Date of issue: 2017/09/11
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Safety Data Sheet

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

Product identifier:

Product name: 1/24mol/L(N/4)-Potassium dichromate solution

SDS No. : A0060E-3

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku,Osaka ,JAPAN
Division: Chemical Safety Management Department
Telephone number: +81-6-6946-8061
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2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 4
Acute toxicity (Inhalation): Category 3
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2
Respiratory sensitization: Category 1
Skin sensitization: Category 1
Germ cell mutagenicity: Category 1B
Carcinogenicity: Category 1A
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 2(central nervous system; respiratory system; cardiovascular system; blood system; liver; kidney)
Specific target organ toxicity - repeated exposure: Category 2(respiratory system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 2
Hazardous to the aquatic environment (Long-term): Category 3

Label elements



Signal word: Danger

HAZARD STATEMENT

Harmful if swallowed
Toxic if inhaled
Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause genetic defects
May cause cancer
May damage fertility or the unborn child
May cause damage to organs(central nervous system; respiratory system; cardiovascular

system; blood system; liver; kidney)
May cause damage to organs through prolonged or repeated exposure(respiratory system)
Toxic to aquatic life
Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.
Do not breathe dust/fume/gas/mist/vapors/spray.
In case of inadequate ventilation wear respiratory protection.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves.
Contaminated work clothing should not be allowed out of the workplace.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
IF exposed or concerned: Call a POISON CENTER/doctor/physician.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
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: Call a POISON CENTER/doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth.

Storage

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

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 dichromate
Content (%):1.2
Chemical formula:Cr2K2O7
Chemicals No, Japan:1-278
CAS No.:7778-50-9
MW:294.18
ECNO:231-906-6

Ingredient name:Water
Content (%):99
Chemical formula:H2O
CAS No.:7732-18-5
MW:18.02
ECNO:231-791-2

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

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
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.
Wash with plenty of soap and water.
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.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

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.

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 peace operated positive pressure mode.

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

Prevent spills from entering sewers, watercourses or low areas.

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.

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 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

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

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

Contaminated work clothing should not be allowed out of the workplace.

Take off contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Keep under lock and key.

Container and packaging materials for safe handling

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(Potassium dichromate)

ACGIH(2018) TWA: 0.0002mg-Cr(VI)/m3(I);

STEL: 0.0005mg-Cr(VI)/m3(I) (Lung & sinonasal cancer; resp tract irr; asthma)

Notation

(Potassium dichromate)

Skin; DSEN; RSEN

OSHA-PEL

(Potassium dichromate)

TWA: 1mg-Cr/m3 (isoluble salts)

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.
Eye protection
Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties
Physical state: Liquid
Color: Yellow to brown
Odor: Odorless to practically odorless
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.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:
Solubility in water: Soluble
n-Octanol/water partition coefficient data is not available.
Vapor pressure data is not available.
Density and/or relative density: 1.0
Relative vapor density (Air=1) data is not available.
Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
(Potassium dichromate)
The substance is a strong oxidant. It reacts with combustible and reducing materials. The solution in water is a weak acid. (ICSC 1371)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Reducing agents, Combustible materials
Hazardous decomposition products
Chromic compounds

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]
(Potassium dichromate)
female rat LD50=17mg/kg (EU-RAR, 2005)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]
(Potassium dichromate)
male rabbit LD50=403mg/kg (ATSDR, 2012)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]
(Potassium dichromate)
mist: female rat LC50=0.029mg/L/4hr (ATSDR, 2012)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]
(Potassium dichromate)
hexavalent chromium compounds: corrosive (EU-RAR, 2005)

Serious eye damage/irritation

[GHS Cat. Japan, base data]
(Potassium dichromate)
human blistering, recovery uncertainty (ATSDR, 2012)

Sensitization

Respiratory sensitization

[GHS Cat. Japan, base data]
(Potassium dichromate)
cat. 1; ATSDR, 2012

Skin sensitization

[GHS Cat. Japan, base data]
(Potassium dichromate)
cat. 1; JSOH, 2014

Germ cell mutagenicity

[GHS Cat. Japan, base data]
(Potassium dichromate)
cat. 1B; ATSDR, 2012

Carcinogenicity

[GHS Cat. Japan, base data]
(Potassium dichromate)
cat.1A; IARC Gr. 1 (IARC, 1990 (Cr(VI) compounds) et al.)
(Potassium dichromate)
IARC-Gr.1 : Carcinogenic to humans
(Potassium dichromate)
ACGIH-A1(as Cr(VI))(2018) : Confirmed Human Carcinogen
(Potassium dichromate)
EU-Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity

[GHS Cat. Japan, base data]
(Potassium dichromate)
cat. 1B; CICAD 78, 2013

STOT

STOT-single exposure

[cat.1]
[GHS Cat. Japan, base data]
(Potassium dichromate)
central nervous system; respiratory system; cardiovascular system; blood system; liver; kidney (CICAD 78, 2013)
STOT-repeated exposure
[cat.1]
[GHS Cat. Japan, base data]
(Potassium dichromate)
respiratory system (CICAD 78, 2013)
Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity
Aquatic toxicity
Toxic to aquatic life
Harmful to aquatic life with long lasting effects
Hazardous to the aquatic environment (Acute)
[GHS Cat. Japan, base data]
(Potassium dichromate)
Crustacea (Daphnia) EC50=0.061mg/L/48hr (EU-RAR, 2005)
Hazardous to the aquatic environment (Long-term)
[GHS Cat. Japan, base data]
(Potassium dichromate)
Algae (Chlorella pyrenoidosa) NOEC (biomass)=0.1mg/L/96hr (EU-RAR, 2005)
Water solubility
(Potassium dichromate)
12 g/100 ml (20℃) (ICSC, 2013)
Persistence and degradability
Persistence and degradability data is not available.
Bioaccumulative potential
Bioaccumulative potential data is not available.
Mobility in soil
Mobility in soil data is not available.
Other adverse effects
Ozone depleting chemical data is not available.

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.

14. Transport Information

UN No. or ID No.: 3287
UN Proper Shipping Name :
TOXIC LIQUID, INORGANIC, N.O.S.
Class or division (Transport hazard class) : 6.1
Packing group : III
ERG GUIDE No.: 151

Special provisions No.: 223; 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 3287

Proper Shipping Name :

TOXIC LIQUID, INORGANIC, N.O.S.

Class or division : 6.1

Packing group : III

Special provisions No.: 223; 274

IATA Dangerous Goods Regulations

UN No.: 3287

Proper Shipping Name :

TOXIC LIQUID, INORGANIC, N.O.S.

Class or division : 6.1

Hazard labels : Toxic

Packing group : III

Special provisions No.: A3; A4; A137

Environmental hazards

MARPOL Annex III - Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

MARPOL Annex V - Prevention of pollution by garbage discharge

Germ cell mutagenicity: cat.1, 1A, 1B

Potassium dichromate

Carcinogenicity: cat.1, 1A, 1B

Potassium dichromate

Reproductive toxicity: cat.1, 1A, 1B

Potassium dichromate

Maritime transport in bulk according to IMO instruments

Non Noxious Liquid ; Cat. OS

Water

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Water; Potassium dichromate

Other regulatory information

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

16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed

Acute Tox. 3: H331 Toxic if inhaled

Skin Irrit. 2: H315 Causes skin irritation

Eye Irrit. 2: H319 Causes serious eye irritation

Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

Skin Sens. 1: H317 May cause an allergic skin reaction

Muta. 1B: H340 May cause genetic defects

Carc. 1A: H350 May cause cancer

Repr. 1B: H360 May damage fertility or the unborn child

STOT SE 2: H371 May cause damage to organs

STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure

Aquatic Acute 2: H401 Toxic to aquatic life
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

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)
2021 TLVs and BEIs. (ACGIH)
Supplier's data/information

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).