

Potassium Dichromate, Crystal

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Potassium Dichromate, Crystal

Synonyms/Generic Names: Bichromate of potash; Dipotassium Dichromate; Potassium bichromate; Potassium dichromate (VI)

Product Number: 4281

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Carcinogen, Target organ effect, Highly toxic by inhalation, Highly toxic by ingestion, Highly toxic by skin absorption, Respiratory sensitizer, Corrosive, Teratogen, Mutagen

Target Organs: Lungs, Kidneys, Blood

Signal Word: Danger

Pictograms:



GHS Classification:

Oxidizing solids	Category 2
Acute toxicity, Oral	Category 3
Acute toxicity, Dermal	Category 1
Acute toxicity, Inhalation	Category 2
Skin corrosion	Category 1B
Serious eye damage	Category 1
Respiratory sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B
Specific target organ toxicity - repeated exposure, Inhalation	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.
H310+H330	Fatal in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220	Keep/Store away from clothing and other combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation, wear respiratory protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use appropriate media to extinguish.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes eye burns.
Inhalation	May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be fatal if absorbed through skin. Causes skin burns.
Ingestion	May be fatal if swallowed.

NFPA Ratings

Health	4
Flammability	0
Reactivity	0
Specific hazard	OX

HMIS Ratings

Health	4
Fire	0
Reactivity	1
Personal	Not Available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Potassium Dichromate	>98	7778-50-9	231-906-6	K ₂ Cr ₂ O ₇	294.18 g/mol

4. FIRST-AID MEASURES

Eyes	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (potassium oxides, chromium oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and place in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Potassium Dichromate	0.1 mg/m ³	CEIL	OSHA
	0.005 mg/m ³	PEL	OSHA
	0.05 mg/m ³	TLV	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles and face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Orange-red solid.
Odor	Odorless.
Odor threshold	Not Available
pH	3.5 - 5.0 at 29.4 g/l at 25 °C (77 °F)
Melting point/freezing point	398°C (748.4°F)
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Density	2.68 g/cm ³
Solubility (ies)	Soluble in water.
Partition coefficient: n-octanol/water	log Pow: 5
Auto-ignition temperature	Not Available
Decomposition temperature	500 °C (932 °F)

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Not Available
Incompatible Materials	Organic materials, powdered metals, hydrazine.
Hazardous Decomposition Products	Potassium oxides, chromium oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	LD50 Dermal - rabbit - 14 mg/kg
Eyes	Not Available
Respiratory	LC50 Inhalation - rat - female - 4 h - 29 mg/m ³
Ingestion	LD50 Oral - rat - 25 mg/kg

Carcinogenicity

IARC	1 - Group 1: Carcinogenic to humans (Potassium dichromate).
ACGIH	A1: Confirmed human carcinogen (Potassium dichromate).
NTP	Known to be carcinogens (Potassium dichromate).
OSHA	1910.1026 (Potassium dichromate).

Signs & Symptoms of Exposure

Skin	It causes skin irritation and may cause skin burns.
Eyes	Irritation, redness, watering eyes, itchiness, possible loss of vision, transient corneal bulging, residual irregular astigmatism, and anesthesia of the area after bulging resolves.
Respiratory	Sneezing, rhinorrhea, throat erythema, nasal septum lesions, or perforation with bleeding, discharge, or crusting of eye.
Ingestion	abdominal and esophageal pain, nausea, vomiting, hypermotility, diarrhea, gastrointestinal tract irritation and bleeding, respiratory distress, cyanosis, coma, and death.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	May alter genetic material.
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Inhalation - Causes damage to organs through prolonged or repeated exposure.
Reproductive Toxicity	Presumed human reproductive toxicant.
Respiratory/Skin Sensitization	May cause allergic respiratory reaction.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	LC50 - Lepomis macrochirus - 0.131 mg/l - 96.0 h mortality NOEC - Pimephales promelas (fathead minnow) - 6 mg/l - 7.0 d
Aquatic Invertebrate	mortality NOEC - Daphnia - 0.016 - 0.064 mg/l - 7 d EC50 - Daphnia magna (Water flea) - 0.035 mg/l - 48 h
Terrestrial	EC50 - Pseudokirchneriella subcapitata - 0.31 mg/l - 72 h

Persistence and Degradability	Not Available
Bioaccumulative Potential	Oncorhynchus mykiss (rainbow trout) - 180 d Bioconcentration factor (BCF): 17.4
Mobility in Soil	Not Available

PBT and vPvB Assessment	Not Available
Other Adverse Effects	Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN3086, Toxic solids, oxidizing, n.o.s. (Potassium dichromate), 6.1, (5.1), PGII
TDG	UN3086, TOXIC SOLIDS, OXIDIZING, N.O.S. (POTASSIUM DICHROMATE), 6.1, (5.1), PGII
IMDG	UN3086, TOXIC SOLIDS, OXIDIZING, N.O.S. (POTASSIUM DICHROMATE), 6.1, (5.1), PGII
Marine Pollutant	No
IATA/ICAO	UN3086, Toxic solids, oxidizing, n.o.s. (Potassium dichromate), 6.1, (5.1), PGII

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Listed: Potassium Dichromate
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard
SARA 312	Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard
SARA 313	Listed: Potassium Dichromate
WHMIS Canada	Class C: Oxidizing material. Class D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). Class D-2A: Material causing other toxic effects (VERY TOXIC). Class E: Corrosive material

16. OTHER INFORMATION

Revision	Date
Revision 1	03/26/2013
Revision 2	04/18/2017

Disclaimer: The information provided in this Safety Data Sheet ("SDS") is correct to the best of our knowledge, information and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.