SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier
Product 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
Canutec (613)-996-6666

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 10101-50-5	0.10 mg/m^3 inhalable fraction 0.02 mg/m^3 respirable fraction	5 mg/m^3 ceiling	STEL: 3 mg/m^3 fume 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 :
-6^{o}C
BOILING POINT/BOILING RANGE :
100^{o}C
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:
704^{o}C
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 $\geq$ 135^{o}C. 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

TDG classification

UN 3214, Permanganates, Inorganic, Aqueous Solution, N.O.S. (sodium permanganate), Class 5.1, PG II

15. REGULATORY INFORMATION

All ingredients are listed on the DSL

16. OTHER INFORMATION

Preparation Date 14 February, 2017
Revision Date not applicable
Revision Note not applicable

Disclaimer
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End of SDS