

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** Potassium dichromate

### 1.2 Other means of identification

**Product number** -  
**Other names** dipotassium,oxido-(oxido(dioxo)chromio)oxy-dioxochromium;Potassium dichromate;

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.  
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yansheng Internet Technology Co., Ltd  
**Address** 513, A3 / F, green space future center, Fengxian District, Shanghai, 201400, China  
**Telephone** +86-4000-6969-66

### 1.5 Emergency phone number

**Emergency phone number** +86-4000-6969-66  
**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Oxidizing solids, Category 2  
Acute toxicity - Category 3, Oral  
Acute toxicity - Category 4, Dermal  
Skin corrosion, Sub-category 1B  
Skin sensitization, Category 1  
Acute toxicity - Category 2, Inhalation  
Respiratory sensitization, Category 1  
Germ cell mutagenicity, Category 1B  
Carcinogenicity, Category 1B  
Specific target organ toxicity – repeated exposure, Category 1  
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1  
Reproductive toxicity, Category 1B

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



<b>Signal word</b>	Danger
<b>Hazard statement(s)</b>	<p>H272 May intensify fire; oxidizer</p> <p>H301 Toxic if swallowed</p> <p>H312 Harmful in contact with skin</p> <p>H314 Causes severe skin burns and eye damage</p> <p>H317 May cause an allergic skin reaction</p> <p>H330 Fatal if inhaled</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled</p> <p>H340 May cause genetic defects</p> <p>H350 May cause cancer</p> <p>H372 Causes damage to organs through prolonged or repeated exposure</p> <p>H410 Very toxic to aquatic life with long lasting effects</p>
<b>Precautionary statement(s)</b>	
<b>Prevention</b>	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P220 Keep away from clothing and other combustible materials.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...</p> <p>P264 Wash ... thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P260 Do not breathe dust/fume/gas/mist/vapours/spray.</p> <p>P261 Avoid breathing dust/fume/gas/mist/vapours/spray.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P284 [In case of inadequate ventilation] wear respiratory protection.</p> <p>P203 Obtain, read and follow all safety instructions before use.</p> <p>P273 Avoid release to the environment.</p>
<b>Response</b>	<p>P370+P378 In case of fire: Use ... to extinguish.</p> <p>P301+P316 IF SWALLOWED: Get emergency medical help immediately.</p> <p>P321 Specific treatment (see ... on this label).</p> <p>P330 Rinse mouth.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water/...</p> <p>P317 Get medical help.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P316 Get emergency medical help immediately.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P333+P317 If skin irritation or rash occurs: Get medical help.</p> <p>P320 Specific treatment is urgent (see ... on this label).</p> <p>P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.</p>

	P318 IF exposed or concerned, get medical advice. P319 Get medical help if you feel unwell. P391 Collect spillage.
<b>Storage</b>	P405 Store locked up. P403+P233 Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Potassium dichromate	Potassium dichromate	7778-50-9	231-906-6	100%

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

#### Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer for medical attention .

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

### 4.2 Most important symptoms/effects, acute and delayed

Highly corrosive to skin and mucous membranes. If ingested, causes violent gastroenteritis, peripheral vascular collapse, vertigo, muscle cramps, coma, and (later) toxic nephritis with glycosuria. Allergic reactions may also occur. (USCG, 1999)

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Inorganic Acids and Related Compounds

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## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

## 5.2 Specific hazards arising from the chemical

Behavior in Fire: May decompose, generating oxygen. Supports the combustion of other materials. (USCG, 1999)

## 5.3 Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Sweep spilled substance into covered non-combustible containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT absorb in saw-dust or other combustible absorbents. Do NOT let this chemical enter the environment.

### 6.2 Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Sweep spilled substance into covered non-combustible containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT absorb in saw-dust or other combustible absorbents. Do NOT let this chemical enter the environment.

### 6.3 Methods and materials for containment and cleaning up

ACCIDENTAL RELEASE MEASURES: Personal precautions, protective equipment and emergency procedures: Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust; Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided; Methods and materials for containment and cleaning up: Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

NO contact with combustible substances. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### 7.2 Conditions for safe storage, including any incompatibilities

Provision to contain effluent from fire extinguishing. Separated from combustible substances, reducing agents and food and feedstuffs. Well closed. Store in an area without drain or sewer access. Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Oxidizing hazardous materials

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

TLV: (as Cr(VI), inhalable fraction): 0.0002 mg/m<sup>3</sup>, as TWA; 0.0005 mg/m<sup>3</sup> as STEL; A1 (confirmed human carcinogen); (skin); (DSEN); (RSEN).EU-OEL: mg/m<sup>3</sup> as STEL; (as Cr): 0.1 mg/m<sup>3</sup> as TWA

#### Biological limit values

no data available

## 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## 8.3 Individual protection measures, such as personal protective equipment (PPE)

### Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

### Skin protection

Protective gloves. Protective clothing.

### Respiratory protection

Use closed system or ventilation.

### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	Solid. Crystalline.
<b>Colour</b>	Bright orange-red.
<b>Odour</b>	Odorless, no distinctive odor
<b>Melting point/freezing point</b>	Ca. 398 °C.
<b>Boiling point or initial boiling point and boiling range</b>	500 (decomposition)
<b>Flammability</b>	Not combustible but enhances combustion of other substances.
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	50°F
<b>Auto-ignition temperature</b>	Not flammable (USCG, 1999)
<b>Decomposition temperature</b>	500°C
<b>pH</b>	Acid reaction: a 1% aqueous solution has pH of 4.04 and a 10% solution has a pH of 3.57
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Miscible with water
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Density and/or relative density</b>	Ca. 2.7. Temperature:20 °C.
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

250 mg/cu m (as Cr(II)). Chromium(II) compounds (as Cr)

25 mg/cu m (as Cr(III)). Chromium(III) compounds (as Cr)

15 mg/cu m (as Cr(VI)). Chromic acid and chromates

NIOSH considers chromic acid and chromates to be potential occupational carcinogens.

Chromic acid and chromates

The substance is a strong oxidant. It reacts with combustible and reducing materials. The solution in water is a weak acid.

## 10.2 Chemical stability

Stable under recommended storage conditions.

## 10.3 Possibility of hazardous reactions

Dangerous fire risk in contact with organic materials. Potassium or sodium dichromate reacts explosively with hydrazine [Mellor 11:234, 1946-47]. A drop of anhydrous hydroxylamine on powdered potassium dichromate produces a violent explosion [Mellor 8:293, 1946-47].

## 10.4 Conditions to avoid

no data available

## 10.5 Incompatible materials

Incompatible materials: Organic materials. Do not store near acids. Powdered metals, hydrazine.

## 10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /potassium oxide/.

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# SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Mouse oral 190 mg/kg
- Inhalation: no data available
- Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

Cancer Classification: Not Likely to be Carcinogenic to Humans

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. The substance may cause effects on the kidneys and liver. This may result in tissue lesions.

### STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation may cause asthma. Repeated or prolonged inhalation may cause nasal ulceration. This may result in perforation of the nasal septum. The substance may have effects on the kidneys. This may result in kidney impairment. This substance is carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

### Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: Range of species tested.
- Toxicity to daphnia and other aquatic invertebrates: Range of species tested.
- Toxicity to algae: Range of species tested.
- Toxicity to microorganisms: Range of microbes reported.

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

Using potassium dichromate as the source for chromium, a BCF of 2.8 (based on chromium) was determined for the muscle tissue of *Salmo gairdneri* (rainbow trout) over a 180 days duration period(1). According to a classification scheme(2), this BCF range suggests that bioconcentration in aquatic organisms is low(SRC).

### 12.4 Mobility in soil

no data available

### 12.5 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN3087 (For reference only, please check.)	IMDG: UN3087 (For reference only, please check.)	IATA: UN3087 (For reference only, please check.)
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### 14.2 UN Proper Shipping Name

ADR/RID: OXIDIZING SOLID, TOXIC, N.O.S. (For reference only, please check.)	IMDG: OXIDIZING SOLID, TOXIC, N.O.S. (For reference only, please check.)	IATA: OXIDIZING SOLID, TOXIC, N.O.S. (For reference only, please check.)
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### 14.3 Transport hazard class(es)

ADR/RID: 5.1 (For reference only, please check.)	IMDG: 5.1 (For reference only, please check.)	IATA: 5.1 (For reference only, please check.)
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### 14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.)	IMDG: I (For reference only, please check.)	IATA: I (For reference only, please check.)
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## 14.5 Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

## 14.6 Special precautions for user

no data available

## 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Potassium dichromate	Potassium dichromate	7778-50-9	231-906-6
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

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## SECTION 16: Other information

### Information on revision

**Creation Date** July 15, 2019

**Revision Date** July 15, 2019

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

- Germany GESTIS-database on hazard substance, website:  
<http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### **Other Information**

Do NOT take working clothes home. Rinse contaminated clothing with plenty of water because of fire hazard. Anyone who has shown symptoms of asthma due to this substance should avoid all further contact. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*