Date of issue: 07/07/2017
Date of revision: 28/11/2019

Safety Data Sheet

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

Product identifier:
- Product name: 1/6mol/L(1N)-Potassium dichromate solution
- Product code (SDS NO): A0059E-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: Safety Management Dept. of Chemicals
- Telephone number: +81-6-6946-8061
- FAX: +81-6-6946-1607
- e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS
- Acute toxicity (Oral): Category 3
- Acute toxicity (Inhalation): Category 2
- Skin corrosion/irritation: Category 2
- Serious eye damage/eye irritation: Category 1
- 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(CNS; respiratory apparatus/system; CVS; blood/blood system; liver; kidney)
- Specific target organ toxicity - repeated exposure: Category 2(respiratory apparatus/system)

ENVIRONMENT HAZARDS
- Hazardous to the aquatic environment (Acute): Category 1
- Hazardous to the aquatic environment (Long-term): Category 2

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

Label elements



Signal word: Danger

HAZARD STATEMENT
- Toxic if swallowed
- Fatal if inhaled
- Causes skin irritation
- Causes serious eye damage
- 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 after single exposure
May cause damage to organs through prolonged or repeated exposure
Very toxic to aquatic life
Toxic 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. (as specified by the manufacturer/supplier or the competent authority.)
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

Collect spillage.
Get medical advice/attention if you feel unwell.
If experiencing respiratory symptoms: Call a POISON CENTER or 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.
Rinse mouth.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage

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

Disposal

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

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Potassium dichromate
Content (%):4.8
Chemical formula:Cr2K2O7
Chemicals No, Japan:1-278
CAS No.:7778-50-9
MW:294.18
ECNO:231-906-6

Ingredient name:Water
Content (%):95
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 attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
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.
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 or 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 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/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 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/sparks/open flames/hot surfaces. - 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(2017) TWA: 0.0002mg-Cr(VI)/m3(I);

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

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: Orange, Clear
Odor: None
pH data is not available.
Boiling point or initial boiling point data is not available.
Boiling range data is not available.
Melting point/Freezing point data is not available.
Decomposition temperature data is not available.
Flammability (gases, liquids and solids) data is not available.
Flash point data is not available.
Auto-ignition temperature data is not available.
Lower and upper explosion limit/flammability limit data is not available.
Vapor pressure data is not available.
Relative vapor density (Air=1) data is not available.
Density and/or relative density: 1.03g/cm3
Kinematic viscosity data is not available.
Solubility:
Solubility in water: Soluble
n-Octanol/water partition coefficient data is not available.
No 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
Chrome oxide

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(2017) : 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)
CNS; respiratory apparatus; CVS; blood/blood system; liver; kidney (CICAD 78, 2013)

STOT-repeated exposure
[cat.1]
[GHS Cat. Japan, base data]
(Potassium dichromate)
respiratory apparatus (CICAD 78, 2013)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Very toxic to aquatic life

Toxic to aquatic life with long lasting effects

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Potassium dichromate)

Crustacea (Daphnia) EC50=0.061mg/L/48hr (EU-RAR, 2005)

Aquatic chronic toxicity component(s) data

[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

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.: 3287

Proper Shipping Name :

TOXIC LIQUID, INORGANIC, N.O.S.

Class or division : 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) : yes

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
Hazardous to the aquatic environment - acute hazard: cat.1
Potassium dichromate
Hazardous to the aquatic environment - long-term hazard: cat.1, 2
Potassium dichromate

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Non Noxious Liquid ; Cat. OS
Water

15. Regulatory Information

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

US major regulations

TSCA

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. 3: H301 Toxic if swallowed
Acute Tox. 2: H330 Fatal if inhaled
Skin Irrit. 2: H315 Causes skin irritation
Eye Dam. 1: H318 Causes serious eye damage
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 after single exposure
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure
Aquatic Acute 1: H400 Very toxic to aquatic life
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (60th Edition) 2019

Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2019 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
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 2018).