

# MATERIAL SAFETY DATA SHEET

## Sodium Perborate Tetrahydrate



MSDS Ref. No.: 10486-00-7

Date Approved: 04/30/2006

Revision No.: 4

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This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazardous Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Sodium Perborate Tetrahydrate

**SYNONYMS:** Sodium Perborate, Tetrahydrate Perborax, Hydrate of Peroxometaborate

**GENERAL USE:** Used in active oxygen-type laundry bleaches, plastic destaining and dishwashing compounds, coffee-stain removers, denture cleaners, neutralizers for cold-wave preparations, and the preparation of oxidizing solutions for bleaching or other purposes. It can also be used as a source of oxygen at elevated temperatures.

### MANUFACTURER

FMC CORPORATION  
FMC Peroxygens  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299-6000 (General Information)

### EMERGENCY TELEPHONE NUMBERS

(303) 595-9048 (Medical - U.S. - Call Collect)

For leak, fire, spill, or accident emergencies, call:  
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)

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## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

- White, odorless, crystals
- Oxidizer.
- Contact with combustibles may cause fire.
- Under fire conditions product may decompose releasing oxygen that intensifies fire.
- Deluge container with water at safe distance or in protected area.
- Corrosive to eyes.

**POTENTIAL HEALTH EFFECTS:** Airborne dust may be irritating to eyes, nose, throat and lungs. No significant long term inhalation hazard; irritation usually subsides after exposure ceases.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Sodium Perborate Tetrahydrate	10486-00-7	96 - 98	None	Not classified

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### 4. FIRST AID MEASURES

**EYES:** Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.

**SKIN:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**INGESTION:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

**NOTES TO MEDICAL DOCTOR:** May be corrosive to eyes and mucous membranes. Emesis or gastric lavage must consider possible esophageal perforation due to re-exposure to corrosives. 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.

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### 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Water, water fog

**FIRE / EXPLOSION HAZARDS:** Decomposes with liberation of heat and oxygen which may intensify fire in combustible surroundings.

**FIRE FIGHTING PROCEDURES:** For fires involving this material, do not enter any enclosed or confined fire space without proper protection equipment such as a self contained breathing apparatus.

**FLAMMABLE LIMITS:** Non-combustible

**SENSITIVITY TO IMPACT:** Not available

**SENSITIVITY TO STATIC DISCHARGE:** Not available

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## 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Material should be put into an approved DOT container then diluted with large quantities of water and disposed of according to the methods outlined in Section 13, "Disposal Considerations". Return product to original container.

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## 7. HANDLING AND STORAGE

**HANDLING:** Avoid contact by using personal protective equipment. Use respiratory protective equipment when release of airborne dust is expected.

**STORAGE:** Store material in a cool, dry, clean area. Do not store near or expose to heat sources i.e., steam pipes, radiant heaters, hot air vents etc. Avoid contact with reducing agents and moisture.

**COMMENTS:** VENTILATION: Provide mechanical general and/or local exhaust ventilation to prevent release of dust into work environment. If ventilation is inadequate or not available, use dust respirator and eye protection.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Provide mechanical local exhaust ventilation to prevent release of dust into the work area. If release is expected use respiratory protection.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Chemical goggles or face shield.

**RESPIRATORY:** Use approved dust respirator with full face piece.

**PROTECTIVE CLOTHING:** Long sleeve shirt, impervious apron or clothing. Rubber or neoprene footwear.

**GLOVES:** Rubber or neoprene gloves. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>ODOR:</b>	Odorless
<b>APPEARANCE:</b>	White crystalline solid
<b>AUTOIGNITION TEMPERATURE:</b>	Non-combustible
<b>BOILING POINT:</b>	Not applicable
<b>COEFFICIENT OF OIL / WATER:</b>	Not available
<b>DENSITY / WEIGHT PER VOLUME:</b>	Not available
<b>EVAPORATION RATE:</b>	Not applicable (Butyl Acetate = 1)
<b>FLASH POINT:</b>	Non-combustible
<b>MELTING POINT:</b>	Approximately 65 °C (149 °F) Decomposition temperature
<b>ODOR THRESHOLD:</b>	Not available
<b>OXIDIZING PROPERTIES:</b>	Oxidizer
<b>PERCENT VOLATILE:</b>	None
<b>pH:</b>	10.2 @ 25 °C (1% solution)
<b>SOLUBILITY IN WATER:</b>	30 g/kg @ 25°C
<b>SPECIFIC GRAVITY:</b>	(H <sub>2</sub> O = 1) Not available
<b>VAPOR DENSITY:</b>	Not applicable (Air = 1)
<b>VAPOR PRESSURE:</b>	6.2 mm Hg @ 20 °C (68 °F)

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## 10. STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	Heat, moisture, reducing agents.
<b>STABILITY:</b>	Stable (contamination and moisture could initiate decomposition.)
<b>POLYMERIZATION:</b>	Will not occur
<b>INCOMPATIBLE MATERIALS:</b>	Heavy metals, reducing agents, and combustibles such as wood, paper, oils etc.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Hydrogen peroxide, and oxygen that supports combustion.

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## 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Extremely irritating/corrosive (rabbit) [FMC I82-665]

**SKIN EFFECTS:** No data available for the product.

**DERMAL LD<sub>50</sub>:** > 2,000 mg/kg (rabbit) [FMC I82-664]

**ORAL LD<sub>50</sub>:** 1,908 mg/kg (rat) [FMC I82-663]

**INHALATION LC<sub>50</sub>:** No data available for the product.

**TARGET ORGANS:** Eyes, nose, throat and lungs

**ACUTE EFFECTS FROM OVEREXPOSURE:** Product has low oral and dermal toxicity. It is minimally irritating to the skin and extremely irritating to the eyes. Dust may be irritating to nose, throat and lungs.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the product.

### CARCINOGENICITY:

<b>NTP:</b>	Not listed
<b>IARC:</b>	Not listed
<b>OSHA:</b>	Not listed
<b>OTHER:</b>	ACGIH: Not listed

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## 12. ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION:** No data available for the product.

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.

Boron naturally occurs in seawater at an average concentration of 5 mg b/l.

In lab studies acute toxicity (96-hr. LC<sub>50</sub>) for underyearling Coho salmon (*Onchorhynchus Kitsutch*) in seawater was determined as 40 mg b/l.

Boron in freshwater is generally less than 1 mg b/l.

Rainbow trout (*S. Gairdneri*) 24 day LC<sub>50</sub> = 150.0 mg b/l.

36 day NOEC-LOEC = 0.75 to 1 mg b/l.

**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 leachable through normal soil.

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### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Dissolve in water to allow the release of oxygen and dispose via a treatment system in accordance with local, state and federal governmental agencies regulations. Contact appropriate regulatory agency prior to disposal.

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### 14. TRANSPORT INFORMATION

#### U.S. DEPARTMENT OF TRANSPORTATION (DOT)

<b>PROPER SHIPPING NAME:</b>	Not regulated by U.S. DOT
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	Not applicable
<b>UN/NA NUMBER:</b>	N/A
<b>PACKING GROUP:</b>	N/A
<b>LABEL(S):</b>	Not applicable
<b>PLACARD(S):</b>	Not applicable
<b>MARKING(S):</b>	Not applicable
<b>REPORTABLE QUANTITY (RQ):</b>	Not Listed
<b>ADDITIONAL INFORMATION:</b>	49 STCC Number: Not applicable

#### INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

**ADDITIONAL INFORMATION:** Not regulated

#### INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

**ADDITIONAL INFORMATION:** Not regulated

#### OTHER INFORMATION:

Keep material cool and dry.

This material is shipped in 110 lb. polyethylene lined bags.

N/A = not applicable

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## 15. REGULATORY INFORMATION

### UNITED STATES

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

##### SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):

Not listed

##### SECTION 311 HAZARD CATEGORIES (40 CFR 370):

Fire Hazard, Immediate (Acute) Health Hazard

##### SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:

None, (conc. <52%)

##### SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):

Not listed

#### CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

##### CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):

Not listed

#### TSCA (TOXIC SUBSTANCE CONTROL ACT)

##### TSCA INVENTORY STATUS (40 CFR 710):

Exempt: Hydrate of sodium peroxometaborate

### INTERNATIONAL LISTINGS

Sodium perborate tetrahydrate:

Australia (AICS): Listed

China: Listed

Philippines (PICCS): Listed

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## 16. OTHER INFORMATION

### HMIS

Health	3
Flammability	0
Physical Hazard	1
Personal Protection (PPE)	F

Protection = F(o) (Face shield and eye protection, gloves, apron, and dust respirator)

HMIS = Hazardous Materials Identification System

Degree of Hazard Code:

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

### NFPA

Health	3
Flammability	0
Reactivity	1
Special	OX

SPECIAL = OX (Oxidizer)

NFPA = National Fire Protection Association

Degree of Hazard Code:

- 4 = Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant

### **REVISION SUMMARY:**

This MSDS replaces Revision #3, dated January 29, 2004.

Changes in information are as follows:

- Section 1 (Product and Company Identification)
- Section 3 (Composition / Information on Ingredients)
- Section 16 (Other Information)

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