



OCI Company Ltd.

Material Safety Data Sheet

MSDS

0.1N Potassium Permanganate

Section 1 - Chemical Product and Company Identification

TRADE NAMES : 0.1N Potassium Permanganate

Recommended use : Not available

Restriction of use : Not available

Company Identification

Company : OCI Company Ltd.

Address : 230, Dokbae-ro, Nam-gu, Incheon, KOREA

Tel No. : 82 - 32 - 860 – 6114

Section 2 - Hazards Identification

1) Hazard Classification Oxidizing Liquid : 2
Hazardous to the aquatic environment (Chronic hazard) : 2

2) Warning signal

Symbol



Signal word

Danger

Hazard statement

H272 May intensify fire; oxidizer

H411 Toxic to aquatic life with long lasting effects

Prevention precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P220 Keep/Store away from clothing/combustible materials

P221 Take any precaution to avoid mixing with combustibles

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection

P370+P378 In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction

P391 Collect spillage.

P501 Dispose of contents/container to the related laws

3) NFPA

- Potassium Permanganate

Health Rating 3

Flammability Rating 0

Reactivity Rating 0

- Water

Health Rating 0

Flammability Rating 0

Reactivity Rating 0

Section 3 - Composition, Information on Ingredients

COMPONENT: Potassium Permanganate

CAS No.: 7722-64-7

PERCENTAGE: 0.48

COMPONENT: Water

CAS No.: 7732-18-5

PERCENTAGE: 99.52

Section 4 - First Aid Measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Apply artificial respiration if victim is not breathing. Call a physician or poison control center immediately.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

Section 5 - Fire Fighting Measures

General Fire Hazards: The product is non-combustible.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None.

Specific hazards arising from the chemical: None known.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including

flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Neutralize with lime or soda ash. Neutralize spill area and washings with dilute acetic acid. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop leak if you can do so without risk. Inform authorities if large amounts are involved.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7 - Handling and Storage

Precautions for safe handling: Wear protective gloves/protective clothing/eye protection/face protection. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Store in a cool and well-ventilated place. Keep from freezing

Section 8 - Exposure Controls, Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
POTASSIUM PERMANGANATE			
- Respirable fraction. - as Mn	TWA	0.02 mg/m ³	US. ACGIH Threshold Limit Values (02 2013)
POTASSIUM PERMANGANATE			
- Inhalable fraction. - as Mn	TWA	0.1 mg/m ³	US. ACGIH Threshold Limit Values (02 2013)
POTASSIUM PERMANGANATE			
- Fume. - as Mn	STEL	3 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	1 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
POTASSIUM PERMANGANATE			
- as Mn	Ceiling	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	Ceiling	5 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not

been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Avoid contact with eyes, skin, and clothing.

Section 9 - Physical and Chemical Properties

Appearance

Physical state: Liquid

Form: Liquid

Color: Pale purple

Odor: No data available.

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: No data available.

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits : No data available

Vapor pressure: No data available.

Vapor density: No data available.

Relative density: No data available.

Solubility(ies)

Solubility in water: No data available.

Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Viscosity: No data available.

Molecular Weight: No data available.

Section 10 - Stability and Reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur.

Conditions to Avoid: Contact with incompatible materials.

Incompatible Materials: Reducing agents. Metals. Sulfuric acid.

Hazardous Decomposition Products: None known.

Section 11 - Toxicological Information

Information on likely routes of exposure

Ingestion: May cause irritation of the gastrointestinal tract.

Inhalation: Irritating to respiratory tract.

Skin Contact: May cause irritation.

Eye contact: May irritate eyes.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix (Rat): 9,375 mg/kg

Dermal Product: No data available.

Inhalation Product: No data available.

Repeated Dose Toxicity Product: No data available.

Skin Corrosion/Irritation Product: May cause skin irritation.

Serious Eye Damage/Eye Irritation Product: May irritate eyes.

Respiratory or Skin Sensitization Product: Not a skin sensitizer.

Carcinogenicity Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro Product: No mutagenic components identified

In vivo Product: No mutagenic components identified

Reproductive Toxicity Product: No data available.

Specific Target Organ Toxicity - Single Exposure Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure Product: No data available.

Aspiration Hazard Product: Not classified

Other Effects: None known.

Section 12 - Ecological Information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish Product:

LC 50 (Rainbow trout, donaldson trout (*Oncorhynchus mykiss*), 96 h) : calculated 3.34 - 5.53 mg/l Mortality

LC 50 (Striped bass (*Morone saxatilis*), 96 h) : calculated 4.35 mg/l Mortality

LC 50 (Bluegill (*Lepomis macrochirus*), 96 h) : calculated 8.9 - 12.0 mg/l Mortality

Aquatic Invertebrates Product:

EC 50 (Amphipod (Crangonyx pseudogracilis), 48 h) : calculated 10.75 - 14.0 mg/l Intoxication

LC 50 (Zebra mussel (Dreissena polymorpha), 48 h) : calculated > 500 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish Product: No data available.

Aquatic Invertebrates Product: No data available.

Toxicity to Aquatic Plants Product: No data available.

Persistence and Degradability

Biodegradation Product: There are no data on the degradability of this product.

BOD/COD Ratio Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF) Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow) Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: Toxic to aquatic life with long lasting effects.

Section 13 - Disposal Considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Do not allow to enter drains, sewers or watercourses.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14 - Transport Information

UN Number: Not regulated

Shipping Name: No data available

Hazard Class: No data available

Packing Group: No data available

Section 15 - Regulatory Information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

POTASSIUM PERMANGANATE

Reportable quantity: 100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

X Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity

RQ

POTASSIUM PERMANGANATE 100 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity Threshold Planning Quantity

POTASSIUM PERMANGANATE 500 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
POTASSIUM PERMANGANATE	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

POTASSIUM PERMANGANATE Reportable quantity: 100 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

POTASSIUM PERMANGANATE Listed

US. Massachusetts RTK - Substance List

POTASSIUM PERMANGANATE Listed

US. Pennsylvania RTK - Hazardous Substances

POTASSIUM PERMANGANATE Listed

US. Rhode Island RTK

POTASSIUM PERMANGANATE Listed

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	On or in compliance with the inventory
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

Section 16 - Other Information

Sources : KOSHA, National Emergency Management Agency

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