



MacDermid
Incorporated

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3	0	1	OX
Health	Flammability	Reactivity	Other

MATERIAL SAFETY DATA SHEET

PRODUCT	IRIDITE 14-2	ISSUE DATE	10/20/93
PRODUCT CODE	78659	REVISED DATE	1/20/2004
24 Hour Emergency Number: CHEMTREC(1-800-424-9300)			8

SECTION 1 :- PRODUCT IDENTIFICATION

TRADE NAME IRIDITE 14-2
 CHEMICAL FAMILY ACID
 FORMULA Proprietary Mixture

HMIS RATING:

3 Health	0 Flammability	
1 Reactivity	Other	

(0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High and 4 = Extreme)

SECTION 2 :- COMPOSITION / INFORMATION ON INGREDIENTS

MacDermid Inc. has identified the following chemical ingredient(s) as hazardous.

Ingredient	CAS#	By Weight %
Sodium silicofluoride	16893-85-9	7 - 17
Ferricyanide	Trade Secret	7 - 10
Barium Nitrate	10022-31-8	15 - 25
Chromium trioxide	1333-82-0	50 - 60

SECTION 3 :- PHYSICAL DATA

DENSITY	70 Lb/Cu Ft	FORM	Solid
SPECIFIC GRAVITY		PH	N/A
FREEZING POINT	N/A	FLASH POINT	NOT APPLICABLE
VAPOR PRESSURE	N/A	VOLATILE %	N/A
BOILING POINT	N/A	MELTING POINT	Unknown
CHEMICAL OXYGEN DEMAND (COD)	Unknown mg/l		
BIOLOGICAL OXYGEN DEMAND (BOD)	Unknown		
SOLUBILITY IN WATER	Moderate		
COLOR/ODOR	Red/odorless		

NOTE: These physical properties are typical values for this product.

SECTION 4 :- FIRE AND EXPLOSION DATA

FLASH POINT NOT APPLICABLE
EXTINGUISHING MEDIA Flood with water. Other agents may be ineffective. NEVER allow run-off to enter sewers or waterways.
UNUSUAL FIRE & EXPLOSION HAZARDS Wear self-contained breathing apparatus and protective clothing. Not combustible, but material is a strong oxidizer: heat of reaction with reducing agents or combustibles may cause ignition. Will supply oxygen which may sustain or intensify a fire.

SECTION 5 :- FIRST AID DATA

EYES Flush with water for 15 minutes. Contact physician immediately.

SKIN Wash contaminated skin with large amounts of water. Remove and isolate contaminated clothing. If irritation develops, get medical aid.

INGESTION Rinse mouth with water. Give water to drink. Do not induce vomiting. Contact physician immediately.

INHALATION Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Contact a physician.

CAUTION If unconscious - having trouble breathing - or in convulsions do not induce vomiting or give water.
Always clean contaminated clothing and gear prior to reuse. NEVER administer anything to an unconscious person.

SECTION 6 :- HEALTH EFFECTS DATA

Primary Route(s) of Exposure : **Eye, Skin, Inhalation and Ingestion**

EYE CONTACT (ACUTE) Direct contact will cause severe burns to eyes with possible corneal damage.

EYE CONTACT (CHRONIC) No data available.

SKIN CONTACT (ACUTE) Will cause severe irritation to the skin. Contact with broken skin may result in ulcers.

SKIN CONTACT (CHRONIC) Chronic overexposure may result in contact dermatitis, including "chrome sores". Dermal absorption of large amounts may result in kidney damage.

INGESTION (ACUTE) Swallowing will cause severe burns to mouth, throat and stomach, May cause nausea vomiting diarrhea, shock, coma, liver and kidney damage.

INGESTION (CHRONIC) Repeated overexposure may cause damage to kidneys and liver.

INHALATION (ACUTE) Inhalation of dusts will cause severe irritation and burns to mucous membranes and respiratory tract.

INHALATION (CHRONIC) Chronic overexposure to dusts may cause ulceration, bleeding, and perforation of the nasal septum. Overexposure may affect kidneys, liver, and blood.

SECTION 7 :- PERSONAL PROTECTIVE DATA

RESPIRATORY PROTECTION If there is a value for OSHA-PEL/ACGIH-TLV in section 13 and it is exceeded, it is recommended that a NIOSH approved respirator be used. Consult with your Industrial Hygienist for appropriate cartridge selection and use. See 29CFR 1910.134 for details. For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self contained breathing apparatus is recommended.

VENTILATION General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors, dusts, mists or aerosols may be released.

PROTECTIVE EQUIPMENT Chemically resistant apron, boots and gloves. Recommended material of construction: PVC coated. The availability of a safety shower is recommended. If clothing is contaminated, remove clothing and thoroughly wash the affected body area. Launder contaminated clothing before reuse. Safety glasses or splash proof goggles, face shield. The availability of an eye wash is recommended. Consult with your Safety Professional/Industrial Hygienist for specific information regarding applications at your facility.

These are general recommendations to provide a safe level of protection for various material handling conditions. Consult with your Safety Professional/Industrial Hygienist for specific information regarding applications at your facility

SECTION 8 :- TOXICOLOGY DATA

TOXICITY STUDIES :

Toxicity studies have not been conducted on this product. However toxicity literature surveys have been conducted on the ingredient(s) in section 2. The results are as follows:

ACUTE ORAL TOXICITY Chromium trioxide- orl-rat LD50: 52 mg/kg

ACUTE DERMAL TOXICITY Chromium trioxide- skn-rbt LD50: 57 mg/kg

ACUTE RESPIRATORY TOXICITY Chromium trioxide- ihl-rat LC50: 217 mg/m3

OTHER TOXICOLOGICAL EFFECTS Chromium trioxide is toxic if inhaled swallowed or absorbed through the skin. Material is extremely destructive to tissues of the mucous membrane and upper respiratory tract. Symptoms of exposure may include burning sensation, coughing, vomiting. Prolonged or repeated eye contact may cause conjunctivitis, "chrome sores" on skin or ulceration and perforation of the nasal septum. Dermal absorption of large amounts may result in kidney failure and death. May also cause liver damage. It is a suspect carcinogen.

Listed as suspected carcinogen by :

IARC YES

NTP YES

OSHA YES

SECTION 9 :- REACTIVITY DATA

INCOMPATIBILITY Alkalies, combustibles, reducing agents, organic material.

HAZARD DECOMPOSITION PRODUCTS Chromium compounds, toxic hydrogen cyanide gas

STABILITY Stable

HAZARDOUS POLYMERIZATION No hazardous polymerization.

SECTION 10 :- SPILLS & DISPOSAL DATA

In case of Transportation Accidents, call the following 24 hour telephone number : **CHEMTREC**
(1-800-424-9300)

SPILL CONTROL AND RECOVERY Avoid dusting. Sweep up and collect for disposal in plastic recovery drum. Do not return to original container. Flush residue to chemical drain with large quantities of water.

DISPOSAL Dispose of by an approved method at an approved secure facility.

Please ensure that packaging, including drums, are disposed of in a responsible manner and in accordance with federal, and your state's, solid/hazardous waste regulations. You may want to refer to www.reusablepackaging.org for further disposal guidance.

Due to more restrictive waste disposal regulations, NEVER wastetreat or dispose of material until you check your appropriate local, state, & federal regulations for requirements. Spills may REQUIRE notification to FEDERAL, STATE and/or LOCAL AUTHORITIES.

SECTION 11 :- TRANSPORTATION DATA

DOT PROPER SHIPPING NAME OXIDIZING SOLID, TOXIC, N.O.S.
(CHROMIC ACID/BARIUM NITRATE)

HAZARD OXIDIZER/TOXIC

UN/NA# UN3087

DOT REPORTABLE QUANTITY (RQ) 18 LB **Pkg Grp** II

IMO NAME OXIDIZING SOLID, TOXIC, N.O.S.

IMO Class/Sub Class OXIDIZER/TOXIC

UN/NA# UN3087 **Pkg Grp** II

IATA NAME OXIDIZING SOLID, TOXIC, N.O.S.

IATA Cls/Sub Cls OXIDIZER/TOXIC

UN/NA# UN3087 **Pkg Grp** II

EXPORT LICENSE MAY BE REQUIRED TO EXPORT THIS PRODUCT

SECTION 12 :- GENERAL STORAGE DATA

STORAGE TEMPERATURE : Maximum: 120.00°F 48.8°C Minimum: N/A

Material should be stored in the properly sealed original container
Oxidizer/toxic solid: avoid contact with organic materials, oils, grease or any other easily oxidizable material. Product may absorb moisture from the air. Product is toxic. Keep containers tightly closed and store in a cool dry area.

SECTION 13 :- REGULATORY DATA

The following regulations apply to this product.

FEDERAL REGULATIONS

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our evaluation, the following ingredients in this product are subject to this rule:

Chemical Name	CAS#	By Weight%	OSHA-PEL	ACGIH-TLV
Sodium silicofluoride	16893-85-9	7 - 17	N/A	N/A
Ferricyanide	Trade	7 - 10	N/A	N/A
Barium Nitrate	Secret	15 - 25	N/A	.5 MG/M3
Chromium trioxide	10022-31-8 1333-82-0	50 - 60	0.1 MG/M3	0.05 MG/M3

CERCLA/SUPERFUND, 40 CFR 117, 302/304 : Notification of spills of this product is required

SARA/SUPERFUND AMENDMENTS & REAUTHORIZATION ACT OF 1986 (TITLE III)

Sections 302, 311, 312 & 313

SECTION 302 : Extremely Hazardous Substances

This product does not contain ingredient(s) as listed in APPENDIX A of 40 CFR 355.

SECTIONS 311 & 312 - M.S.D.S REQUIREMENTS (40 CFR 370)

This product contains ingredient(s) that may require reporting under Hazardous Chemical Inventory Reporting

- Immediate (Acute) health hazard Sudden release of pressure hazard
 Delayed (Chronic) health hazard Reactive Hazard
 Fire hazard

Under Section 311, submittal of MSDS or a list of product names to the local emergency planning commission, state emergency response commission, the local fire department is required after October 17, 1987. Consult the regulation for pertinent changes and updates.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372)

This product contains ingredient(s) listed under 40 CFR 372.65

Ingredient	CAS#	By Weight %
Barium Nitrate	10022-31-8	15 - 25
Chromium trioxide	1333-82-0	50 - 60

TOXIC SUBSTANCE CONTROL ACT (TSCA)

TOXIC SUBSTANCE CONTROL ACT (TSCA): The chemical ingredient(s) in this product are listed on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION & RECOVERY ACT (RCRA), 40 CFR 261 SUBPARTS C & D

Please refer to section 10, disposal information for pertinent data.

TOTAL TOXIC ORGANICS

This product does not contain ingredient(s) on the list of Total Toxic Organics.

OSHA PROCESS SAFETY (1910.119)

This product does not contain ingredient(s) listed in APPENDIX A of 29 CFR 1910.119 of Highly Hazardous Chemicals, Toxics, and Reactives of OSHA process safety management.

CLEAN AIR ACT

This product contains ingredient(s) listed on the Hazardous Air Pollutants of CAA 40 CFR 112(G).

Ingredient	CAS#	By Weight %
Chromium trioxide	1333-82-0	50 - 60

OZONE DEPLETING SUBSTANCES

This product does not contain ingredient(s) listed on Ozone Depleting Substances of CAA 40 CFR 82.

STATE REGULATIONS

CALIFORNIA PROPOSITION 65

This product contains ingredient(s) listed on California Prop 65 suspected carcinogen/reproductive toxicant list.

Ingredient	CAS#	By Weight %
Chromium trioxide	1333-82-0	50 - 60

MICHIGAN CRITICAL MATERIALS

This product contains ingredient(s) listed on the Michigan Critical Material Register.

Ingredient	CAS#	By Weight %
Chromium trioxide	1333-82-0	50 - 60

The information listed above does not include all Federal, State, and International regulations. The regulations listed above may change from time to time; it is the users responsibility to keep advised of current regulatory requirements.

Prepared by MacDermid Inc. Safety & Regulatory Compliance Department, based upon publicly available reference information.

SECTION 14 :- USER NOTIFICATION

To the best of our knowledge the information contained herein is correct. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HERE UNDER WITH RESPECT TO THE INFORMATION CONTAINED HEREIN OR THE CHEMICAL TO WHICH THE INFORMATION REFERS.

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