# SAFETY DATA SHEET



## 1. IDENTIFICATION

**Product Identifier**

**Product Name** SODIUM PERMANGANATE SOLUTION
**Chemical Name** Sodium permanganate solution

**Recommended use of the chemical and restrictions on use**

**Recommended use** Iron sulfide remediation
**Restrictions on use** For industrial use only

**Supplier details**

West Penetone Inc.
11411-160 Street
Edmonton, AB,
T5M3T7
Tel: 780-454-3919

**Emergency Telephone Number**

Main office – (780)-454-3919, 8:00 AM to 4:30 PM MST

## 2. HAZARDS IDENTIFICATION

**Classification**

| | |
|---|---|
| Oxidizing liquids | Category 2 |

| | |
|---|---|
| Acute toxicity, oral | Category 4 |
| Skin corrosion/irritation | Category 1B |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity – single exposure | Category 3 |

| | |
|---|---|
| Hazardous to the aquatic environment, acute hazard | Category 1 |
| Hazardous to the aquatic environment, long-term hazard | Category 1 |

**Label Elements**

**DANGER**

**Hazard Statements**
May intensify fire; oxidizer
Harmful if swallowed
Causes severe skin burns and eye damage
May cause respiratory irritation
Very toxic to aquatic life with long lasting effects

**Precautionary Statements - Prevention**
Keep away from heat.
Keep away from clothing and other combustible materials.
Do not breathe mist or vapor.
Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary Statements - Response**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse with water/shower. Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
In case of fire: Use water for extinction.
Collect spillage.

**Precautionary Statements - Storage**
Store locked up. Store in a well ventilated place. Keep container tightly closed.

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant according to local, provincial/federal regulations.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|---|---|---|
| sodium permanganate | 10101-50-5 | 19-21 |

## 4. FIRST AID MEASURES

**Eye contact** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

**Skin contact** Take off immediately all contaminated clothing. Solution may ignite certain textiles. Rinse with water/shower. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing Immediately call a POISON CENTER or doctor/physician.

**Ingestion** Rinse mouth. Remove person to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

**Most important symptoms and effects, both acute and delayed**

Contact with eyes may cause serious eye damage leading to irritation, discomfort or pain, excess blinking and tear production with marked redness and swelling of the conjunctiva, blurred vision. Possible corneal injury and blindness could result. Contact with skin may cause irritation with local redness or burn lesions. Material is destructive to the tissue of the mucous membranes and upper respiratory tract and may be harmful if inhaled. Material may be harmful if swallowed.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**
Dry chemical, foam, or carbon dioxide.

**Specific hazards arising from the chemical**
Strong oxidizer. Contact with combustible or incompatible materials may cause a fire or support combustion. During fire, material may release large quantities of oxygen supporting combustion or the risk of explosions.

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**
Avoid inhalation of vapors and contact with skin, eyes and clothing. Use personal protective equipment. Use appropriate containment to avoid environmental contamination.

**Environmental Precautions**
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains/surface waters/groundwater.

**Methods and material for containment and cleaning up**
Contain and solidify with inert absorbent material. Keep in suitable, closed containers for disposal. Following product recovery, flush area with plenty of water. For large spills, stop flow of material, prevent product from entering drains, and pump off product where this is without risk and possible. Proceed as above.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

**Handling** Avoid contact with skin, eyes and clothing. Avoid inhalation of vapor or mist. When using, do not eat, drink, or smoke.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed away from direct sunlight in a dry, cool and well-ventilated place, away from incompatible materials.

**Incompatible Materials** Organic and combustible materials, strong reducing agents and acids, peroxides, alcohols, nitrates, perchlorates, hypophosphites, hyposulfites, sulphites, oxalates, halides, and hydrides.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters**

| Chemical Name | ACGIH TWA | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| sodium permanganate<br>10101-50-5 | 0.10 $mg/m^3$ inhalable fraction<br>0.02 $mg/m^3$ respirable fraction | 5 $mg/m^3$ ceiling | STEL: 3 $mg/m^3$ fume<br>TWA: 1 $mg/m^3$ fume |

**Appropriate engineering controls**

**Engineering Controls** Ensure adequate ventilation, especially in confined areas. Eye wash and shower facilities must be made available when handling this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face Protection** Safety glasses with side shields or goggles. Wear face shield where risk of splashing exists.

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory Protection** Wear respiratory protection in case of vapor/aerosol release.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:**
Purple liquid
**ODOR:**
Odorless
**ODOR THRESHOLD:**
Not applicable

**VAPOR PRESSURE, mm Hg AT 20ºC:**
Not applicable
**VAPOR DENSITY (Air = 1):**
Not applicable
**RELATIVE DENSITY AT 20ºC:**
1.15-1.17

**pH:**
5-8
**MELTING POINT / FREEZING POINT:**
-6ºC
**BOILING POINT/BOILING RANGE:**
100ºC
**FLASH POINT:**
None
**EVAPORATION RATE, water = 1:**
1
**FLAMMABILITY (SOLID, GAS):**
Not applicable

**SOLUBILITY IN WATER:**
Complete
**PARTITION COEFFICIENT, N-OCTANOL/WATER:**
Not applicable for inorganic substances
**AUTO-IGNITION TEMPERATURE:**
None
**DECOMPOSITION TEMPERATURE:**
704ºC
**VISCOSITY:**
Not available
**FLAMMABLE LIMITS:**
**UPPER:** Not applicable **LOWER:** Not applicable

## 10. STABILITY AND REACTIVITY

**Reactivity**
Not reactive.

**Chemical Stability**
Stable under normal conditions.

**Possibility of hazardous reactions**
Contact with combustible materials may cause fire. Can explode in contact with sulphuric acid, peroxides and metal powders.

**Conditions to Avoid**
Extreme temperatures ≥ 135ºC. Store away from incompatible materials.

**Incompatible Materials**
Organic and combustible materials, strong reducing agents and acids, peroxides, alcohols, nitrates, perchlorates, hypophosphites, hyposulfites, sulphites, oxalates, halides, and hydrides.

**Hazardous decomposition products**
Under normal conditions of storage and use, hazardous decomposition products should not be produced. Material liberates chlorine in contact with hydrochloric acid. Explosion hazards may occur when in contact with sulphuric acid, peroxides, nitric acid, alcohols, arsenic, phosphorous, sulphur, titanium and aldehydes. Thermal decompositions can lead to release of toxic metal fumes such as oxides of potassium and manganese.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| potassium permanganate 7722-64-7 | 525 mg/kg (rat) | Not listed | Not listed |

**Information on likely sources of exposure**

**Serious eye damage/irritation** Causes serious eye damage.
**Skin corrosion/irritation** Causes severe skin burns.
**Ingestion** Harmful if swallowed.
**Inhalation** May cause irritation to respiratory system.

**Delayed and immediate effects and also chronic effects from short and long-term exposure**

**Respiratory or skin sensitization** Not a sensitizer.
**Germ cell mutagenicity** None known.
**Carcinogenicity** No listed carcinogens.
**Reproductive toxicity** No information available.
**STOT - single exposure** May cause irritation of the respiratory tract.
**STOT- repeated exposure** No information available.
**Aspiration Hazard** None.

**Symptoms related to the physical, chemical and toxicological characteristics**

May cause burns to skin, eyes, and mucous membranes. Permanent eye damage including blindness could results.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
If available, ecotoxicity values of individual components are shown below.

| Chemical Name | Fish | Waterflea | Algae |
|---|---|---|---|
| potassium permanganate 7722-64-7 | 0.1 mg/L: 96 h ictalurus punctatus LC50 | 0.06 mg/L: 48 h daphnia magna EC50 | Not available |

**Persistence and degradability**
Not applicable to inorganic substances.

**Bioaccumulative potential**
Does not significantly accumulate in organisms.

**Mobility in soil**
No information available

**Other adverse effects**
Do not release untreated into natural waters. No other adverse environmental effects are expected.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method** Dispose of in accordance with local regulations.

**Contaminated Packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. TRANSPORT INFORMATION

UN Number: 3214
UN Proper Shipping Name: Permanganates, Inorganic, Aqueous Solution, N.O.S. (sodium permanganate)
Transport Hazard Class(es)
Class: TDG: 5.1
US DOT: 5.1
IMDG: 5.1
Label(s): 5.1
Packing Group: II
Marine Pollutant: Yes

Special precautions for user: None established

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not determined

## 15. REGULATORY INFORMATION

Canada (DSL/NDSL)
All ingredients contained in this product are in compliance with the Canadian Environmental Protection Act and are listed on the DSL or are exempt.

United States (TSCA)
All ingredients contained in this product are listed on the TSCA inventory or are exempt.

HMIS Information:
Health: 1
Flammability: 0
Reactivity: 0

## 16. OTHER INFORMATION

**Preparation Date** 14 February, 2017
**Revision Date** 10 July 2025
**Revision Note** **Revision 1** – Adjustment to Sections 1, 14, 15

**Disclaimer**

**The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**

**End of SDS**