaccumulation.
- Partition coefficient n-octanol / water (log Kow) Product** : No data available.
- Mobility in soil** : No data available.
- Other adverse effects** : The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment .

13. Disposal consideration

- Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws.
- Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT			Not Regulated		
IMDG			Not Regulated		
IATA			Not Regulated		

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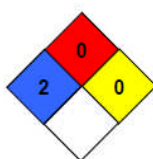
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15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

16. Other Information**NFPA Hazard ID**

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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