AMMONIUM DICHROMATE

AMD

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
Ammonium bichromate

Solid crystals or powder | Orange to red | Odorless

Sinks and mixes with water.

Stop discharge if possible. Keep people away.
Restrict ignition sources and call fire department.
Avoid contact with solid.
Isolate and remove discharged material.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

FLAMMABLE.
May cause fire on contact with combustibles.
Containers may explode in fire.
Combat fires from safe distance or protected location with unmanned hose holder or monitor nozzle.
Flood discharge area with water.
Cool exposed containers with water.

Exposure

Call for medical aid.
DUST
Irritating to eyes, nose and throat.
If inhaled will cause coughing or difficult breathing.
Move victim to fresh air.
If in eyes, hold eyelids open and flush with plenty of water.
If breathing is difficult, give oxygen.

SOLID
Irritating to skin and eyes.
Harmful if swallowed.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.
IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

Water Pollution

Dangerous to aquatic life in high concentrations.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge
Do not burn
Collection Systems: Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed
2.2 Formula: $(NH_4)_2Cr_2O_7$
2.3 IMO/UN Designation: 5.1/1439
2.4 DOT ID No.: 1439
2.5 CAS Registry No.: 7789-09-5
2.6 NAERG Guide No.: 141
2.7 Standard Industrial Trade Classification: 51481

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Dust respirator; protective goggles, gloves, clothing.
3.2 Symptoms Following Exposure: Inhalation causes irritation or ulceration of the mucous membranes of the nose, throat or respiratory tract. Respiratory irritation can produce symptoms resembling those of asthma. Continuing irritation of the nose may lead to perforation of the nasal septum. External contact can cause eye irritation and conjunctivitis, irritation and ulceration of skin wounds, and rash or external ulcers. If ingested, irritates mucous membrane and causes vomiting.
3.3 Treatment of Exposure: INHALATION: remove to clean air and summon medical attention. EYES: immediately flush with water for at least 15 min. and consult a physician. SKIN: flush with water; if skin irritation develops, get medical attention. INGESTION: vomiting should occur; follow with an emetic of soapy water; give large amounts of water.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Currently not available
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Not pertinent
3.11 Liquid or Solid Characteristics: Currently not available
3.12 Odor Threshold: Not pertinent
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: Flammable solid
4.2 Flammable Limits in Air: Not pertinent
4.3 Fire Extinguishing Agents: Water
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Greenish chromic oxide smoke may cause irritation of lungs and mucous membranes.
4.6 Behavior in Fire: Decomposes at about 180°C. Decomposition self-sustaining at about 225°C with spectacular swelling and evolution of heat and nitrogen, leaving chromic oxide residue. Pressure of confined gases can burst closed containers explosively.
4.7 Auto Ignition Temperature: 437°F
4.8 Electrical Hazards: Currently not available
4.9 Burning Rate: Not pertinent
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Currently not available
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): Currently not available
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: Can ignite combustible material such as wood shavings.
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: 136 ppm/96 hr/mosquito fish/TL_m/fresh water
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): None
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: Analytical reagent grade: 99.0%; technical (photolitho) grade; technical granular grade: 99.7%; C.P. granular grade: 99.8%.
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: None
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Oxidizer
8.2 49 CFR Class: 5.1
8.3 49 CFR Package Group: II
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	2
Flammability (Red).....	1
Instability (Yellow).....	1
Special (White).....	OX

8.6 EPA Reportable Quantity: 10
8.7 EPA Pollution Category: A
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 252.06
9.3 Boiling Point at 1 atm: Not pertinent
9.4 Freezing Point: Not pertinent
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 2.15 at 25°C (solid)
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Not pertinent
9.13 Heat of Combustion: Not pertinent
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: 41 Btu/lb = 23 cal/g = 0.96 X 10^5 J/kg
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

AMMONIUM DICHROMATE

AMD

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	NOT PERTINENT		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
34	15.990		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT
36	16.580						
38	17.160						
40	17.750						
42	18.340						
44	18.930						
46	19.520						
48	20.110						
50	20.700						
52	21.290						
54	21.880						
56	22.460						
58	23.050						
60	23.640						
62	24.230						
64	24.820						
66	25.410						
68	26.000						
70	26.590						
72	27.180						
74	27.760						
76	28.350						
78	28.940						
80	29.530						
82	30.120						
84	30.710						