Material Safety Data Sheet

Version:01
Revision Date 27/5/2025

Section 1. Product Information and Company Identification			
Product name	Sodium Perorate tetrahydrate		
Mol. formula	NaBO3.4H2O	**CAS No.**	10486-00-7
Mol.wt	153.86 g/mol		
Manufacturer name	Pioneers for laboratory chemicals		
Brand name	Piochem		
Address	Area 540, Industrial Zone 6th October city Giza, Egypt.		
Website	www.piochem.com		
E-mail	info@piochem.com		
Phone number	+201225728304 , +201023932115		

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Oxidizing solids (Category 2), H272
Acute toxicity, Oral (Category 4), H302
Serious eye damage (Category 1), H318
Reproductive toxicity (Category 1B), H360Df
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word Danger

Hazard statement(s)

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H360Df	May damage the unborn child. Suspected of damaging fertility.

Precautionary statement(s)

P201	Obtain special instructions before use.
P220	Keep/Store away from clothing/ combustible materials.
P261	Avoid breathing dust.
P280	Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard Statements	none

Restricted to professional users.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	$NaBO_3.4H_2O$
Molecular weight	:	153.86 g/mol
CAS-No.	:	10486-00-7
EC-No.	:	239-172-9
Index-No.	:	005-017-00-7

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
Sodium peroxometaborate tetrahydrate Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)			
CAS-No.	10486-00-7	Ox. Sol. 2; Acute Tox. 4; Eye Dam. 1; Repr. 1B; STOT SE 3; H272, H302, H318, H360Df, H335 Concentration limits: >= 9 %: Repr. 1B, H360Df; 6.5 - < 9 %: Repr. 1B, H360D; >= 22 %: Eye Dam. 1, H318; 14 - < 22 %: Eye Irrit. 2, H319;	<= 100 %
EC-No.	239-172-9		
Index-No.	005-017-00-7		

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Borane/boron oxides, Sodium oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.Avoid exposure - obtain special instructions before use.
Provide appropriate exhaust ventilation at places where dust is formed.Keep away from sources of ignition - No smoking.Keep away from heat and sources of ignition.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Moisture sensitive.
Storage class (TRGS 510): Oxidizing hazardous materials

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: crystalline Colour: white
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	10.0 - 10.4 at 10 g/l at 25 °C
e)	Melting point/freezing point	Melting point/range: 60 °C - dec.
f)	Initial boiling point and boiling range	No data available
g)	Flash point	Not applicable
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	The substance or mixture is classified as oxidizing with the category 2.

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Metals, Metallic salts, acids, Bases, Reducing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Borane/boron oxides, Sodium oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LDLO Oral - Infant - 400 mg/kg(Sodium peroxometaborate tetrahydrate)
LDLO Oral - Child - 250 mg/kg(Sodium peroxometaborate tetrahydrate)
LDLO Oral - Human - 214 mg/kg(Sodium peroxometaborate tetrahydrate)
LD50 Oral - Rat - 1,200 mg/kg(Sodium peroxometaborate tetrahydrate)
Remarks: Behavioral:Convulsions or effect on seizure threshold. Behavioral:Muscle weakness.
LD50 Dermal - Rabbit - > 2,000 mg/kg(Sodium peroxometaborate tetrahydrate)

Skin corrosion/irritation
Skin - Rabbit(Sodium peroxometaborate tetrahydrate)
Result: No skin irritation

Serious eye damage/eye irritation
Eyes - Rabbit(Sodium peroxometaborate tetrahydrate)
Result: Severe eye irritation

Respiratory or skin sensitisation
No data available(Sodium peroxometaborate tetrahydrate)

Germ cell mutagenicity
No data available(Sodium peroxometaborate tetrahydrate)

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Presumed human reproductive toxicant May damage the unborn child. Suspected of damaging fertility.(Sodium peroxometaborate tetrahydrate)

Specific target organ toxicity - single exposure
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.(Sodium peroxometaborate tetrahydrate)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(Sodium peroxometaborate tetrahydrate)

Additional Information
RTECS: SC7350000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Sodium peroxometaborate tetrahydrate)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC50 - Danio rerio (zebra fish) - 51 mg/l - 96 h(Sodium peroxometaborate tetrahydrate)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 11 mg/l - 48 h(Sodium peroxometaborate tetrahydrate)
Toxicity to algae	IC50 - Desmodesmus subspicatus (green algae) - 26.8 mg/l - 96 h(Sodium peroxometaborate tetrahydrate)

12.2 Persistence and degradability

Biodegradability	Biotic/Aerobic (Sodium peroxometaborate tetrahydrate) Result: 85 % - Readily biodegradable.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available(Sodium peroxometaborate tetrahydrate)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Harmful to aquatic life.

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable.
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 1479 IMDG: 1479 IATA: 1479

14.2 UN proper shipping name
ADR/RID: OXIDIZING SOLID, N.O.S. (Sodium peroxometaborate tetrahydrate)
IMDG: OXIDIZING SOLID, N.O.S. (Sodium peroxometaborate tetrahydrate)
IATA: Oxidizing solid, n.o.s. (Sodium peroxometaborate tetrahydrate)

14.3 Transport hazard class(es)
ADR/RID: 5.1 IMDG: 5.1 IATA: 5.1

14.4 Packaging group
ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

Authorisations and/or restrictions on use

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.