



# SAFETY DATA SHEET

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## SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Boron Oxide**  
PRODUCT NUMBER: 1294  
CAS NUMBER: 1303-86-2  
SYNONYMS: Boric acid anhydride, boron sesquioxide, boron trioxide

### MANUFACTURER:

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## SECTION 2 HAZARDS IDENTIFICATION

### CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

**Danger**

### Hazard Statements

H360	May damage fertility or the unborn child.
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### Precautionary Phrases

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P501	Dispose of contents/container to an approved waste disposal plant.

### HMIS CLASSIFICATION:

Health: 1      Fire: 0      Reactivity Hazard: 0

### NFPA RATING:

Health: 1      Flammability: 0      Reactivity Hazard: 0

**EYE CONTACT:** The dust may cause slight to mild irritation of the eyes. Symptoms include redness and pain.

**SKIN CONTACT:** The dust may cause irritation and dryness of the skin.

**INHALATION:** The dust may be irritating to the nose, mucous membranes, and respiratory tract. Symptoms include coughing, wheezing, and sore throat.

**INGESTION:** High doses may cause convulsions, cyanosis, coma, and death.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: B<sub>2</sub>O<sub>3</sub>  
Molecular Weight: 69.62

CHEMICAL NAME	CAS#	%
Boron Oxide	1303-86-2	100

## SECTION 4 FIRST AID MEASURES

**EYE EXPOSURE:** Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

**SKIN EXPOSURE:** Wash affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

**INHALATION:** Remove to fresh air and keep at rest. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases, seek immediate medical assistance.

**INGESTION:** Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

## SECTION 5 FIREFIGHTING MEASURES

**FLASH POINT:** Product is not flammable

**AUTO IGNITION TEMPERATURE:** Not available

**EXPLOSION LIMITS:** Not available

**EXTINGUISHING MEDIUM:** Use fire fighting measures that suit the surrounding fire.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

**HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:** None known

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS:** Wear all appropriate equipment when using this material. Ensure adequate ventilation. Keep unprotected persons away.

**ENVIRONMENTAL PRECAUTIONS:** Prevent spillage from entering drains or allowing to be released into the environment.

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:** Small spills can be mixed with vermiculite or sodium carbonate and swept up.

## SECTION 7 HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:** Wear appropriate personal protective equipment. Use with adequate ventilation. Keep in a tightly sealed container.

**CONDITIONS FOR SAFE STORAGE:** Store in cool, dry, and well-ventilated area. Store under dry inert gas. Protect from humidity and water. Hygroscopic.

## SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

**EXPOSURE CONTROLS:** Contains no substances with occupational exposure limit values.

Component	Exposure Limits	Basis	Entity
Boron Oxide	10 mg/m <sup>3</sup>	TLV	ACGIH
	15* mg/m <sup>3</sup>	PEL	OSHA
	10 mg/m <sup>3</sup>	REL	NIOSH

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

**EYE PROTECTION:** Wear chemical safety glasses or goggles and face shield

**SKIN PROTECTION:** Wear nitrile or rubber gloves, apron, or lab coat.

**VENTILATION:** Provide local exhaust, preferably mechanical.

**RESPIRATOR:** Use an approved respirator.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**COLOR AND FORM:** White to off-white solid

**ODOR:** None

**MOLECULAR WEIGHT:** 69.62

**BOILING POINT:** 1860° C

**MELTING POINT:** 450° C

**SPECIFIC GRAVITY:** 2.46

**VAPOR DENSITY:** No data available

**SOLUBILITY IN WATER:** Soluble

## SECTION 10 STABILITY AND REACTIVITY

**STABILITY:** Stable

**HAZARDOUS POLYMERIZATION:** Will not occur

**CONDITIONS TO AVOID:** None

**INCOMPATIBILITY:** Water, moisture, and active metals.

**DECOMPOSITION PRODUCTS:** None known.

## SECTION 11 TOXICOLOGICAL DATA

**ACUTE TOXICITY:** LD50 Oral – rat – 3150 mg/kg LC50 Inhalation – rat – male and female – 4h - >2.12 mg/l LD50 Dermal – Rabbit – male and female - >2000 mg/kg.

**CARCINOGENIC EFFECTS:** No components of this product present at levels greater than or equal to 0.1% is identified a carcinogen.

**MUTAGENIC EFFECTS:** Not available

**TETRATOGENIC EFFECTS:** Not available

**CHRONIC TOXICITY:** Boron oxide has a relatively low acute toxicity. Swallowing large amounts may cause gastrointestinal symptoms.

**RTECS:** ED7900000

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

## SECTION 12 ECOLOGICAL DATA

Toxicity to fish LC50-Carassius auratus (goldfish)-570 mg/l-72 h

Toxicity to algae static testEC50-Selenastrum capricornutum (green algae)-52.5 mg/l-74.5 h(OECD Test Guideline 201)

## SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in according to local, state, and federal regulations.

## SECTION 14 TRANSPORTATION DATA

Not a dangerous good.

## SECTION 15 REGULATORY INFORMATION

**TSCA:** Listed in the TSCA inventory

**SARA (TITLE 313):** Not listed

**CALIFORNIA PROP. 65:** Not Listed

## **SECTION 16 OTHER INFORMATION**

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