MATERIAL SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Potassium permanganate Aqueous solution.

Product number: TS06, MIC506, NSI-003714, NSI-003788, NSI-007748, NSI-008307, NSI-008350

Brand: Solmedia Ltd

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

Identified uses: Test reagent

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Solmedia Ltd.
- Address of Supplier: Unit 2, Vernon Drive
  Battlefield Enterprise Park
  Shrewsbury
  SY1 3TF
  UK
- Telephone: 0844 80 80 900
- Email: labsupplies@solmedialtd.com

1.4 Emergency telephone number

Emergency Phone # +44 (0)844 80 80 900

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to regulation (EC) No. 1272/2008 (CLP)

Hazard Class	Hazard Category	Target Organs	Hazard Statement
Hazardous to the aquatic environment, chronic	Category 2	-	H411

2.2 Label elements According to Regulation (EC) No. 1272/2008

Signal word: None

2.2.1 Hazard Statements

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements

P273 – Avoid release to the environment

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant

3.2 Mixtures

Hazardous ingredients Classification according to Regulation (EC) No. 1272/2008 [CLP]

			Classification (Regulation (EC) No 1272/2008 [CLP]	
Hazardous Components		Amount [%]	Hazard class/ Hazard category	Hazard Statements
Name:	Potassium permanganate	0.1-3%	OXIDISING SOLID. CAT. 2.	H272
CAS NO.	7722-64-7		ACUTE TOX. CAT. 4. ORAL	H302
EC-NO.	231-760-3		HAZARD TO AQUATIC ENVIRONMENT CAT. 1.	H410
EU REACH-REG. NO.	N/A			

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. In case of respiratory tract irritation, consult a physician.

In case of skin contact After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

4.4 Self-protection of the first aider

First aider: Pay attention to self-protection!

4.5 Information to physician

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Potassium oxide & manganese oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas.

For personal protection see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

6.3 Methods and materials for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Take up carefully when dry. Avoid generation of dust. Clean contaminated objects and areas

thoroughly observing environmental regulations. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections

Clear spills immediately.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid: Inhalation Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store in a dark place and keep/store away from combustible materials.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protective equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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

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

Wash and dry hands.

Body Protection

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK

(EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection:

Goggles recommended during refilling: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Additional Information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Control of environmental exposure

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid,

Colour: purple

b) Odour No data available

c) Odour Threshold No data available

d) pH 1 (20°c)

e) Melting point/freezing point

No data available

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

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 1.01 g/cm^3 (20°C)

n) Water solubility No data available

o) Partition coefficient: noctanol/water No data available

p) Auto-ignition temperature No data available

q) Decomposition temperature No data available

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties No data available

9.2 Other safety information

No data available

SECTION 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

No data available

10.6 Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity:

LD50 (oral. Rat): 1090 mg/kg (Merck KGaA) (anhydrous)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

In case of skin contact: not sensitising After inhalation: not sensitising

Germ cell mutagenicity

No data available

Carcinogenicity

No indication of human carcinogenicity.

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: Not available

SECTION 12: Ecological information

12.1 Toxicity

Fish Toxicity:

Potassium permanganate – LC50: 1.72mg/l (96h) – Marking, L.L, and T.D Bills 1975. Toxicity of Potassium permanganate to fish and its effectiveness for Detoxifying Antimycin. Tran.Am.Fish.Soc 104(3):579-583

Daphina Toxicity:

Potassium permanganate – EC50; 0.08mg/l (48h) – Office of Pesticide Programs 2000. Pesticide Ecotoxicity Database (formerly Environmental Effects Database (EEDB)). Environmental Fate and effects division, U.S EPA, Washington, D.C.

Algae Toxicity:

Potassium permanganate – EC50: 0.45mg/l (72h) – Paixao, S.M, L. Silna, A Fernandez, K. O'Rourke, E. Mendonca and A. Picado 2008. Performance of a Miniaturised Algal Biossay in Phytotoxicity Screening, Ecotoxicity 17 (3):165-171

Bacteria Toxicity:

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1 UN-No.: 3082

14.2 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE SOLUTION)

14.3 Class(es): 9 Classification code: M6 Hazard label(s): 9

14.4 Packing group: III

14.5 Environmental hazards: Dangerous for the environment

14.6 Special precautions for user: Hazard identification number (Kemler No.): 90 tunnel restriction code: E (Passage forbidden through tunnels of category E.)

Sea transport (IMDG)

14.1 UN-No.: 3082

14.2 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE SOLUTION)

14.3 Class(es): 9 Classification code: Hazard label(s): 9

14.4 Packing group: III

14.5 Environmental hazards: Dangerous for the environment MARINE POLLUTANT: Yes (P)

14.6 Special precautions for user: Segregation group: - EmS-No. F-A S-F 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code not relevant.

Air transport (ICAO-TI / IATA-DGR)

14.1 UN-No.: 3082

14.2 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE SOLUTION)

14.3 Class(es): 9 Classification code: M6 Hazard label(s): 9

14.4 Packing group: III

14.5 Special precautions for user not relevant

SECTION 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 as amended by Regulation (EU) 2015/830.

Water hazard class (WGK): strongly hazardous to water (WGK 3)

15.2 Chemical safety assessment

No data available

SECTION 16: Other information

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Solmedia Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.