





Ammonium Dichromate		Pricing >
Linear Formula	$(\text{NH}_4)_2\text{Cr}_2\text{O}_7$	
Pubchem CID	24600	
MDL Number	MFCD00010879	
EC No.	232-143-1	
IUPAC Name	diazanium; oxido-(oxido(dioxo) chromio)oxy-dioxochromium	
SMILES	[O-][Cr](=O)(=O)O[Cr]([O-])(=O)=O.[NH4+].[NH4+]	
Inchl Identifier	InChI=1S/2Cr.2H3N.7O/h;;2*1H3;;;;;;;;;q;;;;;;;;;2*-1/p+2	
Inchl Key	JOSWYUNQBRPBDN-UHFFFAOYSA-P	
Signal Word	Danger	
Hazard Statements	H272-H301-H312-H314-H317-H330-H334-H340-H350-H360FD-H372-H410	
Hazard Codes	O, C, T+	
Risk Codes	45-46-60-61-2-8-21-25-26-34-42/43-48/23-50/53	
Safety Statements	53-45-60-61	
RTECS Number	HX7650000	
Transport Information	UN 1439 5.1/PG 2	
WGK Germany	3	
GHS Pictograms	GHS03 Oxidizer  GHS05 Corrosive  GHS06 Skull and Crossbones  GHS08 Health Hazard 	

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SAFETY DATA SHEET

Date Accessed: 05/18/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #7789-09-5

Relevant identified uses of the substance:

Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:

Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing solids Category 2

Acute oral toxicity Category 3

Acute dermal toxicity Category 4

Acute Inhalation Toxicity - Dusts and Mists Category 2

Skin Corrosion/irritation Category 1 B

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 - (repeated exposure)
Category 1

Combustible dust Yes

Label Elements

Signal Word: Danger

Hazard Statements

May intensify fire; oxidizer

May form combustible dust concentrations in air

Toxic if swallowed

Harmful in contact with skin

Fatal if inhaled

Causes severe skin burns and 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. May damage the unborn child

Causes damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Obtain special instructions before use

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

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

In case of inadequate ventilation wear respiratory protection

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

Wash contaminated clothing before reuse

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

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

Rinse mouth

Do NOT induce vomiting

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

WARNING. Cancer and Reproductive Harm

SECTION 3. COMPOSITION/INFORMATION

ON INGREDIENTS

Component: Ammonium bichromate
CAS-No: 7789-09-5
Weight %: >95

SECTION 4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation Move to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Immediate medical attention is required. If not breathing, give artificial respiration.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms and effects

Breathing difficulties. Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated:

Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
Notes to Physician Treat symptomatically

SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media Water.

Unsuitable Extinguishing Media No information available

Flash Point No information available

Method - No information available

Autoignition Temperature 218 °C / 424.4 °F

Explosion Limits

Upper No data available

Lower No data available

Oxidizing Properties Oxidizer

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Oxidizer: Contact with combustible/organic material may cause fire. Risk of explosion if heated under confinement. Dust can form an explosive mixture in air. Very toxic. Corrosive Material. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products

Nitrogen oxides (NOx) Highly toxic fumes Chromium oxide

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health 4

Flammability 1

Instability 3

Physical hazards OX

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition.

Do not get in eyes, on skin, or on clothing.

Environmental Precautions Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Should not be released into the environment.

Methods for Containment and Clean Up

Wear self-contained breathing apparatus and protective suit. Keep combustibles (wood, paper, oil, etc) away from spilled material. Remove all sources of ignition. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

SECTION 7. HANDLING AND STORAGE

Handling Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest.

Keep away from clothing and other combustible materials. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Do not store near combustible materials. Containers should be vented periodically in order to overcome pressure buildup. Corrosives area.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component

Ammonium bichromate

ACGIH TLV

TWA: 0.05 mg/m³

OSHA PEL

(Vacated) Ceiling: 0.1 mg/m³

Ceiling: 0.1 mg/m³

NIOSH IDLH

IDLH: 15 mg/m³

TWA: 0.0002 mg/m³

Mexico OEL (TWA)

TWA: 0.05 mg/m³ TWA: 0.5 mg/m³

Engineering Measures Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other

symptoms are experienced.
Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid
Appearance Orange
Odor Odorless
Odor Threshold No information available
pH 3-4 10% aq. sol
Melting Point/Range 170 °C / 338 °F
Boiling Point/Range No information available
Flash Point No information available
Evaporation Rate Not applicable
Flammability (solid,gas) No information available
Flammability or explosive limits
Upper No data available
Lower No data available
Vapor Pressure No information available
Vapor Density Not applicable
Specific Gravity 2.1500
Solubility 360 g/l (20°C)
Partition coefficient; n-octanol/water No data available
Autoignition Temperature 218 °C / 424.4 °F
Decomposition Temperature 170 °C
Viscosity Not applicable
Molecular Formula H8 Cr2 N2 O7
Molecular Weight 252.07

SECTION 10. STABILITY AND REACTIVITY

Reactive Hazard Yes
Stability Oxidizer: Contact with combustible/organic material may cause fire. Risk of explosion by shock, friction, fire or other sources of ignition. Risk of explosion if heated under confinement.
Conditions to Avoid Avoid shock and friction. Excess heat. Incompatible products. Combustible material. Avoid dust formation.
Incompatible Materials Acids, Bases, Alcohols, Reducing agents
Hazardous Decomposition Products Nitrogen oxides (NO_x), Highly toxic fumes, Chromium oxide
Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions None under normal processing.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

Component Information

Component

Ammonium bichromate

LD50 Oral

LD50 = 48 mg/kg (Rat)

LD50 Dermal

LD50 = 1860 mg/kg (Rabbit)

LC50 Inhalation

LC50 = 0.2 mg/L (Rat) 4 h

Toxicologically Synergistic

Products

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Causes burns by all exposure routes

Sensitization May cause sensitization by inhalation and skin contact

Mutagenic Effects Mutagenic; May cause heritable genetic damage

Reproductive Effects May impair fertility.

Developmental Effects May cause harm to the unborn child.

Teratogenicity Teratogenic effects have occurred in experimental animals.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated: Ingestion causes

severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms

of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the

hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. Do not allow material to contaminate ground water system. Persistence and Degradability May persist based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14. TRANSPORT INFORMATION

DOT

UN-No UN1439

Proper Shipping Name AMMONIUM DICHROMATE

Hazard Class 5.1

Packing Group II

TDG

UN-No UN1439

Proper Shipping Name AMMONIUM DICHROMATE

Hazard Class 5.1

Packing Group II

IATA

UN-No UN1439

Proper Shipping Name AMMONIUM DICHROMATE

Hazard Class 5.1

Packing Group II

IMDG/IMO

UN-No UN1439

Proper Shipping Name AMMONIUM DICHROMATE

Hazard Class 5.1

Packing Group II

SECTION 15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA 12(b)

Component TSCA 12(b)
 Ammonium bichromate Section 6
 SARA 313
 Component CAS-No Weight % SARA 313 - Threshold Values %
 Ammonium bichromate 7789-09-5 >95 0.1 1.0
 SARA 311/312 Hazard Categories See section 2 for more information
 CWA (Clean Water Act)
 Component CWA - Hazardous Substances
 CWA - Reportable Quantities
 CWA - Toxic Pollutants CWA - Priority Pollutants
 Ammonium bichromate X 10 lb X -
 Clean Air Act
 Component HAPS Data Class 1 Ozone Depletors
 Class 2 Ozone Depletors
 Ammonium bichromate X -
 OSHA Occupational Safety and Health Administration
 Component Specifically Regulated Chemicals Highly Hazardous Chemicals
 Ammonium bichromate 5 µg/m³ TWA
 2.5 µg/m³ Action Level
 -
 CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)
 Component Hazardous Substances RQs CERCLA EHS RQs
 Ammonium bichromate 10 lb -
 California Proposition 65 This product contains the following proposition 65 chemicals
 Component CAS-No California Prop. 65 Prop 65 NSRL Category
 Ammonium bichromate 7789-09-5 Carcinogen
 Developmental
 Female Reproductive
 Male Reproductive
 0.001 µg/day Developmental
 Carcinogen
 U.S. State Right-to-Know Regulations
 Component Massachusetts New Jersey Pennsylvania Illinois Rhode Island
 Ammonium bichromate X X X X X
 U.S. Department of Transportation
 Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N
 U.S. Department of Homeland Security
 This product does not contain any DHS chemicals.
 Other International Regulations

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
