Date of issue: 02/10/2014
revised date 20/02/2017

Safety Data Sheet

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

Product identifier:

Product name: Potassium permanganate

Product code(SDS NO): 24165jis_E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.
Address: 1-6, Ohmano-Cho, Koshigaya, 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

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL HAZARDS

Oxidizing solids: Category 2

HEALTH HAZARDS

Acute toxicity Oral: Category 4
Skin corrosion/irritation: Category 1
Serious eye damage/eye irritation: Category 1
Germ cell mutagenicity: Category 2
Reproductive toxicity: Category 2
Specific target organ toxicity - single exposure: Respiratory tract irritation Category 3
Specific target organ toxicity - repeated exposure: Category 1(nervous system, respiratory system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment - acute hazard: Category 1
Hazardous to the aquatic environment - long-term hazard: Category 1

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements

Signal word: Danger

HAZARD STATEMENT

May intensify fire; oxidizer
Harmful if swallowed
Causes severe skin burns and eye damage
Causes serious eye damage
Suspected of causing genetic defects
Suspected of damaging fertility or the unborn child
May cause respiratory irritation
Causes damage to organs through prolonged or repeated exposure
Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep/Store away from clothing/combustible materials.
Take any precaution to avoid mixing with combustibles and/or other incompatible materials.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves, protective clothing or face protection.
Wear protective gloves and face protection.
Wear eye protection/face protection.
Use personal protective equipment as required.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water for extinction.
Collect spillage.
Get medical advice/attention if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

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

Disposal

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

Physical and Chemical hazards

Oxidizing material. Organic or combustible material may catch fire in contact with it.

3. Composition/information on ingredients

Substance/Mixture:

Substance

Ingredient name:Potassium permanganate
Content(%):99.3 <
Chemical formula:KMnO4
Chemicals No, Japan:1-446
CAS No.:7722-64-7
MW:158.03
ECNO:231-760-3

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN(or hair)

Take off immediately all contaminated clothing. Rinse skin with water/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. Do NOT induce vomiting.

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

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Not combustible but enhances combustion of other substances.

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/flame resistant/retardant clothing.

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

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

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Avoid release to the rivers, lakes, ocean, groundwater.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Do NOT absorb in saw-dust or other combustible absorbents.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire & explosion)

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

Keep/Store away from clothing/combustible materials.

Exhaust/ventilator

Exhaust/ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

Avoid breathing dust, vapor, mist, or gas.

Safety Measures/Incompatibility

Do not handle until all safety precautions have been read and understood.

Take any precaution to avoid mixing with combustibles/incompatible materials.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear protective gloves and face protection.

Wear eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

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

Keep cool. Protect from sunlight.

Store locked up.

8. Exposure controls/personal protection

Control parameters

Control value

Japan control value (2004) <= 0.2mg-Mn/m3

Adopted value

No Adopted value data available

ACGIH(2012) TWA: 0.02mg-Mn/m3(R); 0.1mg-Mn/m3(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.

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

Safety and Health measures

Wash ... thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Crystals

Color: Dark purple

Odor: None
pH: ca. 7～9 (20 g/L, 20℃)
Phase change temperature
Initial Boiling Point/Boiling point data N.A.
Melting point/Freezing point: 240℃
Decomposition temperature: 240℃
Flash point data N.A.
Auto-ignition temperature data N.A.
Explosive properties data N.A.
Vapor pressure data N.A.
Vapor density data N.A.
Specific gravity/Density: 2.70g/cm3(20℃)
Solubility
Solubility in water: 6.4 g/100 ml (20℃)
n-Octanol /water partition coefficient data N.A.

10. Stability and Reactivity

Reactivity
Runaway polymerization will not occur.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
The substance is a strong oxidant. It reacts with combustible and reducing materials. This generates fire and explosion hazard.
Reacts violently with powdered metals. This generates fire hazard.
Conditions to avoid
Contact with incompatible materials.
Heat.
Incompatible materials
Reducing agents, Flammables, Powdered metals
Combustible substances
Hazardous decomposition products
Manganese oxides, Potassium oxides.

11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[GHS Cat. Japan, base data]
rat LD50=379 mg/kg (NITE risk assessment, 2008)
Labor standard law, Japan; Toxic
Potassium permanganate
Irritant properties
Skin corrosion/irritation
[GHS Cat. Japan, base data]
highly corrosive (HSDB, Access on December 2014)
Serious eye damage /irritation
[GHS Cat. Japan, base data]
highly corrosive (HSDB, Access on December 2014)
No Allergenic and sensitizing effects data available
Germ cell mutagenicity
[GHS Cat. Japan, base data]

cat.2; CICAD 12, 1999

Carcinogenicity

ACGIH-A4(2012) : Not Classifiable as a Human Carcinogen (Inorganic Mn)

Reproductive toxicity

[GHS Cat. Japan, base data]

cat.2; EHC 17, 1981; ATSDR, 2012

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT

STOT-single exposure

[cat.3(resp. irrit.)]

[Japan published data]

Respiratory tract irritation (PATTY 6th, 2012)

STOT-repeated exposure

[cat.1]

[Japan published data]

nerve/nervous system; respiratory apparatus/system (NITE risk primary assessment, 2008; ATSDR, 2012)

No Aspiration hazard data available

12. Ecological Information

Toxicity

Aquatic toxicity

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

Crustacea(Calanoida) LC50＝0.185 mg/L/96hr (0.0765 mg Mn/L) (EPA_Japan, 2008)

Water solubility

6.4 g/100 ml (20℃) (ICSC, 2003)

No Persistence and degradability data available

Bioaccumulative potential

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

13. Disposal considerations

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

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

14. Transport Information

UN No, UN CLASS

UN number: 1490

UN proper shipping name: POTASSIUM PERMANGANATE

Transport hazard class(es): 5.1

Packing group: II

ERG GUIDE NO.: 140

15. Regulatory Information

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

US major regulations

TSCA

Potassium permanganate

Other regulatory information

We are not able to check up the regulatory information in 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.

16. Other information

GHS classification and labelling

Ox. Sol. 2: H272 May intensify fire; oxidizer
Acute Tox. 4: H302 Harmful if swallowed
Skin Corr. 1: H314 Causes severe skin burns and eye damage
Eye Dam. 1: H318 Causes serious eye damage
Muta. 2: H341 Suspected of causing genetic defects
Repr. 2: H361 Suspected of damaging fertility or the unborn child
STOT SE 3: H335 May cause respiratory irritation
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
Aquatic Acute 1: H400 Very toxic to aquatic life
Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2012 EMERGENCY RESPONSE GUIDEBOOK(US DOT)
2016 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier's data/information
Chemical Risk Information Platform (CHRIP)(NITE) http://www.safe.nite.go.jp/japan/db.html
GHS Classification Guidance for Enterprises 2013 Revised Edition (August, 2013,METI)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.
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 2015).