



Sodium Perborate Monohydrate

1. Chemical Product and Supplier Identification

Product Name

☞ Sodium Perborate Monohydrate

Synonyms

☞ Sodium peroxyborate, sodium peroxoborate, PBS1, PBSM

Manufacturer

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MSDS Number

☞ JHPBS-01-01

Effective Date

☞ June 18, 2008

2. Composition/Information on Ingredients

Ingredients	Chemical Formula	CAS No.	Percentage
Sodium Perborate Monohydrate	NaBO ₃ ·H ₂ O	10332-33-9	Min.95.0
Sodium Metaborate	NaBO ₂	7775-19-1	1-3

3. Hazards Identification

Emergency Overview

- ☞ Oxidizing agent, contact with other material may cause fire
- ☞ May be harmful or fatal if swallowed
- ☞ May cause severe eye and respiratory tract irritation or burns
- ☞ May cause skin irritation
- ☞ Does not present any significant hazard for the environment

Potential Health Effects

- ☞ General.....Irritating to mucous membrane, eyes, and skin.
- ☞ Inhalation..... Irritating to the respiratory tract. Coughing, sneezing, difficulty breathing and sore throat.
- ☞ Eye contact..... May cause irritation to the eyes, including pain, redness and reversible damage.
- ☞ Skin contact..... Slight irritation.
- ☞ Ingestion..... Vomiting and diarrhea.

4. First-aid Measures

- ☞ Inhalation.....Remove affected person to fresh air. Seek medical attention if effects persist.
- ☞ Eye contact.....Flush eyes with running water for 15 minutes with eyelids held open. Seek specialist advice.
- ☞ Skin contact.....Wash affected skin with soap and mild detergent and large amounts of water.



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- ☞ Ingestion.....If the person is conscious and not convulsing, give 2-4 cupfuls of water to dilute the chemical and seek medical attention immediately. Do not inducing vomiting.
- ☞ Notes To Medical Doctor: Irritating to eyes and mucous membranes. Endoscopy to access possible corrosive effects to the esophagus may be indicated. Decomposition products may include peroxide (irritant) and borate. Systemic effects are unlikely, but would be those of boric acid for which treatment is symptomatic and includes decontamination, support of circulation, correction of fluid-electrolyte disturbances, control of convulsions and protection of kidneys if large borate loads are encountered.

5. Fire Fighting Measure

Flash Point

Not applicable

Flammability

Not applicable

Ignition Temperature

Not applicable

Danger of Explosion

Non-explosive

Extinguishing Media

Water

Fire Hazards

Oxidizer. Storage vessels involved in a fire may vent gas or rupture due to internal pressure. Damp material may decompose exothermically and ignite combustibles. Oxygen release due to exothermic decomposition may support combustion. May ignite other combustible materials. Avoid contact with incompatible materials such as heavy metals, reducing agents, acids, bases, combustibles (wood, papers, cloths etc.). Thermal decomposition releases oxygen and heat. Pressure bursts may occur due to gas evolution. Pressurization if confined when heated or decomposing. Containers may burst violently.

Fire-Fighting Measures

- ☞ Evacuate all non-essential personnel
- ☞ Wear protective clothing and self-contained breathing apparatus
- ☞ Remain upwind of fire to avoid hazardous vapors and decomposition products
- ☞ Use water spray to cool fire-exposed containers

6. Accidental Release Measures

Spill Clean-up Procedures

- ☞ Oxidizer. Eliminate all sources of ignition. Evacuate unprotected personnel from equipment recommendations found in Section 8. Never exceed any occupational exposure limit.
- ☞ Shovel or sweep material into plastic bags or vented containers for disposal. Do not return spilled or contaminated material to inventory.
- ☞ Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.
- ☞ Do not touch or walk through spilled material. Keep away from combustibles (wood, paper, oils, etc.). Do not return any product to container because of the risk of contamination.



7. Handling and Storage

Storage

- ☞ Oxidizer. Store in a cool, well ventilated area away from all source of ignition and out of direct sunlight. Store in a dry location away from heat. Store at temperatures less than 40° C.
- ☞ Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers.
- ☞ Protect from moisture. Do not store near combustible materials. Keep containers well sealed, seal only with original vent cap. Ensure pressure relief and adequate ventilation.
- ☞ Store separately from organics and reducing materials. Avoid contamination which may lead to decomposition.

Handling

- ☞ Avoid contact with eyes, skin, and clothing. Use with adequate ventilation.
- ☞ Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area.
- ☞ Prevent contact with combustible or organic materials.
- ☞ Label containers and keep them tightly closed when not in use.
- ☞ Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

Engineering Controls

General room ventilation is required. Local exhaust ventilation, process enclosures or other engineers controls may be needed to maintain airborne levels below recommended exposure limits. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Respiratory Protection

For many conditions, no respiratory protection may be needed; however, in dusty or unknown atmospheres or when exposures exceed limit values, wear a NIOSH approved respirator.

Eye/Face Protection

Wear chemical safety goggles and a full face shield while handling this product.

Skin Protection

Prevent contact with this product. Wear gloves and protective clothing depending on condition of use.

Protective gloves: Chemical-resistant (Recommended materials: PVC, neoprene or rubber)

Other Protective Equipment

- ☞ Eye-wash station
- ☞ Safety shower
- ☞ Impervious clothing
- ☞ Rubber boots

General Hygiene Considerations

Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

9. Physical and Chemical Properties

Appearance: White crystalline powder

Odor: None



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Bulk Density:	495±45 g/L
Solubility:	Min 12 g/L @20°C
PH, 3% Solution:	9.5~10.5
Decomposition Temperature:	Self-accelerating decomposition with oxygen release starting from 50 °C

10. Stability and Reactivity

Stability

- ☞ Stable under normal conditions

Conditions to Avoid

- ☞ Water
- ☞ Acids
- ☞ Bases
- ☞ Salts of heavy metals
- ☞ Reducing agents
- ☞ Organic materials
- ☞ Flammable substances

Hazardous Decomposition Products

Oxygen. Contamination with many substances will cause decomposition. The rate of decomposition increases with increasing temperature and may be very vigorous with rapid generation of large volume of oxygen and steam.

11. Toxicological Information

- ☞ LD50 Oral: 700~2100 mg/kg, rat
- ☞ LD50 Dermal: >2000 mg/kg, rabbit
- ☞ LD50 Inhalation: >4580 mg/kg, rat

12. Ecological Information

Ecotoxicological Information

No data available. Although boron is an essential micronutrient for healthy growth of plants, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimize the amount of borate product released to the environment.

Chemical Fate Information

Boron is naturally occurring and ubiquitous in the environment. Product will decompose in the environment to natural borate. Product is soluble in water and is leach able through normal soil.

13. Disposal Considerations

Waste Treatment

Dispose of in an approved waste facility operated by an authorized contractor in compliance with local regulations.

Package Treatment

The empty and clean containers are to be recycled or disposed of in conformity with local regulations.

14. Transport Information

- ☞ Proper Shipping Name: Sodium Perborate Monohydrate
- ☞ UN Number: UN3377



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- ☞ Hazard Class: 5.1
- ☞ Labels: 5.1 (Oxidizer)
- ☞ Packing Group: III

15. Regulatory Information

- ☞ SARA Section..... Yes
- ☞ SARA (313) Chemicals..... No
- ☞ EPA TSCA Inventory..... Appears
- ☞ Canadian WHMIS Classification..... C, D2B
- ☞ Canadian DSL..... Appears
- ☞ EINECS Inventory..... Appears

16. Other Information

Disclaimer

The data in this Material Safety Data Sheet is believed to be correct. However, since conditions of use are outside our control it should not taken as a warranty of representation for which Shangyu Jiehua Chemical Co., Ltd. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.