

SAFETY DATA SHEET

According to US Regulation 29 CFR 1910.1200 (HazCom 2012)

1. Identification

Product identifier: Potassium Chromate

Other means of identification

Product No.: 3058, 6870

Recommended restrictions

Recommended use: For Laboratory, Research or Manufacturing Use.

Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Manufacturer

Company Name: Avantor Performance Materials, LLC.
Address: 3477 Corporate Parkway
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax: 610-573-2610
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1B
Specific Target Organ Toxicity - Single Exposure	Category 3 ¹

Target Organs

1. respiratory tract irritation

Unknown toxicity - Health

Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 1
Chronic hazards to the aquatic environment	Category 1

Unknown toxicity - Environment

Acute hazards to the aquatic environment	0 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Toxic if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause genetic defects.
May cause cancer.
Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response: IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. IF ON SKIN: Wash with plenty of 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 INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see this label). IF exposed or concerned: Get medical advice/attention. Collect spillage.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal: 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.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Substances

Chemical Identity	CAS number	Content in percent (%)*
Potassium chromate	7789-00-6	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. Call a POISON CENTER/doctor if you feel unwell.

Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing. In case of irritation from airborne exposure, move to fresh air.

Most important symptoms/effects, acute and delayed

Symptoms: Toxic if swallowed. Irritating to eyes, respiratory system and skin.

Hazards: None known.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Keep in a cool, well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Potassium chromate - as Cr	TWA	0.05 mg/m3	US. ACGIH Threshold Limit Values (2011)
Potassium chromate - as Cr(VI)	SKIN_DES	Can be absorbed through the skin.	US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (03 2017)
	STEL	0.0005 mg/m3	US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (03 2017)
	TWA	0.0002 mg/m3	US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values (03 2017)
Potassium chromate	REL	0.0002 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2016)
	TWA	0.005 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	OSHA_ACT	0.0025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (02 2006)
	REF	29 CFR 1910.1026	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2012)

Potassium chromate - as CrO3	Ceiling	0.1 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Potassium chromate	Ceiling	0.1 mg/m3	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Potassium chromate (Total chromium: Sampling time: End of shift at end of work week.)	25 µg/l (Urine)	ACGIH BEI (03 2013)
Potassium chromate (Total chromium: Sampling time: Increase during shift.)	10 µg/l (Urine)	ACGIH BEI (03 2013)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing and gloves.

Respiratory Protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when using the product. Wash contaminated clothing before reuse.

9. Physical and chemical properties

Appearance

Physical state: Solid
Form: Crystals or powder.
Color: Yellow
Odor: Odorless
Odor threshold: No data available.
pH: 8.5 - 10.0 (50 g/l, 20 °C)
Melting point/freezing point: 975 °C
Initial boiling point and boiling range: No data available.
Flash Point: not applicable
Evaporation rate: No data available.
Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.

Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	6.7
Density:	2.73 g/ml (20 °C)
Relative density:	2.73 (20 °C)
Solubility(ies)	
Solubility in water:	629 g/l (20 °C)
Solubility (other):	alcohol: Insoluble
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Molecular weight:	194.19 g/mol (CrH2O4)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Contact with incompatible materials.
Incompatible Materials:	Reducing agents. Flammable material.
Hazardous Decomposition Products:	By heating and fire, toxic vapors/gases may be formed.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	May cause irritation to the respiratory system.
Skin Contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes serious eye irritation.
Ingestion:	Toxic if swallowed.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): 52 - 168 mg/kg
Dermal	
Product:	LD 50 (Rabbit) 960 - 1,330 mg/kg
Inhalation	

Product: LC 50 (Rat, 4 h) 83 - 263 mg/m3

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: Causes skin irritation.

Serious Eye Damage/Eye Irritation

Product: Causes serious eye irritation.

Respiratory or Skin Sensitization

Product: May cause an allergic skin reaction.

Carcinogenicity

Product: May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Potassium chromate Overall evaluation: 1. Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Potassium chromate Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

Potassium chromate Cancer

Germ Cell Mutagenicity

In vitro

Product: May cause genetic defects.

In vivo

Product: May cause genetic defects.

Reproductive toxicity

Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure

Product: Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure

Product: Oral: testes, Central nervous system. - Causes damage to organs through prolonged or repeated exposure.

Target Organs

Specific Target Organ Toxicity - Single Exposure: respiratory tract irritation

Aspiration Hazard

Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 3288
UN Proper Shipping Name:	Toxic solid, inorganic, n.o.s.(Potassium chromate)
Transport Hazard Class(es)	
Class:	6.1
Label(s):	6.1
Packing Group:	III
Marine Pollutant:	Yes
Special precautions for user:	Not determined.

IMDG

UN Number:	UN 3288
UN Proper Shipping Name:	TOXIC SOLID, INORGANIC, N.O.S.(POTASSIUM CHROMATE)
Transport Hazard Class(es)	
Class:	6.1
Label(s):	6.1
EmS No.:	F-A, S-A
Packing Group:	III
Marine Pollutant:	Yes
Special precautions for user:	Not determined.

IATA

UN Number:	UN 3288
Proper Shipping Name:	Toxic solid, inorganic, n.o.s.(Potassium chromate)
Transport Hazard Class(es):	
Class:	6.1
Label(s):	6.1
Packing Group:	III
Marine Pollutant:	Yes
Special precautions for user:	Not determined.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
TSCA Flag - R

Chemical Identity

Potassium chromate

Reportable quantity

De minimis concentration: 0.1% Annual Export Notification required.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity

Potassium chromate

OSHA hazard(s)

Cancer
Eye irritation
Skin sensitization

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity

Potassium chromate

Reportable quantity

10 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute toxicity

Skin Corrosion/Irritation
 Serious Eye Damage/Eye Irritation
 Skin sensitizer
 Germ Cell Mutagenicity
 Carcinogenicity
 Specific Target Organ Toxicity - Single Exposure

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Potassium chromate	10 lbs.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Potassium chromate	10000 lbs.

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
Potassium chromate	10000 lbs.	25000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Potassium chromate	Reportable quantity: 10 lbs.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Potassium chromate	Carcinogenic.
Potassium chromate	Developmental toxin.
Potassium chromate	Female reproductive toxin.
Potassium chromate	Male reproductive toxin.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
Potassium chromate

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u>
Potassium chromate

US. Pennsylvania RTK - Hazardous Substances

<u>Chemical Identity</u>
Potassium chromate

US. Rhode Island RTK

<u>Chemical Identity</u>
Potassium chromate

International regulations

Montreal protocol

not applicable

Stockholm convention

not applicable

Rotterdam convention

not applicable

Kyoto protocol

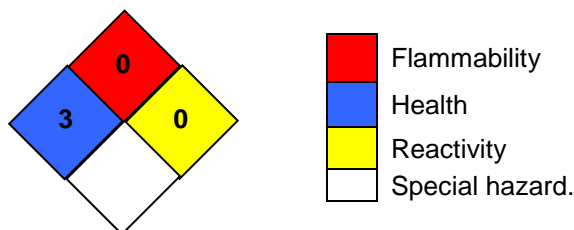
not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	10-27-2017
Revision Information:	Not relevant.
Version #:	1.1
Further Information:	No data available.

Disclaimer:

The information provided in this Safety Data Sheet (SDS) was prepared based on data believed to be accurate as of the date of this SDS. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR PERFORMANCE MATERIALS (“AVANTOR”) EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES REGARDING THE INFORMATION CONTAINED HEREIN INCLUDING, WITHOUT LIMITATION, AS TO ACCURACY, COMPLETENESS, FITNESS FOR PURPOSE OR USE, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY AND STABILITY. This SDS is intended as a guide to the appropriate use, handling, storage and disposal of the product to which it relates by properly trained personnel, and is not intended to be comprehensive. Users of Avantor’s products are advised to perform their own tests and to exercise their own judgment to determine the safety, suitability and appropriate use, handling, storage and disposal of each product and product combination for their own purposes and uses. TO THE GREATEST EXTENT PERMITTED BY LAW, AVANTOR DISCLAIMS LIABILITY FOR, AND BY USING AVANTOR’S PRODUCTS PURCHASER AGREES THAT UNDER NO CIRCUMSTANCES SHALL AVANTOR BE LIABLE FOR, SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY TYPE OR KIND, INCLUDING WITHOUT LIMITATION, FOR LOSS OF PROFITS, REPUTATIONAL DAMAGE, PRODUCT RECALL OR BUSINESS INTERRUPTION.