

MSDS# 01210

Section 1 - Chemical Product and Company Identification

MSDS Name: Ammonium dichromate  
Catalog Numbers: AC208810000, AC208811000, AC208815000, A644-100, A644-12, A644-212, A644-50, A644-500, S70636-1  
Synonyms: Ammonium bichromate; Ammonium dichromate(VI).

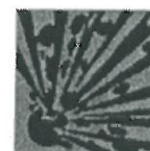
Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
For information in the US, call: 201-796-7100  
Emergency Number US: 201-796-7100  
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 7789-09-5  
Chemical Name: Ammonium dichromate  
%: 99  
EINECS#: 232-143-1

Hazard Symbols:

T+ N E



Risk Phrases:

45 46 60 61 2 21 25 26 34 42/43 48/23 50/53 8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Strong oxidizer. Contact with other material may cause a fire. Harmful if absorbed through the skin. Cancer hazard. Causes burns by all exposure routes. May cause sensitization by inhalation and by skin contact. May cause allergic respiratory and skin reaction. May cause harm to the unborn child. May impair fertility. May be fatal if inhaled or swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Danger of serious damage to health by prolonged exposure through inhalation. Risk of explosion by shock, friction, fire or other sources of ignition. May cause heritable genetic damage. Target Organs: Kidneys, liver, lungs, respiratory system, gastrointestinal system, eyes, reproductive system, skin.

Potential Health Effects

Eye: Causes eye burns. May cause blindness. May cause redness, pain, blurred vision and possible eye damage. Harmful if absorbed through the skin. Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause deep, penetrating ulcers of the skin. May cause dermatitis.

Skin: May be fatal if swallowed. Poison by ingestion. Causes gastrointestinal tract burns. May cause circulatory system failure.

Ingestion: May be fatal if inhaled. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause ulceration and perforation of the nasal septum if inhaled in excessive quantities. Causes chemical burns to the respiratory tract.

Inhalation: Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Prolonged

liver and kidney damage. May cause cancer in humans. Possible risk of harm to the unborn child. May impair fertility.

#### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Call a poison control center.

**Inhalation:** If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask. POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Persons with asthma, allergies, and known sensitization to chromic acid or chromates may be at increased risk from exposure to this product. Treat symptomatically and supportively.

#### Section 5 - Fire Fighting Measures

**General Information:** Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. This material is an explosion hazard when exposed to heat, mechanical shock, or friction. Explosive decomposition may occur under fire conditions.

**Extinguishing Media:** Use water only! Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out. Do NOT use dry chemicals, CO<sub>2</sub>, Halon or foams.

**Autoignition Temperature:** 218 deg C ( 424.40 deg F)

**Flash Point:** Not available

**Explosion Limits: Lower:** Not available

**Explosion Limits: Upper:** Not available

**NFPA Rating:** ; instability: OX

#### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Carefully scoop up and place into appropriate disposal container. Isolate area and deny entry. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill. Keep combustibles (wood, paper, oil, etc.,) away from spilled material.

#### Section 7 - Handling and Storage

**Handling:** Use only in a well-ventilated area. Minimize dust generation and accumulation. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep away from heat, sparks and flame.

**Storage:** Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Heat can cause thermal decomposition and pressure build-up inside containers. Material can explode if dry.

#### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ammonium dichromate	0.05 mg/m <sup>3</sup> TWA (as Cr) (listed under Chromium	0.001 mg/m <sup>3</sup> TWA (as Cr) (listed under	5 µg/m <sup>3</sup> TWA (listed under Chromium (VI)

	water soluble).	mg/m3 IDLH (as	mg/m3 Ceiling
		Cr(VI)) (listed	(as CrO3,
		under	applies to any
		Chromates).	operations or
			sectors for
			which the H
			exavalent
			Chromium
			standard [29 CFR
			1910.1026] is

OSHA Vacated PELs: Ammonium dichromate: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Personal Protective Equipment

- Eyes: 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: Wear appropriate protective gloves to prevent skin exposure.
- Clothing: Wear appropriate protective clothing to prevent skin exposure.
- Respirators: 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.

Section 9 - Physical and Chemical Properties

- Physical State: Crystals
- Color: orange to red
- Odor: odorless
- pH: 3.45 for 10% soln.
- Vapor Pressure: Not available
- Vapor Density: Not available
- Evaporation Rate: Not available
- Viscosity: Not available
- Boiling Point: Not available
- Freezing/Melting Point: 170 deg C ( 338.00°F)

Decomposition Temperature:

- Solubility in water: 360 g/l (20°C)
- Specific Gravity/Density: 2.1500
- Molecular Formula: (NH4)2Cr2O7
- Molecular Weight: 252.06

Section 10 - Stability and Reactivity

- Chemical Stability: Heating may cause an explosion.
- Conditions to Avoid: Ignition sources, dust generation, excess heat, combustible materials, mechanical shock, friction.
- Incompatibilities with Other Materials: Reducing agents, acids, bases, alcohols, hydrazine, sodium nitrate, ethylene glycol, carbides.
- Hazardous Decomposition Products: Oxides of nitrogen, nitrogen gas, toxic chromium oxide fumes.
- Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 7789-09-5: HX7650000 HX7660000

LD50/LC50: Dermal, rabbit: LD50 = 1640 mg/kg (reported by Bayer)

Carcinogenicity: Ammonium dichromate - California: carcinogen, initial date 2/27/87 (Chromium (VI) compounds). NTP: Known carcinogen (Chromium (VI) compounds). IARC: Group 1 carcinogen

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Mosquito Fish: LC50 = 136 mg/L; 96 Hr; Unspecified  
Fish: Mosquito Fish: LC50 = 212 mg/L; 48 Hr; Unspecified

Other: Do not empty into drains.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: AMMONIUM DICHROMATE

Hazard Class: 5.1

UN Number: UN1439

Packing Group: II

Canada TDG

Shipping Name: AMMONIUM DICHROMATE

Hazard Class: 5.1

UN Number: UN1439

Packing Group: II

USA RQ: CAS# 7789-09-5: 10 lb final RQ; 4.54 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+ N E

Risk Phrases:

R 45 May cause cancer.

R 46 May cause heritable genetic damage.

R 61 May cause harm to the unborn child.

R 2 Risk of explosion by shock, friction, fire or other sources of ignition.

R 21 Harmful in contact with skin.

R 25 Toxic if swallowed.

R 26 Very toxic by inhalation.

R 34 Causes burns.

R 42/43 May cause sensitization by inhalation and skin contact.

R 48/23 Toxic : danger of serious damage to health by prolonged exposure through inhalation.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 60 May impair fertility.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

Canada

CAS# 7789-09-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: C, F, D1A, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 7789-09-5 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 7789-09-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/19/1999

Revision #8 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

**REVIEWED**

**DATE:**

*30 March 2012*

*Chuteford*