

SAFETY DATA SHEET

99.9%

POTASSIUM PERMANGANATE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name: Potassium Permanganate
Product No.: POT
CAS-No.: 7722-64-7
EC No.: 231-760-3
Synonym: Permanganate of potash, Potassium salt, Permanganic acid
Chemical Formula: KMnO_4

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Use of the substance/mixture: Oxidant
Bleaching agent
Reagent
Disinfectant
Deodorizer
Algaecide
Dyestuff/pigment: component
Medicine
Laboratory chemical
Food industry: additive
Insecticide
Germicide

Recommended use: Laboratory chemicals

Restrictions on use: Not for food, drug or household use

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification (EC 1272/2008)

Physical and Chemical Hazards:	Oxidizing solids; Category 2 (H272)
Human health:	Acute oral toxicity; Category 4 (H302) Skin Corrosion/irritation; Category 1C (H314) Serious Eye Damage/Eye Irritation; Category 1 (H318) Specific target organ toxicity - (repeated exposure); Category 2 (H373)
Environment:	Acute aquatic toxicity; Category 1 (H400) Chronic aquatic toxicity; Category 1 (H410)
Classification (67/548/EEC)	O; R8. Xn; R22. N; R50/53

2.2. LABEL ELEMENTS



SIGNAL WORDS

Danger

RISK PHRASES

- R8 Contact with combustible material may cause fire
- R22 Harmful if swallowed
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

HAZARD PHRASES

- H272 May intensify fire; oxidizer
- H302 Harmful if swallowed
- H314 Causes severe skin burns and eye damage
- H373 May cause damage to organs through prolonged or repeated exposure
- H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long lasting effects

PROTECTION PHRASES

- 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
- P264 Wash exposed skin thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P273 Avoid release to the environment
- P280 Wear protective gloves, protective clothing, eye protection, face protection
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 Immediately call a doctor/ physician
- P391 Collect spillage
- P501 Dispose of contents/container to comply with local, state and federal regulations

SAFETY PHRASES:

- S60 This material and its container must be disposed of as hazardous waste
- S61 Avoid release to the environment. Refer to special instructions/safety data sheets



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition information – main constituents

Substance name	Mol. Formula	Typical conc. (%w/w)	EC No.	CAS-No.
Potassium Permanganate	KMnO ₄	99.9%	231-760-3	7722-64-7

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

First-aid measures general: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

Inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

Ingestion: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Immediately consult a doctor/medical service. Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital.

Skin contact: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

Eye contact: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.



4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Inhalation:	AFTER INHALATION OF DUST: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. EXPOSURE TO HIGH CONCENTRATIONS: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung edema.
Ingestion:	Nausea. Vomiting. Diarrhoea. Irritation of the gastric/intestinal mucosa. AFTER ABSORPTION OF LARGE QUANTITIES: Possible esophageal perforation. Shock. Slowing heart action. Low arterial pressure. Possible laryngeal spasm/oedema. Respiratory difficulties.
Skin contact:	Tingling/irritation of the skin. May stain the skin. ON CONTINUOUS EXPOSURE/CONTACT: Caustic burns/corrosion of the skin.
Eye contact:	Corrosion of the eye tissue. Inflammation/damage of the eye tissue. ON CONTINUOUS EXPOSURE/CONTACT: Permanent eye damage.
Chronic Potential Health Effects:	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Respiratory difficulties. impairment of the nervous system. Movement disturbances. Coordination disorders. Myasthenia. Tremor. Paralysis. Cramps/uncontrolled muscular contractions. Impaired memory. Emotional instability.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media:	Adapt extinguishing media to the environment. Preferably: quantities of water.
Unsuitable extinguishing media:	No unsuitable extinguishing media known.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Do not allow run-off from fire fighting to enter drains or water courses.

Fire hazard: DIRECT FIRE HAZARD. Non-combustible. INDIRECT FIRE HAZARD. Promotes combustion.

Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity: Decomposes on exposure to temperature rise: oxidation which increases fire hazard. Reacts with combustible materials: risk of spontaneous ignition. Violent to explosive reaction with (some) acids: release of toxic and corrosive gases/vapours. Reacts violently with many compounds e.g.: with organic material and with (strong) reducers. With (some) metals. With (increased) risk of fire/explosion

5.3. ADVICE FOR FIRE-FIGHTERS

Wear self-contained breathing apparatus and full protective clothing. Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of environmentally hazardous fire fighting water. Use water moderately and if possible collect or contain it.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

6.1.1. For non-emergency personnel

Protective equipment: Gloves. Face-shield. Protective clothing.

Dust cloud production: compressed air/oxygen apparatus, dust-tight suit.

Reactivity hazard: compressed air/oxygen apparatus, gas-tight suit.

Emergency procedures: Mark the danger area. Prevent dust cloud formation. No naked flames. Keep containers closed.

Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

Protective equipment: Equip clean-up crew with proper protection. Do not breathe dust.

Emergency procedures: If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

Stop release. Ventilate area.

6.2. ENVIRONMENTAL PRECAUTIONS

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.



6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

For containment: Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. Knockdown/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up: Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Spill must not return in its original container. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosion-proof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste in to the drain. Avoid raising dust. Keep away from naked flames/heat. Observe very strict hygiene -avoid contact. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Heat-ignition:	KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage:	KEEP SUBSTANCE AWAY FROM: combustible materials. Reducing agents. Strong acids. Metal powders. Cellulosic materials. Organic materials. Alcohols. Peroxides.
Storage area:	Store at ambient temperature. Keep out of direct sunlight. Store in a dry area. Fireproof storeroom. Unauthorized persons are not admitted. Keep only in the original container. Store only in a limited quantity. Meet the legal requirements.
Special rules on packaging:	SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packaging in solid containers.
Packaging materials:	SUITABLE MATERIAL: steel. aluminium. glass. stoneware/porcelain. MATERIAL TO AVOID: wood. cellulosic material.

7.3. SPECIFIC END USE(S)

See section 1.2



SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values:

Potassium Permanganate (7722-64-7)		
ACGIH	ACGIH TWA (mg/m ³)	0.1 mg/m ³ (Manganese, inorganic compounds, as Mn;USA; Time-weighted average exposure limit 8 h; TLV -Adopted Value; Inhalable fraction)
OSHA	OSHA PEL (Ceiling) (mg/m ³)	5 mg/m ³ as Mn
IDLH	US IDLH (mg/m ³)	500 mg/m ³ as Mn
NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³ as Mn
NIOSH	NIOSH REL (ceiling) (mg/m ³)	3 mg/m ³ as Mn

Component	The United Kingdom	Spain	Germany	Portugal
Potassium permanganate	STEL: 1.5 mg/m ³ 15 min TWA: 0.5 mg/m ³ 8 hr	TWA / VLA-ED: 0.2 mg/m ³ (8 horas)	TWA: 0.2 mg/m ³ (8 Stunden). AGW - exposure factor 8 TWA: 0.02 mg/m ³ (8 Stunden). AGW - exposure factor 8 TWA: 0.2 mg/m ³ (8 Stunden). MAK TWA: 0.02 mg/m ³ (8 Stunden). MAK Höhepunkt: 1.6 mg/m ³ Höhepunkt: 0.16 mg/m ³	TWA: 0.2 mg/m ³ 8 horas
Component	Austria	Switzerland	Norway	Croatia
Potassium permanganate	MAK-KZW: 2 mg/m ³ 15 Minuten MAK-TMW: 0.5 mg/m ³ 8 Stunden	TWA: 0.5 mg/m ³ 8 Stunden	TWA: 1 mg/m ³ 8 timer TWA: 0.1 mg/m ³ 8 timer	TWA-GVI: 5 mg/m ³ 8 satima

Exposure limits List source(s): UK - EH40/2005 containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement.

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust
MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry
MDHS 99 Metals in air by ICP-AES

Predicted No Effect Concentration (PNEC)

See values below.

Fresh water: 0.00006 mg/l
Water Intermittent: 0.0006 mg/l
Microorganisms in sewage treatment: 1.64 mg/l

Engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Protective equipment:



Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: polyethylene. GIVE GOOD RESISTANCE: butyl rubber. PVC. polyethylene/ethylenevinylalcohol

Respiratory equipment: Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

Skin and body protection: Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing. Gloves

Eye/Face protection: Face shield. In case of dust production: protective goggles.

Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination. Respiratory Protection When workers are facing concentrations above the exposure

limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Large scale/emergency use: Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use: Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Recommended half mask:- Particle filtering: EN149:2001. When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls: Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid (Crystalline solid/ Crystalline powder)
Colour:	Dark Violet-Brown
Odour:	Odourless
Solubility:	Moderately soluble in water. Substance sinks in water. Soluble in ethanol. Soluble in methanol. Soluble in acetone. Soluble in acetic acid. Soluble in sulphuric acid. Soluble in pyridine. Water: 6.4 g/100ml
Initial boiling point (°C):	Not available
Melting point (°C):	> 240 °C
Freezing point:	No data available
Relative density:	2.7
Specific gravity / density:	2700 kg/m ³
Vapour density:	Not available
Vapour pressure:	< 0.1 hPa (20 °C)
pH-Value, Diluted Solution:	At 20 C: 7.0 - 8.5 (1.6 %)
Flash point (°C):	Not applicable.
Molecular mass:	158.03 g/mol
Auto-ignition temperature:	Not applicable

Oxidizing properties : May intensify fire; oxidiser.

Decomposition temperature: > 240 °C

Molecular formula: KMnO_4

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Decomposes on exposure to temperature rise: oxidation which increases fire hazard. Reacts with combustible materials: risk of spontaneous ignition. Violent to explosive reaction with (some) acids: release of toxic and corrosive gases/vapours. Reacts violently with many compounds e.g.: with organic material and with (strong) reducers. With (some) metals. With (increased) risk of fire/explosion.

10.2. CHEMICAL STABILITY

Stable under normal conditions, Oxidizer: Contact with combustible/organic material may cause fire.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Reacts exothermically with combustible materials: (increased) risk of fire.

10.4. CONDITIONS TO AVOID

High temperatures, dust generation, incompatible materials.

10.5. INCOMPATIBLE MATERIALS

Reducing agents. Strong reducing agents. Organic compounds. Combustible materials. Metals. Strong acids.

10.6. HAZARDOUS DECOMPOSITION

Manganese. Potassium oxides. Heavy metal oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Potassium Permanganate (7722-64-7)

LD50 oral rat

1090 mg/kg (Rat)

ATE US (oral)

1090 mg/kg body weight



Likely routes of exposure:	Skin and eye contact; Inhalation
Acute Toxicity:	Oral: Harmful if swallowed.
Skin corrosion/irritation:	Not classified; pH: 7.0 - 8.5 (1.6 %)
Serious eye damage/irritation:	Not classified; pH: 7.0 - 8.5 (1.6 %)
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
Specific target organ toxicity – single exposure :	Not classified
Specific target organ toxicity – repeated exposure:	Not classified
Aspiration hazard:	Not classified
Inhalation:	AFTER INHALATION OF DUST: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. EXPOSURE TO HIGH CONCENTRATIONS: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung edema.
Skincontact:	Tingling/irritation of the skin. May stain the skin. ON CONTINUOUS EXPOSURE/CONTACT: Caustic burns/corrosion of the skin.
Eyecontact:	Corrosion of the eye tissue. Inflammation/damage of the eye tissue. ON CONTINUOUSEXPOSURE/CONTACT: Permanent eye damage.
Ingestion:	Nausea. Vomiting. Diarrhoea. Irritation of the gastric/intestinal mucosa. AFTER ABSORPTIONOF LARGE QUANTITIES: Possible oesophageal perforation. Shock. Slowing heart action. Low arterial pressure. Possible laryngeal spasm/oedema. Respiratory difficulties.
Chronic symptoms:	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Respiratory difficulties. Impairment of the nervous system. Movement disturbances. Coordination disorders. Myasthenia. Tremor. Paralysis. Cramps/uncontrolled muscular contractions. Impaired memory. Emotional instability.

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity: The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause

long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

12.1. TOXICITY

Ecology - general: Dangerous for the environment.

Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). TA-LuftKlasse 5.2.2/III.

Ecology - water : Severe water pollutant (surface water). Ground water pollutant. Toxic to fishes. Very toxic to invertebrates (Daphnia).

Potassium Permanganate (7722-64-7)	
EC50 Daphnia 1	0.235 mg/l (EC50; 24 h)
LC50 fish 2	1.22 mg/l (LC50; 96 h)
Threshold limit algae 1	10 mg/l (EC50; 4 h)

12.2. PERSISTENCE AND DEGRADABILITY

There are no data on the degradability of this product.

Potassium Permanganate (7722-64-7)	
Persistence and degradability	Biodegradability: not applicable
Biochemical oxygen demand (BOD)	n/a
Chemical oxygen demand (BOD)	n/a

12.3. BIO ACCUMULATIVE POTENTIAL

May have some potential to bio accumulate.

Potassium Permanganate (7722-64-7)	
Log Pow	-1.73 (Estimated value)
Bio accumulative potential	Bioaccumulation: not applicable.

12.4. MOBILITY

No additional information available

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.

12.6. OTHER ADVERSE EFFECTS

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Immobilize the toxic or harmful components. Remove to an authorized dump (Class I).

Waste from Residues / Unused Products: Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging: Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC): According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information: Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Do not let this chemical enter the environment.

Additional information : LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

UN number	UN1490
UN proper shipping name	POTASSIUM PERMANGANATE

Transport hazard class(es)	5.1
Packing group	II
EmS Number	F-H, S-Q
Marine pollutant	yes

ADR/RID

UN number	UN1490
UN proper shipping name	POTASSIUM PERMANGANATE
Transport hazard class(es)	5.1
Packing group	II

IATA

UN number	UN1490
UN proper shipping name	POTASSIUM PERMANGANATE
Transport hazard class(es)	5.1
Packing group	II

Product is a marine pollutant according to the criteria set by IMDG/IMO

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable, packaged goods

In accordance with US DOT

Transport document description:	UN1490 Potassium permanganate, 5.1, II
UN-No.(DOT) :	UN1490
Proper Shipping Name (DOT) :	Potassium permanganate
Transport hazard class(es) (DOT) :	5.1 - Class 5.1 - Oxidizer 49 CFR 173.128
Packing group (DOT) :	II - Medium Danger
Hazard labels (DOT) :	5.1 – Oxidizer





Dangerous for the environment : Yes
Marine pollutant : Yes
DOT Packaging Non Bulk (49 CFR 173.xxx) : 212
DOT Packaging Bulk (49 CFR 173.xxx) : 240
DOT Special Provisions (49 CFR 172.102) : IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fibreboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).

IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.

IP4 - Flexible, fibreboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.

T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2)

TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 152

DOT Quantity Limitations Passenger aircraft/rail(49 CFR 173.27): 5 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 25 kg

DOT Vessel Stowage Location : D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other: 56 - Stow "separated from" ammonium compounds, 58 - Stow "separated from" cyanides Other information : No supplementary information available.

SECTION 15: REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Water hazard classification

WGK 3

National regulations

EH40/2005 Workplace exposure limits.

EU Legislation

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

This product may impact SEVESO storage regulations.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/01/2017

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/01/2017

Signature Initials P.K.

Report Date: 01/01/2017

Revision Date: 01/01/2017

Revision no. 01



PROTON

Submit date: 01/02/2017

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.