

# CHROMIC ANHYDRIDE

CMA

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b>		Solid flakes or powder Dark red	Odorless
Chromic acid Chromic oxide Chromium trioxide		Sinks and mixes with water.	
<p>Keep people away. Avoid contact with solid and dust. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Stay upwind and use water spray to "knock down" dust. Notify local health and pollution control agencies. Protect water intakes.</p>			
<b>Fire</b>	Not flammable. May cause fire on contact with combustibles. Containers may explode when heated in a fire. Extinguish with water. Cool exposed containers with water.		
<b>Exposure</b>	CALL FOR MEDICAL AID.  SOLID Will burn 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. DO NOT INDUCE VOMITING.		
<b>Water Pollution</b>	HARMFUL TO AQUATIC LIFE IN VERY LOW 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

### 2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: Not listed.
- 2.2 Formula: CrO<sub>3</sub>
- 2.3 IMO/UN Designation: 5.1/1463
- 2.4 DOT ID No.: 1463
- 2.5 CAS Registry No.: 1333-82-0
- 2.6 NAERG Guide No.: 141
- 2.7 Standard Industrial Trade Classification: 52252

### 3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Goggles and respirator. (Special chromic acid filters are available for respirators to prevent inhalation of dust or mist.)
- 3.2 **Symptoms Following Exposure:** Very irritating to eyes and respiratory tract. Ingestion causes severe gastrointestinal symptoms. Contact with eyes or skin causes burns; prolonged contact produces dermatitis ("chrome sores").
- 3.3 **Treatment of Exposure:** INGESTION: call a physician; do NOT induce vomiting. SKIN OR EYES: wash eyes thoroughly for at least 15 min.; flush contacted skin areas with water; remove contaminated clothing and wash before reuse.
- 3.4 TLV-TWA: 0.05 mg/m<sup>3</sup> as Cr
- 3.5 TLV-STEL: Not listed.
- 3.6 TLV-Ceiling: Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 3; LD<sub>50</sub> = 50 to 500 mg/kg
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Lung cancer
- 3.10 **Vapor (Gas) Irritant Characteristics:** Not pertinent
- 3.11 **Liquid or Solid Characteristics:** Severe skin irritant. Causes second- and third-degree burns on short contact; very injurious to the eyes.
- 3.12 **Odor Threshold:** Odorless
- 3.13 **IDLH Value:** 15 mg/m<sup>3</sup> as Cr(+6)
- 3.14 **OSHA PEL-TWA:** 1 mg/m<sup>3</sup> as Cr
- 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:**  
Not flammable
- 4.2 **Flammable Limits in Air:** Not flammable
- 4.3 **Fire Extinguishing Agents:** Water
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Not pertinent
- 4.6 **Behavior in Fire:** Containers may explode
- 4.7 **Auto Ignition Temperature:** May ignite organic materials on contact.
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Not flammable
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not Pertinent
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not Pertinent
- 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:** May react with organic materials rapidly enough to generate sufficient heat to cause ignition. Prolonged contact, particularly on wood floors, may produce a fire hazard.
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Flood with water, rinse with sodium bicarbonate solution.
- 5.5 **Polymerization:** Not pertinent
- 5.6 **Inhibitor of Polymerization:** Not pertinent

### 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**  
0.01 ppm/48 hr/daphnia/TL<sub>50</sub> 52 ppm/96 hr/goldfish/died
- 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:** Technical; technical flake: 99.75%
- 7.2 **Storage Temperature:** Currently not available
- 7.3 **Inert Atmosphere:** Currently not available
- 7.4 **Venting:** Currently not available
- 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).....	3
Flammability (Red).....	0
Instability (Yellow).....	1
- 8.6 **EPA Reportable Quantity:** 10 pounds
- 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:** 100.01
- 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:** 2.70 at 20°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:** Not pertinent
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** 37.7 cal/g
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

### NOTES

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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
	N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T

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	161.299		N O T		N O T		N O T
36	161.699		P E R T I N E N T		P E R T I N E N T		P E R T I N E N T
38	162.000						
40	162.299						
42	162.699						
44	163.000						
46	163.299						
48	163.699						
50	164.000						
52	164.299						
54	164.699						
56	165.000						
58	165.299						
60	165.699						
62	166.000						
64	166.299						
66	166.699						
68	167.000						
70	167.299						
72	167.699						
74	168.000						
76	168.299						
78	168.699						
80	169.000						
82	169.299						
84	169.699						