

0.02mol/L Potassium permanganate solution,  
JUNSEI CHEMICAL CO., LTD.,95275jis\_E1-3,12/Jul/2022

Date of issue for the 1st edition : 03/Apr/2014

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## Safety Data Sheet

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

Product identifier:

Product name: 0.02mol/L Potassium permanganate solution

Reference number(SDS):95275jis\_E1-3

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.co.jp

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### 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

Hazardous to the aquatic environment (Long-term): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

No GHS label element

No Signal word

HAZARD STATEMENT

H402-Harmful to aquatic life

H412-Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

Disposal

Dispose of contents/container in accordance with local/national regulation.

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### 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Potassium permanganate

Content (%):ca. 0.3

Chemical formula:KMnO4

Chemicals No, Japan:1-446

CAS No.:7722-64-7

MW:158.03

ECNO:231-760-3

Ingredient name:Water

Content (%):Residual quantity of the ingredient mentioned above

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Chemical formula:H<sub>2</sub>O

CAS No.:7732-18-5

MW:18.02

ECNO:231-791-2

Note : The figures shown above are not the specifications of the product.

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#### 4. First-aid measures

##### Descriptions of first-aid measures

###### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

###### IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

###### IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

###### IF SWALLOWED

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

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#### 5. Fire-fighting measures

##### Extinguishing media

###### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

The product is non-flammable.

###### Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

##### Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

##### Advice for firefighters

###### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

###### Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

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

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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#### 6. Accidental release measures

##### Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

##### Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

##### Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

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Preventive measures for secondary accident  
Collect spillage.

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## 7. Handling and storage

### Precautions for safe handling

#### Preventive measures

(Exposure Control for handling personnel)

Avoid breathing dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

#### Safety Measures

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

Use personal protective equipment as required.

When using do not eat, drink or smoke.

#### Any incompatibilities

Strong reducing agents should not be mixed with the chemicals.

### Storage

#### Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Container and packaging materials for safe handling data is not available.

### Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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## 8. Exposure controls/personal protection

### Control parameters

#### Control value

(Potassium permanganate)

Japan control value (2021)  $\leq 0.05\text{mg-Mn}/\text{m}^3$

#### Adopted value

(Potassium permanganate)

JSOH(2021)  $0.02\text{mg-Mn}/\text{m}^3$  (respirable dust);  $0.1\text{mg-Mn}/\text{m}^3$  (total dust)

ACGIH(2013) TWA:  $0.02\text{mg-Mn}/\text{m}^3(\text{R})$ ;

TWA:  $0.1\text{mg-Mn}/\text{m}^3(\text{I})$  (CNS impair)

### Exposure controls

#### Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures

##### Respiratory protection

Wear respiratory protection.

##### Hand protection

Wear protective gloves. Recommended material(s): neoprene, nitrile, butyl rubber, viton, PVC, impermeable or chemical resistant rubber

Consult with your glove and/or personnel equipment manufacturer for selection of

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appropriate compatible materials.

Eye protection

Wear chemical safety goggle.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Liquid

Color: Dark violet

Odor data is not available.

Odor threshold data is not available.

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH data is not available.

Dynamic viscosity data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Miscible

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Vapor density data is not available.

Density and/or relative density data is not available.

Relative vapor density (Air=1) data is not available.

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Particle characteristics data is not available.

Other information

Critical temperature data is not available.

Evaporation rate data is not available.

VOC data is not available.

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## 10. Stability and Reactivity

### Reactivity

Reactivity data is not available.

### Chemical stability

Stable under normal storage/handling conditions.

### Possibility of hazardous reactions

Possibility of hazardous reactions data is not available.

### Conditions to avoid

Contact with incompatible materials.

Heat.

### Incompatible materials

Strong reducing agents

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Hazardous decomposition products  
Metal oxides.

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## 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Potassium permanganate) rat LD50=379mg/kg (NITE Initial Risk Assessment Report, 2008)

Labor standard law, Japan; Toxic

Potassium permanganate

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Potassium permanganate) highly corrosive (HSDB, Access on December 2014)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Potassium permanganate) highly corrosive (HSDB, Access on December 2014)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[ACGIH]

(Potassium permanganate) A4(as Mn)(2013) : Not Classifiable as a Human Carcinogen

Reproductive toxicity

[GHS Cat. Japan, base data]

(Potassium permanganate) cat. 2; EHC 17, 1981; ATSDR, 2012

STOT

STOT-single exposure

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Potassium permanganate) respiratory tract irritation (PATTY 6th, 2012)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

Information on other hazards

Data on the preparation itself is not available.

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## 12. Ecological Information

Ecotoxicity

Aquatic toxicity

H402-Harmful to aquatic life

H412-Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Potassium permanganate)

Crustacea (Calanoida) LC50=0.185mg/L/96hr (0.0765mg-Mn/L)

(Risk Assessment for Chemical Substances Vol. 6 by MOE in Japan, 2008)

Water solubility

(Potassium permanganate) 6.4 g/100 ml (20°C) (ICSC, 2003)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

(Potassium permanganate) BCF < 81 (Registered chemicals data check & review, Japan)

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Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Additional data

Data on the preparation itself is not available.

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13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Avoid release to the environment.

Dispose of contents/container in accordance with local/national regulation.

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14. Transport Information

UN No., UN CLASS

UN No. or ID No.: Not applicable

UN Proper Shipping Name : Not applicable

Class or division (Transport hazard class) : Not applicable

Packing group : Not applicable

Not applicable to IMDG Code

Not applicable to IATA Dangerous Goods Regulations

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

Maritime transport in bulk according to IMO instruments

Non Noxious Liquid ; Cat. OS

Water(OS-018)

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15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

7722-64-7; 7732-18-5

All components are listed or exempted.

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

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16. Other information

GHS classification and labelling

H402-Aquatic Acute 3: H402 Harmful to aquatic life

H412-Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

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#### Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
JIS Z 7252 : 2019  
JIS Z 7253 : 2019  
2021 Recommendation on TLVs (JSOH)  
Supplier's data/information  
Chemicals safety data management system "GHS Assistant" Version 4.18 (<https://www.asahi-ghs.com/>)  
NITE Chemical Risk Information Platform "NITE-CHRIP"  
([https://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop))  
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

#### Definitions and Abbreviations

SDS (Safety Data Sheet)  
LD50 (Lethal Dose, 50%)  
LC50 (Lethal Concentration, 50%)  
IARC (International Agency for Research on Cancer)  
ACGIH (American Conference of Governmental Industrial Hygienists)  
EPA (US Environmental Protection Agency)  
NTP (US National Toxicology Program)  
JSOH (Japan Society for Occupational Health)  
EU (European Union)  
EC50 (Effective Concentration, 50%)  
NOEC (No Observed Effect Concentration)  
BOD (Biochemical Oxygen Demand)  
COD (Chemical Oxygen Demand)  
BCF (Bioconcentration Factor)  
anh (anhydride)

#### General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).