

SAFETY DATA SHEET
Australian version - NOHSC:2011 (2003)

SODIUM PERBORATE MONOHYDRATE

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the substance/preparation

Product name : SODIUM PERBORATE MONOHYDRATE
Chemical Name : Perboric acid, sodium salt, monohydrated
Synonyms : PBS1, PBSM
Molecular formula : NaBO₃.H₂O
Molecular Weight : 99.8 g/mol

1.2. Use of the Substance/Preparation

Recommended use : - Bleaching agents
- cleaning agent
- Disinfectants and general biocidal products
- oxidizing agents

1.3. Company/Undertaking Identification

Address : SOLVAY INTEROX Pty Ltd
MCPHERSON STREET, 20-22
AUS- 2019 BANKSMEADOW

Telephone : 61293168000

Telefax : 61293166445

1.4. Emergency telephone number

Telephone : **1 800 023 488 (Emergency 24 Hour)**
+44 1865 407333 [CareChem 24] (Australia, New Zealand)
AU: +61-2-93168000 (Product information)

2. HAZARDS IDENTIFICATION

Appearance : crystalline powder
Colour : white
Odour : odourless

- Classified as hazardous according to criteria of NOHSC.
- Classified as dangerous goods according to the ADG Code
- Oxidising
- Contact with combustible material may cause fire.
- Harmful if swallowed.
- Risk of serious damage to eyes.



3. COMPOSITION/INFORMATION ON INGREDIENTS

Sodium perborate monohydrate

CAS-No.	:	10332-33-9
Symbol(s)	:	Xn, O
R-phrase(s)	:	R 8, R22, R41
Concentration	:	> 96.00 %

4. FIRST AID MEASURES

4.1. Inhalation

- Remove the subject from dusty environment and let him blow his nose.
- If symptoms persist, call a physician.

4.2. Eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Consult with an ophthalmologist immediately in all cases.

4.3. Skin contact

- Wash off with plenty of water.
- Wash contaminated clothing before re-use.
- If symptoms persist, call a physician.

4.4. Ingestion

The following actions are recommended :

- Consult a physician.

If victim is conscious:

- Clean mouth with water and drink afterwards plenty of water.
- Do NOT induce vomiting.

If victim is unconscious but breathing:

- not applicable

5. FIRE-FIGHTING MEASURES

5.1. Suitable extinguishing media

- Large quantities of water, water spray.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Extinguishing media which must not be used for safety reasons

- None.

5.3. Special exposure hazards in a fire

- Oxidizer
- Oxygen released on exothermic decomposition may support combustion in case of surrounding fire.
- Risk of explosion if heated under confinement.
- Contact with flammables may cause fire or explosions.
- Do not spray the dry product with water, except in case of fire.
- Wet product decomposes exothermically and may cause combustion of organic materials.

5.4. Special protective equipment for fire-fighters

- When intervention in close proximity wear acid resistant over suit.

5.5. Other information

- Keep product and empty container away from heat and sources of ignition.



- HAZCHEM Code: 1Y

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions

- Refer to protective measures listed in sections 7 and 8.
- Keep away from incompatible products
- Keep away from water.

6.2. Environmental precautions

- Small quantities: Flush into sewer with plenty of water.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods for cleaning up

- Pick up and arrange disposal without creating dust.
- All receiving equipment should be clean, vented, dry, labelled and made of material that is compatible with the product.
- Because of the contamination risk, the collected material should be isolated in a safe place.
- Flush with plenty of water.
- Treat recovered material as described in the section "Disposal considerations".

7. HANDLING AND STORAGE

7.1. Handling

- Clean and dry piping circuits and equipment before any operations.
- Never return unused material to storage receptacle.
- Keep away from incompatible products
- Containers and equipment used to handle the product should be used exclusively for that product.
- Keep away from water.
- Avoid moisture.
- For further information, please contact: Supplier

7.2. Storage

- Keep in a dry place.
- Keep away from direct sunlight.
- Keep away from heat.
- Keep away from incompatible products
- Keep in container fitted with safety valve or vent.
- The container must be used exclusively for the product.
- Keep only in the original container at temperature not exceeding 40 °C.

7.3. Specific use(s)

- For further information, please contact: Supplier

7.4. Packaging material

- stainless steel
- Polyethylene
- Paper + PE coating.
- glass
- Passivated aluminium

7.5. Other information

- Refer to protective measures listed in sections 7 and 8.



8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Exposure Limit Values

Sodium perborate monohydrate

- SAEL (Solvay Acceptable Exposure Limit) 2005
TWA = 5 mg/m³
- TLV (NOHSC)
Remarks: none established

8.2. Exposure controls

- Ensure adequate ventilation.
- Provide appropriate exhaust ventilation at machinery.
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.

8.2.1. Occupational exposure controls

8.2.1.1. Respiratory protection

- In case of dust clouds/fog/fumes, dust mask type P2.
- Use only respiratory protection that conforms to international/ national standards.

8.2.1.2. Hand protection

- Wear suitable gloves.
- Recommended materials: PVC, neoprene, rubber

8.2.1.3. Eye protection

- Dust proof goggles, if dusty.

8.2.1.4. Skin and body protection

- protective suit

8.2.1.5. Hygiene measures

- Shower and eye wash stations.
- Handle in accordance with good industrial hygiene and safety practice.

8.2.2. Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General Information (appearance, odour)

Appearance	:	crystalline powder
Colour	:	white
Odour	:	odourless

9.2. Important Health Safety and Environmental Information

pH	:	ca. 10 <i>Concentration: 15.228 g/l</i>
Boiling point/range	:	<i>Remarks: Not applicable</i>
Flammability (solid, gas)	:	<i>Lower explosion limit:</i> <i>Remarks: Not applicable</i>
Explosive properties	:	<i>Remarks: Non-explosive</i>
Oxidizing properties	:	<i>Remarks: Oxidizer</i>
Vapour pressure	:	<i>Remarks: Not applicable</i>
Relative density / Density	:	



Bulk density	: from 500 - 650 kg/m ³
Solubility	: water 15 g/l <i>Temperature: 20 °C</i> : Soluble in: : Glycerin : insoluble : Most organic solvents
Partition coefficient (n-octanol/water)	: <i>Remarks: Not applicable</i>
Vapour density	: <i>Remarks: Not applicable</i>

9.3. Other data

Melting point/range	: <i>Remarks: Not applicable (before melting)</i>
Granulometry	: 95 % > 0.15 mm 95 % < 1 mm
Decomposition temperature	: <i>Remarks: > 55 °C (50 kg)</i>

10. STABILITY AND REACTIVITY

10.1. Stability

- Potential for exothermic hazard

10.2. Conditions to avoid

- Heat.
- Exposure to moisture.

10.3. Materials to avoid

- water
- acids
- bases
- heavy metal salts
- reducing agents
- organic materials
- flammable materials

10.4. Hazardous decomposition products

- oxygen

11. TOXICOLOGICAL INFORMATION

11.1 Toxicological data

Acute oral toxicity

- LD₅₀, rat, from 1,770 - 2,100 mg/kg

Acute inhalation toxicity

- LC₅₀, rat, 1.164 mg/l

Acute dermal toxicity

- LD₅₀, rabbit, > 2,000 mg/kg



Skin irritation

- rabbit, slightly irritant (skin)

Eye irritation

- rabbit, Risk of serious damage to eyes.

Sensitization

- guinea pig, Did not cause sensitization on laboratory animals.

Chronic toxicity

- Oral, Target Organs: gastro-intestinal system, NOEL: > 1,000 mg/kg, irritant effects
- Human experience, Target Organs: Respiratory system, NOEL: > 21 mg/m³, irritant effects

Genetic toxicity in vitro

- in vitro, mutagenic effects

Teratogenicity

- Did not show teratogenic effects in animal experiments.

Possible hazards (summary)

- Harmful if swallowed.
- Risk of serious damage to eyes.

11.2. Health effects**Main effects**

- irritating to skin and mucous membranes
- Risk of serious damage to eyes.

Inhalation

- Irritating to mucous membranes
- (in case of higher concentration): cough.

Eye contact

- Severe eye irritation, watering and redness.
- Risk of serious or permanent eye lesions.

Skin contact

- slight irritation
- Chronic exposure may cause dermatitis.

Ingestion

- Irritation of the mouth and throat.
- By ingestion of large quantities: nausea, vomiting and diarrhea.
- Bloating of stomach, belching.

12. ECOLOGICAL INFORMATION**12.1. Ecotoxicity effects****Acute toxicity**

- Fishes, Brachydanio rerio, LC50, 96 h, 51 mg/l
- Fishes, Brachydanio rerio, NOEC, 96 h, 25 mg/l
- Crustaceans, Daphnia magna, EC50, 48 h, 11 mg/l
- Crustaceans, Daphnia magna, NOEC, 48 h, 8 mg/l

Further information on ecology

- Terrestrial plants, sensitive plants, LOEC, from 0.3 - 1 mg/l (Data in boron content)
- Terrestrial plants, intermediate plants, LOEC, from 1 - 2 mg/l (Data in boron content)
- Terrestrial plants, tolerant plants, LOEC, from 2 - 4 mg/l (Data in boron content)

12.2. Mobility

- Air
Remarks: not applicable
- water
Remarks: considerable solubility and mobility



- Soil/sediments, landfill leachate
Remarks: non-significant adsorption

12.3. Persistence and degradability

Abiotic degradation

- Air
Result: not applicable
- Soil, Hydrolysis
- water
Result: significant hydrolysis
Degradation products: boric acid/borate / hydrogen peroxide (bio)degradable

Biodegradation

- aerobic, Tested according to: Closed Bottle test, 85 %, 48 h
Remarks: rapid biodegradation

12.4. Bioaccumulative potential

- Result: Does not bioaccumulate.

12.5. Other adverse effects

- no data available

12.6. Possible hazards (summary)

- Harmful to aquatic organisms.
- Hazard for the aquatic environment is limited due to product properties:
- Does not bioaccumulate.
- . abiotic and biotic degradability into boron derivatives.
- . weak persistence.
- Boron is toxic for plants from 0.3 mg/l (sensitive plants).

13. DISPOSAL CONSIDERATIONS

13.1. Waste from residues / unused products

- In accordance with local and national regulations.
- Dilute with plenty of water.
- After this treatment, the product can be discharged into the sewer.
- Or
- Dispose of product at a landfill authorised for industrial waste.

13.2. Packaging treatment

- To avoid treatments, as far as possible, use dedicated containers.
- Empty containers are a source of hazard until they have been effectively cleaned. They must be handled and stored accordingly.
- The empty and clean containers are to be reused in conformity with regulations.
- Containers that cannot be cleaned must be treated as waste.

14. TRANSPORT INFORMATION

UN-No

3377

IATA-DGR

Class

5.1

Packing group

III

ICAO-Labels

OXIDIZER

Proper shipping name: SODIUM PERBORATE MONOHYDRATE

IMDG



Class	5.1
Packing group	III
IMO-Labels	oxidizing agents
HI/UN No.	3377
EmS:	F-A, S-Q

Proper shipping name: SODIUM PERBORATE MONOHYDRATE

ADG

Class	5.1
Packing group	III
ADG-Labels	5.1
HI/UN No.	50/3377

Proper shipping name: SODIUM PERBORATE MONOHYDRATE

Remarks:

- HAZCHEM Code: 1Y

15. REGULATORY INFORMATION

15.1. Label

- Hazardous components which must be listed on the label: Sodium perborate monohydrate
- Classified as hazardous according to criteria of NOHSC.

Symbol(s)	O Xn	Oxidising Harmful
R-phrase(s)	R 8 R22 R41	Contact with combustible material may cause fire. Harmful if swallowed. Risk of serious damage to eyes.
S-phrase(s)	S 3 S 8 S17 S24/25 S26	Keep in a cool place. Keep container dry. Keep away from combustible material. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

16. OTHER INFORMATION

16.1. Administrative information

- Australian version
- General revision
- Distribute new edition to clients

16.2. Text of R phrases mentioned in Section 3

- R 8: Contact with combustible material may cause fire.
- R22: Also harmful if swallowed.
- R41: Risk of serious damage to eyes.

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

