



MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT

MSDS Name: Sodium perborate tetrahydrate
Synonyms: Sodium perborate tetrahydrate; perboric acid, sodium salt, tetrahydrate,
Metaborate peroxyhydrate
For emergencies, call CHEMTREC: 800-424-9300

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#: 10486-00-7
Chemical Name: Sodium perborate tetrahydrate
EINECS#: 234-390-0
Hazard Symbols: XN O
Risk Phrases: 22 8

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance: white. Moisture sensitive. Target Organs: None.

Irritating to Eyes.

Inhalation of dust from the product can cause inflammation on the respiratory organs.

SECTION 4 - FIRST AID MEASURES

General Advice:

Move out of dangerous area.
Take care of your own personal safety

Inhalation:

In case product dust is released:

Possible discomfort: irritation of mucous lining (nose, throat, eyes) cough, sneezing, flow of tears.

In case of complaints:

Take affected person out into fresh air.

In case of persistent discomfort: Supply with medical care.

Skin Contact:

Upon skin contact, wash with plenty of water
Remove contaminated or saturated clothes.

Eye Contact:

With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes.
Re-examination by an ophthalmologist.

Ingestion:

Do not induce vomiting.

Only when patient is fully conscious: Have the mouth rinsed with plenty of water. Also have patient drink plenty of water in small sips. **Consult a Physician.**



Notes to Physician:

Specific recommendations: None known
Therapy as for chemical burn.
If substance has been swallowed: (after absorbing larger amounts of substance)
Stomach pumping under gastroscopic view.

SECTION 5 - FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Water spray, foam, quenching powder, carbon dioxide (CO₂)

Extinguishing Media that must not be used for safety reasons:

Organic compounds

Specific Hazards during Fire Fighting:

Product is an active oxidizing, inorganic peroxygen compound. Involved in Fire, it may decompose yielding oxygen. Risk of overpressure and burst due to decomposition in confined spaces and pipes. Release of oxygen may support combustion. The product itself does not burn.

In case of fire, remove the endangered containers and bring to a safe place, if this can be done safely. Keep away from heat and protect from moisture. Keep away from flammable substances.

Specific Protective Equipment for Fire-Fighters:

Employ protective equipment commonly used in the event of fire.

Further Information:

Evacuate personnel to safe areas. Keep unauthorized personnel away. Keep out unprotected persons. Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Ensure there are sufficient retaining facilities for water used to extinguish fire. Contaminated fire-extinguishing water must be disposed of in accordance with the regulations issued by the appropriate local authorities. Fire residues should be disposed of in accordance with the regulations.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Wear protective equipment. Keep unauthorized and unprotected personnel away.

Environmental Precautions:

Observe regulations on prevention of water pollution (collect, dam up, cover up).
Do not allow the product into the following compartments:
Surface water, Stretches of water, soil.

Methods for Cleaning Up:

Use mechanical handling equipment. Avoid dust formation. Pour into clean dry plastic containers. Keep away from incompatible substances (see section 10). Keep containers open; do not seal hermetically. Dispose of absorbed material in accordance with the regulations (see section 13). Rinse away any residue with plenty of water.



Additional Advice:

Isolate defective containers immediately, if possible and date to do. Keep away from heat. Protect from moisture. Never return spilled product into its original container for re-use.
(Risk of Decomposition)

SECTION 7 - HANDLING and STORAGE

Handling:

Safe Handling Advise:

Handle in accordance with good industrial hygiene and safety practices. Avoid contact with impurities, decomposition catalysts, and incompatible substances. Wear personal protective equipment. For personal protection see section 8. Set up safety and operation procedures. Avoid eye contact. Wear dust mask and eye protection. Provide emergency shower and eye wash fountain.

No eating, drinking, smoking, or use of smokeless tobacco at work.

Remove contaminated or saturated clothing. Wash face and/or hands before break and at the end of work.

Do not reuse spilled or soiled product. Never return spilled product into its original container for re-use (Risk of Decomposition)

Advice on Protection against Fire and Explosion:

Avoid sun rays, heat, or heat effect. Keep away from flammable substances. The product itself does not burn. Ensure there are sufficient retaining facilities for water used to extinguish fire. (see section 5)

Storage:

Requirements for Storage Areas and Containers:

Cool, dry, clean. For transport, storage, and tank installations only use suitable materials. Always close container tightly after removal of product. Store in a cool dry place. Protect from sources of heat. Always avoid temperatures > 40°C.

DO NOT KEEP THE CONTAINER SEALED.

Suitable materials: polyethylene, polypropylene, polyvinyl chloride (PVC), paper bags with polyethylene liners, vanadium steel (1.4571, passivated), aluminum (passivated), glass, ceramics, concrete (e.g. silos).

Advice on Common Storage:

Do not store with: acids, alkalis, reducing agents, metallic salts. (Risk of Decomposition)
Flammable substances (Risk of Fire)

Storage Stability: < 30°C

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Components with Workplace Control Parameters:

Remarks: No substances-specific limiting value being known.

Engineering Measures:

Ensure suitable suction/aeration at the work place and with operational machinery. Avoid formation of dust. (See section 7)



Personal Protective Equipment:

Respirator Protection:

If dust occurs: Dust mask with P1 particle filter (Germany)

Hand Protection:

Wear protective gloves made of rubber or PVC material

Eye Protection:

If dust occurs: wear basket shaped glasses

Skin and Body Protection:

Wear suitable protective clothing.

Hygiene Measures:

No eating, drinking, smoking or use of any sort of smokeless tobacco. Wash hands before breaks and at the end of workday. Avoid contaminating clothes with product. Remove contaminated or saturated clothing. Immediately rinse contaminated or saturated clothing with water.

Protective Measures:

Avoid eye contact. Handle in accordance with good industrial hygiene and safety practices. Wear suitable protective clothing and gloves.

The personal protective equipment used must meet the requirements of directive 89/686/EEC and amendments (CE certification)

It should be defined in the work place in the form of a risk analysis according to directive 89/686/EEC and amendments.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: salt, crystalline, free flowing
Color: white
Odor: odorless

Safety Data:

pH: 10.0 – 10.4 (10 g/l @ 25°C) medium: water
Melting Point/Range: not applicable
Ca. 60°C (decomposition)
Boiling Point/Range: not applicable
Flash Point: not applicable
Flammability: not applicable
Ignition Temperature: non ignitable
Auto-Inflammability: not spontaneously flammable
Explosiveness: not applicable
Lower Explosion Limit: not applicable
Upper Explosion Limit: not applicable
Vapor Pressure: not applicable
Bulk Density: 700 – 900 kg/m³
Water Solubility: ca. 23 g/l (20°C in water)
Partition Coefficient (n-octanol/water): not applicable
Molecular Weight: 153.88 g/Mol
Active Oxygen: 10.2 %



SECTION 10 - STABILITY AND REACTIVITY

Conditions to Avoid: sun rays, heat, heat effect and humidity.

Materials to Avoid: Impurities, decomposition catalysts, metals, metallic salts, acids, alkalis, reducing agents. (Risk of Decomposition)

Hazardous Decomposition Products: decomposition products under conditions of thermal decomposition: steam, oxygen.

Thermal Decomposition: > 60°C, Exothermic

Hazardous Reactions: Risk of decomposition when exposed to heat. Stable under recommended storage conditions.
Product is an active oxidizing, inorganic peroxygen compound.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Oral Toxicity: LD₅₀ (rat): 2567 mg/kg
Method: OECD Test Guideline 401

Acute Dermal Toxicity: LD₅₀ (rabbit): > 2000 mg/kg
Method: OECD Test Guideline 402
Test substance: Sodium Perborate Monohydrate (limit test)

Skin Irritation: rabbit; not irritating (method: literature)

Eye Irritation: rabbit; highly irritating (method: literature)

Sensitization: maximization test guinea pig: not sensitive
Method: OEC Test Guideline 406
Test substance: Sodium Perborate Monohydrate

Repeated Dose Toxicity: Oral (rat): 28 days, NOEL: < 1000 mg/kg
Target organ/effect: Irritating to the stomach mucous membrane.
Changes of parameters of the blood. (method: literature)

Gentoxicity in vitro: microorganisms, cell cultures mutagenic/genotoxic effects
Method: literature.
In the presence of metabolic systems no mutagenic effects were observed.

Carcinogenicity: no data available.

Human Experience: Irritating to eyes. When swallowed localized irritation in the throat area, vomiting and diarrhea, as well as pyrosis arose. At working place concentrations over 21 mg/m³, irritating effects in the airways occurred.



SECTION 12 - ECOLOGICAL INFORMATION

Elimination Information (persistence and degradability):

- Biodegradability:** Exposure time: 2 days
Result: 85% readily biodegradable.
Test substance: Sodium Perborate Monohydrate
Method: OECD TG 301 A
- Physical-Chemical Resolvability:** The product can be degraded by abiotic (e.g. chemical or photolytic) processes.
- Further Information:** Under ambient conditions quick hydrolysis, reduction or decomposition occurs. The following substances are formed: sodium borate, and hydrogen peroxide. Hydrogen peroxide quickly decomposes to oxygen and water.

Behavior in Environmental Compartments:

- Bioaccumulation:** None.

Ecotoxicity Effects:

- Toxicity to Fish:** LC₅₀ (Brachydanio rerio): 51 mg/l / 96 h
NOEC (Brachydanio rerio): 25 mg/l / 96 h
Test substance: Sodium Perborate Monohydrate
Method OECD TG 203
- Toxicity to Daphnia:** EC₅₀ (Daphnia magna): 11 mg/l / 48 h
NOEC (Daphnia magna): 8 mg/l / 48 h
Test substance: Sodium Perborate Monohydrate
Method OECD TG 202
- Toxicity to Algae:** IC₅₀ (scenedesmus subspicatus): 26.8 mg/l / 96 h
Method: Literature

Future Information on Ecology:

- Chemical Oxygen Demand (COD):** Not applicable (inorganic product)
Biochemical Oxygen Demand (BOD): Not applicable (inorganic product)
AOX The product does not contain any organically bonded halogen.
- Further Information:** does not contain any heavy metals and compounds from EC directive 76-464

SECTION 13 - DISPOSAL CONSIDERATIONS

- Product:** Dispose according to local authority regulations. If necessary, contact the relevant authority.
RECOMMENDATION: Offer surplus and non-recyclable solutions to a licensed disposal company.
IF NECESSARY: Refer to manufacturer/supplier for information on recovery/recycling.



Unclean Packaging: Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities. Offer rinse packaging material to local recycling facilities.

SECTION 14 - TRANSPORT INFORMATION

US DOT

Not regulated for transport.

SECTION 15 - REGULATORY INFORMATION

US FEDERAL

TSCA

CAS# 10486-00-7 is not on the TSCA Inventory. It is a hydrate and exempt from TSCA Inventory requirements (40CFR720.3(u)(2)).

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 10486-00-7: acute, chronic.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Sodium perborate tetrahydrate, 98% is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level:

None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN O

Risk Phrases:

AllChem Industries Industrial Chemicals Group, Inc.

6010 NW First Place • Gainesville, FL 32607

TEL: (352) 378-9696 FAX: (352) 333-7438



R 22 Harmful if swallowed.
R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 22 Do not breathe dust.
S 27 Take off immediately all contaminated clothing.

WGK (Water Danger/Protection)

CAS# 10486-00-7: 1

United Kingdom Occupational Exposure Limits

Canada

None of the chemicals in this product are listed on the DSL/NDSL list. This product does not have a WHMIS classification.

CAS# 10486-00-7 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

SECTION 16 - ADDITIONAL INFORMATION

ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.

Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

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