

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Ammonium dichromate

Product Number : 402826  
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Oxidizer, Highly toxic by inhalation, Toxic by ingestion, Harmful by skin absorption., Skin and respiratory sensitizer, Corrosive, Carcinogen, Teratogen, Reproductive hazard, Mutagen

##### Target Organs

Lungs, Kidney, Liver

##### GHS Classification

Oxidizing solids (Category 2)  
Acute toxicity, Oral (Category 3)  
Acute toxicity, Inhalation (Category 2)  
Acute toxicity, Dermal (Category 4)  
Skin corrosion (Category 1B)  
Serious eye damage (Category 1)  
Respiratory sensitization (Category 1)  
Skin sensitization (Category 1)  
Germ cell mutagenicity (Category 1B)  
Carcinogenicity (Category 1B)  
Reproductive toxicity (Category 1B)  
Specific target organ toxicity - repeated exposure (Category 1)  
Acute aquatic toxicity (Category 1)  
Chronic aquatic toxicity (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H272

May intensify fire; oxidiser.

H301

Toxic if swallowed.

H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H330 Fatal if inhaled.  
 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.  
 H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statement(s)**

P201 Obtain special instructions before use.  
 P220 Keep/Store away from clothing/ combustible materials.  
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P284 Wear respiratory protection.  
 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 or doctor/ physician.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**HMIS Classification**

**Health hazard:** 3  
**Chronic Health Hazard:** \*  
**Flammability:** 0  
**Physical hazards:** 2

**NFPA Rating**

**Health hazard:** 4  
**Fire:** 0  
**Reactivity Hazard:** 2  
**Special hazard.:** OX

**Potential Health Effects**

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

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Ammonium bichromate  
 Formula :  $H_8Cr_2N_2O_7$   
 Molecular Weight : 252.06 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Ammonium dichromate</b>			
7789-09-5	232-143-1	024-003-00-1	-

**4. FIRST AID MEASURES**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

---

**5. FIRE-FIGHTING MEASURES****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Chromium oxides

**Further information**

Use water spray to cool unopened containers.

---

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

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 wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

---

**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition. Normal measures for preventive fire protection.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Do not grind or subject to friction or shock. Isolated storage is required.

---

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

---

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	crystalline
Colour	no data available

**Safety data**

pH	3.0 - 4.0 at 50 g/l at 25 °C (77 °F)
Melting point/freezing point	Melting point/range: 170 °C (338 °F) - dec.
Boiling point	no data available
Flash point	not applicable
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	2.150 g/cm <sup>3</sup>
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

---

**10. STABILITY AND REACTIVITY****Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

no data available

**Conditions to avoid**

no data available

**Materials to avoid**

Strong reducing agents, Alcohols, Strong acids, Do not store near acids.

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO<sub>x</sub>), Chromium oxides  
Other decomposition products - no data available

---

**11. TOXICOLOGICAL INFORMATION****Acute toxicity****Oral LD50**

LD50 Oral - rat - 53 mg/kg

**Inhalation LC50**

LC50 Inhalation - rat - 4 h - 160 ppm

**Dermal LD50****Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

Eyes - rabbit - Severe eye irritation - Draize Test

**Respiratory or skin sensitization**

May cause allergic respiratory and skin reactions

**Germ cell mutagenicity**

May alter genetic material. In vivo tests showed mutagenic effects

**Carcinogenicity**

This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. Possible human carcinogen

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

May cause reproductive disorders.

**Teratogenicity**

May cause congenital malformation in the fetus. Presumed human reproductive toxicant

**Specific target organ toxicity - single exposure (Globally Harmonized System)****Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

no data available

**Potential health effects****Inhalation**

May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Ingestion**

Toxic if swallowed.

**Skin**

Causes skin burns.

**Eyes**

Causes eye burns.

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Synergistic effects

### Additional Information

RTECS: Not available

---

## 12. ECOLOGICAL INFORMATION

### Toxicity

Toxicity to fish LC0 - Leuciscus idus (Golden orfe) - 50 mg/l - 48 h

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

---

## 13. DISPOSAL CONSIDERATIONS

### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

---

## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 1439 Class: 5.1 Packing group: II

Proper shipping name: Ammonium dichromate

Reportable Quantity (RQ): 10 lbs

Marine pollutant: No

Poison Inhalation Hazard: No

### IMDG

UN number: 1439 Class: 5.1 Packing group: II EMS-No: F-H, S-Q

Proper shipping name: AMMONIUM DICHROMATE

Marine pollutant: No

### IATA

UN number: 1439 Class: 5.1 Packing group: II

Proper shipping name: Ammonium dichromate

---

## 15. REGULATORY INFORMATION

### OSHA Hazards

Oxidizer, Highly toxic by inhalation, Toxic by ingestion, Harmful by skin absorption., Skin and respiratory sensitizer, Corrosive, Carcinogen, Teratogen, Reproductive hazard, Mutagen

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Ammonium dichromate	7789-09-5	1993-04-24

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Ammonium dichromate	7789-09-5	1993-04-24

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Ammonium dichromate	7789-09-5	1993-04-24

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

---

**16. OTHER INFORMATION****Further information**

Copyright 2011 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. 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. Sigma-Aldrich Co., 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.

---