MATERIAL SAFETY DATA SHEET
CHROMIC OXIDE

ELEMENTIS
CHROMIUM

1. PRODUCT AND COMPANY IDENTIFICATION

COMMON NAME:	Chromic Oxide	
CHEMICAL NAME:	Metal Oxide	
SYNONYMS:	G-4099, G-5099, G-6099, G-8599, G-112, G-120, M-100, GA-4090, GA-6090 ACCROX R, ACCROX S, ACCROX C, Chromium Oxide Metallurgical	
CHEMICAL FORMULA:	Cr_2O_3	
PRODUCT CAS NO:.	1308-38-9 Chromic Oxide	**RTECS**: GB6475000
COMPANY:	Elementis Chromium LP	
ADDRESS:	3800 Buddy Lawrence Drive PO Box 9912	
CITY, STATE, ZIP:	Corpus Christi, TX 78469	
PHONE:	(361) 880-7725	**FAX:** (361) 866-1462
EMERGENCY PHONE:	(361) 883-6421	

2. INGREDIENTS: COMPOSITION/INFORMATION

INGREDIENT	WEIGHT %	PEL-OSHA	TLV-ACGIH	LD50/LC50 ROUTE/SPECIES
Chromic Oxide	> 98	0.5 mg/m^3 (Cr III Cpds.)	0.5 mg/m^3 (Cr III Cpds.)	No Data

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Odorless, nonflammable green powder which can cause skin, eye, and respiratory irritation. May have adverse effects if ingested. Long-term exposure may adversely affect the lungs. Avoid breathing dusts.

3. HAZARDS IDENTIFICATION (CONTINUED)

POTENTIAL HEALTH EFFECTS

PRIMARY ROUTE(S) OF ENTRY: Inhalation, ingestion, skin and eye contact

EYE: Contact with dusts may cause irritation or conjunctivitis.

SKIN: Contact may cause irritation and erythema. Repeated contact may cause dermatitis.

INGESTION: Ingestion may cause nausea, vomiting, and diarrhea.

INHALATION: Inhalation of dusts may irritate the nose, throat and upper respiratory tract.

CHRONIC: Long-term exposure may damage the lungs and respiratory tract.

TARGET ORGANS: Respiratory system, eyes, skin

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: May exacerbate preexisting lung and skin conditions.

SIGNS AND SYMPTOMS: Dermatitis, general eye, skin, and respiratory irritation.

CARCINOGENICITY: IARC: No* NTP: No OSHA: No

* IARC considers chromium(III) compounds unclassifiable as to carcinogenicity to humans (Group 3).

4. FIRST AID MEASURES

EYE CONTACT: Flush eyes with large amounts of lukewarm water for 15 minutes. If irritation persists, seek medical attention.

SKIN CONTACT: Remove contaminated clothing and wash skin thoroughly with soap and water. If irritation persists, seek medical attention. Thoroughly clean contaminated clothes and shoes before reuse.

INHALATION: Remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Seek memdical attention immediately.

OTHER: Adverse effects are not anticipated. If substantial ingestion occurs, seek medical attention.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

HMIS HAZARD CLASSIFICATION: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

FLAMMABLE LIMITS: LEL: Not Applicable UEL: Not Applicable

EXTINGUISHING MEDIA: Use media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARDS: Fire conditions may produce small amounts of hexavalent chromium and other oxidation products.

FIRE FIGHTING EQUIPMENT: Firefighters should wear a NIOSH/MSHA-approved full-facepiece self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turn out gear or bunker gear.

6. ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unauthorized and/or unprotected personnel. Clean up personnel should wear appropriate protective equipment including respiratory protection as necessary (See Section 8). Carefully shovel or sweep any spilled chromic oxide into a clean dry closed container. Dike spilled liquid material with suitable inert sorbent (i.e., sand, soil, vermiculite) and place in clean dry container for later recycle or disposal.

7. HANDLING AND STORAGE

Store away from incompatible materials. Keep containers closed when not in use. Wash hands thoroughly after handling, before leaving the work area, and before meals or breaks. Minimize dust creation. Remove any contaminated clothing and launder before re-use. Keep away from food.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: MSHA/NIOSH - Approved filter type dust respirator in accordance with the requirements of 29 CFR 1910.134.

SKIN PROTECTION: Protective gloves should be worn to prevent skin contact.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

EYE PROTECTION: Safety glasses or chemical safety goggles as necessary to prevent eye contact.

ENGINEERING CONTROLS: Local exhaust ventilation for procedures which generate dust.

PERSONNEL SAMPLING: Air sampling for chromium(III): Mixed cellulose ester filter, 0.8 μm (NIOSH 7024).

OTHER: Emergency eyewash stations and safety showers should be readily available.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Green powder
ODOR:	Odorless
BOILING POINT:	4000 °C
VAPOR PRESSURE (mm Hg):	Not Applicable
VAPOR DENSITY (Air = 1):	Not Applicable
SOLUBILITY IN WATER:	Insoluble
SPECIFIC GRAVITY (H_2O = 1)	5.1
MELTING POINT:	2266 °C
EVAPORATION RATE (H_2O = 1):	Not Applicable
pH:	No Data
% VOLATILE:	Not Applicable

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions and use.

INCOMPATIBILITY: Chromic oxide may react with molten alkali at high temperatures under oxidizing conditions. May react with lithium, nitroalkanes, dirubidium acetylide, oxygen difluoride and other strong oxidizers. Reaction with chlorine trifluoride produces flame. Contact between glycerol and chromic oxide may produce an explosion.

HAZARDOUS DECOMPOSITION PRODUCTS: A small amount (less than 0.1% as Cr) may convert to hexavalent chromium if this product is exposed to elevated temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Trivalent chromium has relatively low toxicity due to poor cell membrane permeability and noncorrosivity.

INGESTION: Chromic Oxide has no established oral toxicity.

SKIN: Dermatitis has been reported in workers handling trivalent chromium compounds.

EYE: No Data

INHALATION: No Data

CHRONIC: Preliminary study of 300 workers exposed for 20-25 years to Cr(III) as chromic oxide and chromic sulfate showed no differences from controls in respiratory illness and clinical or blood studies. Chromic oxide fed to rats in dosages up to 5% for two years produced no treatment related effects (NOEL).

SUBCHRONIC: No Data

12. ECOLOGICAL INFORMATION

FATE: Generally chromic oxide is removed from the atmosphere through wet and dry deposition. Chromic oxide particles < 20 μm aerodynamic diameter may remain airborne for long periods and may be transported long distances. Chromic oxide is not expected to be transported from the troposphere to the stratosphere. Chromic oxide is expected to remain unchanged following release into soil. The predominant form of chromium in soil probably is as insoluble chromic oxide.

ECOTOXICITY: Bioaccumulation of chromium from soil to above ground parts of plants is unlikely. There is no indication of biomagnification of chromium along the terrestrial food chain (soil-plant-animal).

13. DISPOSAL CONSIDERATIONS

Product does not exceed the RCRA extraction procedure limit of 5 ppm for total soluble chromium as shipped from the manufacturer. Wastes from this product may or may not be classified as a hazardous waste. Chemical processing of this product (particularly at elevated temperatures) can cause chemical reactions which produce substances which will exceed the RCRA limit. Wastes from this product should be tested to determine the proper waste classification. Incineration is not recommended as some trivalent chromium may convert to the hexavalent form.

Recycle, reclaim and dispose of in accordance with applicable local, state, and federal regulations. Dispose per 40 CFR Part 261 and 262.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION: Not classified

15. REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: Product is hazardous under criteria of this rule.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard
Delayed Health Hazard

SARA 313 INFORMATION: Chromic oxide is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 under the broad class of chromium compounds.

RESOURCE CONSERVATION AND RECOVERY (RCRA) ACT 40 CFR 261 SUBPART C: If this product becomes a waste, it may or may not be characterized as a hazardous waste (D007) as prescribed by the Resource Conservation and Recovery Act (RCRA) regulations.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT, 40 CFR Part 117, Part 304: Chromic oxide is a CERCLA hazardous substance included under the broad category of chromium compounds. No reportable quantity (RQ) has been listed for this broad class of compounds.

CLEAN AIR ACT (CAA): Chromium is designated as a hazardous air pollutant under Section 112 of the CAA.

CALIFORNIA PROPOSITION 65: Chromic Oxide is covered under Proposition 65 for hexavalent chromium. Appropriate warnings should be given.

16. OTHER INFORMATION

KEY:

ACGIH:	American Conference of Governmental Industrial Hygienists
IARC:	International Agency for Research on Cancer
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
MSHA:	Mine Safety and Health Administration
OSHA:	Occupational Safety and Health Administration
TLV:	Threshold Limit Value
PEL:	Permissible Exposure Limit

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