Leonid Chemicals Private Limited
Reg. Off: 62/2A, 1st Stage, Yeshwanthpur Ind Suburb
Ashokpuram, Bengaluru – 560022, Karnataka, India.
Ph.: +91-80-23377126, 23378354
Email: leonid@leonidchemicals.net
Website: www.leonidchemicals.net
CIN: U24122KA1999PTC024646 : GST No.29AAACL4386K1Z1

MATERIAL SAFETY DATA SHEET

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name:	Potassium permanganate
Product code:	P032, P033
Brand:	LEONID
CAS-No.:	7722-64-7
Index-No.:	025-002-00-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses:	Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company	Leonid Chemicals Pvt. Ltd Plot No. 30P2, KIADB Industrial Area Dobaspet – 562111 Taluk – Nelamangala District – Bangalore Rural State – Karnataka India

1.4 Emergency telephone number

Emergency phone number:	+91 23377126 / 23378254

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Oxidizing solids (Category 2), H272
Acute toxicity, Oral (Category 4), H302
Skin corrosion (Sub-category 1C), H314
Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word	Danger
Hazard statement(s)	
H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P260	Do not breathe dust or mist.
P273	Avoid release to the environment.
P280	Wear protective gloves.

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310	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/doctor.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391	Collect spillage.
Supplemental Hazard Statements	None

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Composition/information on ingredients

3.1 Substances

Formula:	$KMnO_4$
Molecular weight:	158.03 g/mol
CAS-No.:	7722-64-7
EC-No.:	231-760-3
Index-No.:	025-002-00-9

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Potassium permanganate		
CAS-No.: 7722-64-7 EC-No.: 231-760-3 Index-No.: 025-002-00-9	Ox. Sol. 2; Acute Tox. 4; Skin Corr. 1C; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H314, H318, H400, H410 M-Factor - Aquatic Acute: 10 M-Factor - Aquatic Chronic: 10	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Dry powder Dry sand.

5.2 Special hazards arising from the substance or mixture
Potassium oxides, Manganese/manganese oxides.

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other section
For disposal see section 13.

7. Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end uses
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls/personal protection

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure control
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment
Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: Dermatril

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Dark violet crystalline
b)	Odour	Odourless
c)	Odour Threshold	No data available
d)	pH	7.2 – 9.7 at 20 g/l at 20°C
e)	Melting point/freezing point	Melting point/range: >240°C – Decomposes on heating.
f)	Initial boiling point and boiling range	No data available
g)	Flash point	Not applicable
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available

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j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	2.710 g/cm3
n)	Water solubility	28.3 g/l at 0°C, 65.1 g/l at 20°C, 125 g/l at 40°, C224 g/l at 60°C
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	>240°C -
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	The substance or mixture is classified as oxidizing with the category 2.

9.2 Other safety information No data available

10. Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Strong reducing agents, Powdered metals, Peroxides, Zinc, Copper, Alcohols, Hydrogen fluoride, Acids, Sulfuric acid

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Potassium oxides, Manganese/manganese oxides
Other decomposition products - No data available
In the event of fire: see section 5

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 1.090 mg/kg

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive after 1 to 4 hours of exposure - 4 h

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
Maximisation Test - Guinea pig
Result: Does not cause skin sensitisation.
(OECD Test Guideline 406)

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available
Additional Information
RTECS: SD6475000
Contact with skin can cause:, Oedema, Necrosis, Effects due to ingestion may include:, methemoglobinema, psychological disturbances, Vomiting, Nausea, Diarrhoea.

12. Ecological information

12.1 Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) – 0.3 – 0.6 mg/l – 96.0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) – 0.084 mg/l - 48 h

12.2 Persistence and degradability
The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulation	Lamellibranchia (mussel)(Potassium permanganate) Bioconcentration factor (BCF): < 10.000 Remarks: Can accumulate in aquatic organisms.

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.
Contaminated packaging
Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID: 1490	IMDG: 1490	IATA: 1490

14.2 UN proper shipping name
ADR/RID: POTASSIUM PERMANGANATE
IMDG: POTASSIUM PERMANGANATE
IATA: Potassium permanganate

14.3 Transport hazard class(es):

ADR/RID: 5.1	IMDG: 5.1	IATA: 5.1

14.4 Packaging group

ADR/RID: II	IMDG: II	IATA: II

14.5 Environmental hazards
ADR/RID: yes IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user
Further information
No data available

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out.

16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Further information
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Leonid Chemicals Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.