Date of issue: 08/12/2017
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Safety Data Sheet

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

Product identifier:
- Product name: Potassium dichromate
- Product code (SDS NO): 6351E-2

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

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

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

Label elements

Signal word: Danger

HAZARD STATEMENT
- Fatal if swallowed
- Toxic in contact with skin
- Fatal if inhaled
- Causes severe skin burns and eye damage
- 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
Causes damage to organs after single exposure
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

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.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, protective clothing or face protection.
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 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.
Take off immediately all 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 SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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:

Substance

Ingredient name:Potassium dichromate
Content (%):99(min)
Chemical formula:$Cr_2K_2O_7$
Chemicals No, Japan:1-278
CAS No.:7778-50-9
MW:294.18
ECNO:231-906-6

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. Do NOT induce vomiting.
Immediately call a POISON CENTER or doctor/physician.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water mist, water jet, foam, dry powder, dry sand to extinguish.

Unsuitable extinguishing media

Inactive gas firefighting equipment
Halogenated firefighting system
Dry-powder firefighting equipment - hydrogen carbonate etc.
Dry-powder firefighting equipment - except for phosphate etc.,hydrogen carbonate etc.
Carbon dioxide extinguisher
Halogenated extinguisher
Dry-powder extinguisher - hydrogen carbonate etc.
Dry-powder extinguisher - except for phosphate etc.,hydrogen carbonate etc.

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.

Avoid raising dust.

Methods and materials for containment and cleaning up

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

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)

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 immediately all 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

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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 dichromateTWA: 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: Crystals or crystalline powder
Color: Orange
Odor: None
pH: 4 (1% solution,25℃)
Boiling point or initial boiling point: (decomposes) 500℃
Boiling range data is not available.
Melting point/Freezing point: 398℃
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: 2.7 g/cm3
Kinematic viscosity data is not available.
Solubility:
Solubility in water: 12g/100ml (20℃)
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
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 compounds, Potassium 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(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.
Additional data
May cause lung disorders by massive inhalation of powdered substance.
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

12. Ecological Information

Ecotoxicity
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]
(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.: 3290
Proper Shipping Name :
TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.
Class or division : 6.1
Subsidiary hazard(s) : 8

Packing group : I
ERG GUIDE No.: 154
Special provisions No.: 274

IMDG Code (International Maritime Dangerous Goods Regulations)
UN No.: 3290
Proper Shipping Name :
TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.
Class or division : 6.1
Subsidiary hazard(s) : 8
Packing group : I
Special provisions No.: 274

IATA Dangerous Goods Regulations
UN No.: 3290
Proper Shipping Name :
TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.
Class or division : 6.1
Subsidiary hazard(s) : 8
Hazard labels : Toxic & Corrosive
Packing group : I
Special provisions No.: A5

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
Specific target organ toxicity - repeated exposure: cat.1
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

15. Regulatory Information

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

US major regulations

TSCA
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. 2: H300 Fatal if swallowed
Acute Tox. 3: H311 Toxic in contact with skin
Acute Tox. 1: H330 Fatal if inhaled
Skin Corr. 1: H314 Causes severe skin burns and eye damage

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 1: H370 Causes damage to organs after single exposure
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, (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).