# TOTALOX™ Odor Eliminator

MATERIAL SAFETY DATA SHEET



**Section 1 Chemical Product and Company Identification**

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| **PRODUCT NAME:** TOTALOX™ Odor Eliminator<br>**TRADE NAME:** TOTALOX™ Odor Eliminator | |
| **MANUFACTURER'S NAME:** CARUS CHEMICAL COMPANY | TELEPHONE NUMBER FOR INFORMATION:<br>(815) 223-1500 |
| **MANUFACTURING FACILITY:** Carus Chemical Company<br>1500 Eighth Street<br>P. O. Box 1500<br>LaSalle, IL 61301 | **CHEMTREC TELEPHONE NO.**<br>(800) 424-9300<br>**EMERGENCY TELEPHONE NO.**<br>(800) 435-6856 |

**Section 2 Hazardous Ingredients**

| Material or Component | CAS No. | Hazard Data |
|---|---|---|
| Calcium Nitrate | 10124-37-5 | |
| Sodium Permanganate | 10101-50-5 | **PEL/C** 5 mg Mn per cubic meter of air |
| | | **TLV-TWA** 0.2 mg Mn per cubic meter of air |

**Section 3 Hazards Identification**

1. Eye Contact
   TOTALOX™ odor eliminator is damaging to eye tissue on contact. It may cause burns that result in damage to the eye.
2. Skin Contact
   Momentary contact of solution at room temperature may be irritating to the skin, leaving brown stains. Prolonged contact is damaging to the skin.
3. Inhalation
   Acute inhalation toxicity data are not available. However, airborne concentrations of nitrate and permanganate in the form of mist may cause irritation to the respiratory tract. Symptoms include coughing and shortness of breath.
4. Ingestion
   TOTALOX™ odor eliminator, if swallowed, may cause irritation to mucous membranes of the mouth, throat, esophagus, and stomach. Symptoms include nausea, vomiting and diarrhea.

**Section 4 First Aid Measures**

1. Eyes
   Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Do not attempt to neutralize chemically. Seek medical attention immediately. Note to physician: Decomposition products are alkaline.
2. Skin
   Immediately wash contaminated areas with water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse. Seek medical attention immediately if irritation is severe and persistent.
3. Inhalation
   Remove person from contaminated area to fresh air. If breathing has stopped, resuscitate and administer oxygen if readily available. Seek medical attention immediately.
4. Ingestion
   Never give anything by mouth to an unconscious or convulsing person. If person is conscious, give large quantities of water or milk. Seek medical attention immediately.

**Section 5 Fire Fighting Measures**

**NFPA* HAZARD SIGNAL**

| | | | |
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| Health Hazard | 1 | = | Materials which under fire conditions would give off irritating combustion products. |
| (less than 1 hour exposure) | | | Materials which on the skin could cause irritation. |
| Flammability Hazard | 0 | = | Materials that will not burn. |
| Reactivity Hazard | 0 | = | Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water. |

***National Fire Protection Association 704**

**FIRST RESPONDERS:**
Wear protective gloves, boots, goggles, and respirator. In case of fire, wear positive pressure breathing apparatus. Approach incident with caution. Use 2000 Emergency Response Guide book (103-ORS-0), Research and Special Program Administration U.S. Department of Transportation, Guide No. 140.

**FLASHPOINT** None

**FLAMMABLE OR EXPLOSIVE LIMITS** Lower: Nonflammable Upper: Nonflammable

**EXTINGUISHING MEDIA** Use large quantities of water. Water will turn pink to purple if in contact with TOTALOX™ odor elimination. Dike to contain. Do not use dry chemicals, $CO_2$, Halon® or foams.

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| **SPECIAL FIREFIGHTING PROCEDURES** | If material is involved in fire, flood with water. Cool all affected containers with large quantities of water. Apply water from as far as a distance as possible. Wear self-contained breathing apparatus and full protective clothing. |
| **UNUSUAL FIRE AND EXPLOSION** | May decompose spontaneously if exposed to heat (135°C/275°F). May be explosive in contact with certain other chemicals (Section 10). May react violently with finely divided and readily oxidizable substances. Increases burning rate of combustible material. Emits toxic fumes of $NO_x$ upon decomposition at high temperatures (>500°C). |

**Section 6 Accidental Release Measures**

**SMALL STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED**

Contain spill by collecting the liquid in a pit or holding behind a dam (sand or soil). Reduce with sodium thiosulfate, a bisulfite or ferrous salt solution. The bisulfite or ferrous salt may require some dilute sulfuric acid (10% w/w) to promote reduction. Neutralize with sodium carbonate to neutral pH, if acid was used. Decant or filter and deposit sludge in approved landfill. Dilute the filtrate with large quantities of water and drain into sewer, if permitted. To clean contaminated floors, flush with abundant quantities of water into sewer, if permitted by federal, state, and local regulations. If not, collect water and treat as above.

**PERSONAL PRECAUTIONS**

Personnel should wear protective clothing suitable for the task. Remove all ignition sources and incompatible materials before attempting clean up.

**Section 7 Handling and Storage**

**WORK/HYGIENIC PRACTICES**

Wash hands thoroughly with soap and water after handling permanganate solution, and before eating or smoking. Wear proper protective equipment. Remove clothing, if it becomes contaminated.

**VENTILATION REQUIREMETNS**

Provide sufficient mechanical and/or local exhaust to maintain exposure below the TLV/TWA.

**CONDITIONS FOR SAFE STORAGE**

Protect containers from physical damage. Store in a cool, dry area in closed containers. Segregate from acids, peroxides, formaldehyde, and all combustible, organic, or easily oxidizable materials including antifreeze and hydraulic fluid.

**Section 8 Exposure Controls and Personal Protection**

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| **RESPIRATORY PROTECTION**<br>In cases where overexposure to mist may occur, the use of an approved NIOSH-MSHA mist respirator or an air supplied respirator is advised. Engineering or administrative controls should be implemented to control mist. |
| **EYE**<br>Faceshield, goggles, or safety glasses with side shields should be worn. Provide eyewash in working area. |
| **GLOVES**<br>Rubber or plastic gloves should be worn. |
| **OTHER PROTECTIVE EQUIPMENT**<br>Normal work clothing covering arms and legs, and rubber, or plastic apron should be worn. Caution: If clothing becomes contaminated, wash off immediately. Spontaneous ignition may occur with cloth or paper. |

**Section 9 Physical and Chemical Properties**

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| **APPEARANCE AND ODOR** | Dark purple solution, odorless |
| **BOILING POINT, 760 mm Hg** | >101 °C |
| **VAPOR PRESSURE (mm Hg)** | N/A |
| **SOLUBILITY IN WATER % BY SOLUTION** | Miscible in all proportions |
| **PERCENT VOLATILE BY VOLUME** | 54% (as water) |
| **EVAPORATION RATE** | Same as water |
| **FREEZING POINT** | <-4°F |
| **SPECIFIC GRAVITY** | 1.38 |
| **pH** | 5-6 |
| **OXIDIZING PROPERTIES** | Oxidizer. |
| **EXPLOSIVE PROPERTIES** | Explosive in contact with sulfuric acid or peroxides, or readily oxidizable substances. |

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**Section 10 Stability and Reactivity**

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| **STABILITY** | Under normal conditions, the material is stable. |
| **CONDITIONS TO AVOID** | Contact with incompatible materials or heat (135° C/275ºF). |
| **INCOMPATIBLE MATERIALS** | Acids, peroxides, formaldehyde, antifreeze, hydraulic fluids, and all combustible organic or readily oxidizable materials, including metal powders. With hydrochloric acid, toxic chlorine gas is liberated. |
| **HAZARDOUS DECOMPOSITION PRODUCTS** | When involved in a toxic fire, TOTALOX™ odor eliminator may form corrosive fumes. |
| **CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION** | Material is not known to polymerize. |

**Section 11 Toxicological Information**

1. Acute Overexposure
   Irritating to body tissue with which it comes into contact. No toxicity data for sodium permanganate is available. Toxicity data for calcium nitrate and potassium permanganate are given below.

   Calcium nitrate tetrahydrate:
   Skin-rbt 500 mg/24H MCD
   Eye-rbt 500 mg/26H MCD
   Oral-rat LD50:3900 mg/kg

   Potassium permanganate:
   Oral-rat LD50:780 mg/kg male (14 days); 525 mg/kg female (14 days)

2. Chronic Overexposure
   No known cases of chronic poisoning due to nitrate or permanganate have been reported. Prolonged exposure, usually over many years, to heavy concentrations of manganese oxides in the form of dust and fumes may lead to chronic manganese poisoning, chiefly involving the central nervous system.

3. Carcinogenicity
   Calcium nitrate and sodium permanganate have not been classified as carcinogen by OSHA, NTP, IARC.

4. Medical Conditions Generally Aggravated by Exposure
   TOTALOX™ odor eliminator solution will cause further irritation of tissue, open wounds, burns or mucous membranes.

**Section 12 Ecological Information**

**Entry to the Environment**
Permanganate has a low estimated lifetime in the environment, being readily converted by oxidizable materials to insoluble $MnO_2$.
**Bioconcentration Potential**
In non-reducing and non-acidic environments $MnO_2$ is insoluble and has a very low bioaccumulative potential.
**Aquatic Toxicity (CSC)**
No data.

**Section 13 Disposal Considerations**

**Waste Disposal**
For disposal of sodium permanganate solutions, follow procedures in Section 6 and deactivate the permanganate to insoluble manganese dioxide. Dispose of it in a permitted landfill. Contact Carus Chemical Company for additional recommendations.

**Section 14 Transport Information**

**U.S. DEPARTMENT OF TRANSPORTATION INFORMATION**
DOT Not regulated.

**Section 15 Regulatory Information**

**Sodium Permanganate:**
**TSCA** Listed in the Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

**RCRA** Not an RCRA waste. TOTALOX™ odor eliminator is not an oxidizer and therefore does not meet the criteria of oxidizable waste.

**SARA TITLE III Information**

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| Section 302/303 | Extremely hazardous substance: Not listed |
| Section 311/312 | Hazard categories: Fire, acute and chronic toxicity. |
| Section 313 | TOTALOX™ odor eliminator 1% manganese compounds as part of the chemical infrastructure (manganese compounds CAS Reg. No. N/A) and is subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372. |

**FOREIGN LIST** Canadian Non-Domestic Substance List
EINECS

**Calcium Nitrate:**
**TSCA** Listed in the Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
**CERCLA** Not listed.

**RCRA** Not listed.

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**Section 16 Other Information**

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| NIOSH | National Institute for Occupational Safety and Health |
| MSHA | Mine Safety and Health Administration |
| OSHA | Occupational Safety and Health Administration |
| NTP | National Toxicology Program |
| IARC | International Agency for Research on Cancer |
| PEL | Permissible Exposure Limit |
| C | Ceiling Exposure Limit |
| TLV-TWA | Threshold Limit Value-Time Weighted Average |
| CAS | Chemical Abstract Service |
| EINECS | Inventory of Existing Chemical Substances (European) |

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**CARUS CHEMICAL COMPANY IS A DIVISION OF CARUS CORPORATION,**
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*Good Chemistry at Work*