



Safety Data Sheet

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

Product identifier:

Product name: 1/120mol/L(N/20)-Potassium dichromate solution

SDS No. : A0258E-4

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

Research and Development

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

FAX: +81-6-6946-1607

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Inhalation): Category 4

Germ cell mutagenicity: Category 1B

Carcinogenicity: Category 1A

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 2

Hazardous to the aquatic environment, long-term (chronic): Category 3

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

Label elements



Signal word: Danger

HAZARD STATEMENT

H332 Harmful if inhaled

H340 May cause genetic defects

H350 May cause cancer

H401 Toxic to aquatic life

H412 Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P280 Use personal protective equipment as required.

Response

P308 + P313 IF exposed or concerned: Get medical advice/attention.



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P312 Call a POISON CENTER/doctor/physician if you feel unwell.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Potassium dichromate	0.25	7778-50-9	1-278	Cr ₂ K ₂ O ₇
Water	99	7732-18-5	-	H ₂ O

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

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

IF exposed or concerned: Get medical advice/attention.

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

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

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.

Section 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

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

Runoff from fire control or dilution water may cause pollution.



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See "10.Stability and Reactivity".

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 a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

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.

Section 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

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

Use only outdoors or in a well-ventilated area.

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

Wash hands et al thoroughly after handling.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity".

Storage

Conditions for safe storage

Keep container tightly closed.



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Store locked up. (P405)
Store in a cool, dry place. Do not store in direct sunlight.
Storage in accordance with local/national regulation.
Container and packaging materials for safe handling
Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters

Control value and Concentration standard value

(Potassium dichromate)

Japan control value 0.05mg-Cr/m³

Adopted value

(Potassium dichromate)

JSOH(1989) 0.05mg-Cr(VI)/m³

(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)

[ACGIH] Notation

(Potassium dichromate)

Skin; DSEN; RSEN

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

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

Section 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.



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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

Solubility in solvent data is not available.

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.

Other information

Other information is not available.

Section 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

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

female rat LD50=17mg/kg (EU-RAR, 2005)

Acute toxicity (Dermal)

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

male rabbit LD50=403mg/kg (ATSDR, 2012)

Acute toxicity (Inhalation)

[Product]



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Category 4, Harmful if inhaled

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

mist: female rat LC50=0.029mg/L/4hr (ATSDR, 2012)

Irritant properties

Skin corrosion/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

hexavalent chromium compounds: corrosive (EU-RAR, 2005)

Serious eye damage/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

human blistering, recovery uncertainty (ATSDR, 2012)

Sensitization

Respiratory sensitization

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

cat. 1; ATSDR, 2012

Skin sensitization

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

cat. 1; JSOH, 2014

Germ cell mutagenicity

[Product]

Category 1B, May cause genetic defects

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

cat. 1B; ATSDR, 2012

Carcinogenicity

[Product]

Category 1A, May cause cancer

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

cat.1A; IARC Gr. 1 (IARC, 1990 (Cr(VI) compounds) et al.)

[IARC]

(Potassium dichromate)

Group 1 : Carcinogenic to humans

[ACGIH]

(Potassium dichromate)

A1(as Cr(VI))(2018) : Confirmed Human Carcinogen

[NTP]

(Potassium dichromate)

Known : Known to be Human Carcinogens



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[EU]

(Potassium dichromate)

Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(Potassium dichromate)

cat. 1B; CICAD 78, 2013

Specific target organ toxicity (STOT)

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]

Category 2, Toxic to aquatic life

Category 3, Harmful to aquatic life with long lasting effects

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

(Potassium dichromate)

Crustacea (Daphnia) EC50=0.061mg/L/48hr (EURAR, 2005)

Hazardous to the aquatic environment, long-term (chronic)

[GHS Cat. Japan, base data]

(Potassium dichromate)

Algae (Chlorella pyrenoidosa) NOEC (biomass)=0.1mg/L/96hr (EURAR, 2005)

Water solubility

(Potassium dichromate)

12 g/100 ml (20°C) (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.

Section 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 as industrial waste. Accordance with local/national regulation.



Section 14. Transport Information

UN Number or ID Number : Not regulated
IMDG Code (International Maritime Dangerous Goods Regulations)
UN Number or ID Number : Not regulated
IATA (Dangerous Goods Regulations)
UN Number or ID Number : Not regulated
Environmental hazards
Marine pollutants (yes/no) : no

Section 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
Water; Potassium dichromate
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)
IATA Dangerous Goods Regulations (65th Edition) 2024
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2024 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2023 Recommendation on TLVs (JSOH)
Supplier's data/information

General Disclaimer

© KISHIDA CHEMICAL CO., LTD.
Unauthorized translation or modification is prohibited.
Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
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 2022).