

**MATERIAL SAFETY DATA SHEET
FOR
THORN SMITH LABORATORIES
ANALYZED QUANTITATIVE UNKNOWNNS**

Chromium Ore for Cr
Catalog Number 80-1175

Manufacturer: Auric Enterprises, Inc.
d/b/a Thorn Smith Laboratories
Address: 7755 Narrow Gauge Road
Beulah, MI 49617
Phone Number: 231-882-4672
MSDS Number: TSL-018
Date Prepared: December 26, 1990
Date Updated: December 19, 2011

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS - Chemical Name & Common Names
(Hazardous Components 1% or greater; Carcinogens 0.1% or greater)

Chromium Oxide

Formula: Cr_2O_3
Formula Weight: 151.99
CAS No.: 1308-38-9
Common Synonyms: Chromic Oxide; Chrome Oxide Green
OSHA PEL: 0.5 mg/m^3
ACGIH TLV: 0.5 mg/m^3

Limestone Standard

Formula: Primarily carbonates of calcium, magnesium. Non-hazardous.
CAS No.: N/A
OSHA PEL: TWA 10 mg/m^3
ACGIH TLV: N/E
OTHER LIMITS: N/A

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 4000°C (7232°F) (Cr_2O_3); N/A Limestone
Specific Gravity ($\text{H}_2\text{O}=1$): 5.10 (Cr_2O_3); N/A Limestone
Vapor Pressure (mm Hg and Temperature): N/A
Melting Point: 2435°C (4415°F) (Cr_2O_3); N/A Limestone
Vapor Density (Air=1): N/A
Evaporation Rate (-1): N/A

Solubility in Water: Negligible (Cr₂O₃); N/A Limestone

Water Reactive: N/A

Appearance and Odor: Light to dark green crystals (Cr₂O₃); Off-white to buff or brown powder. Odorless.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method Used: N/A

Auto-Ignition Temperature: N/A

Flammability Limits in Air (% by volume): N/A

LEL: N/A UEL: N/A

Extinguisher Media: Use extinguishing media appropriate for surrounding fire.

Special Fire Fighting Procedures: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Unusual Fire and Explosion Hazards: Toxic gases produced: N/A

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY: Stable Unstable

Conditions to Avoid: Dusting (Cr₂O₃); N/A Limestone

Incompatibility (Materials to Avoid): Lithium, glycerol (Cr₂O₃); N/A Limestone

Hazardous Decomposition Products: No information found.

HAZARDOUS POLYMERIZATION: May Occur Will Not Occur

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY:

Inhalation Ingestion Skin Contact Eye Contact Not Hazardous

CARCINOGEN LISTED IN:

NTP OSHA IARC Monograph Not Listed

TOXICITY: No information found.

HEALTH HAZARDS - Acute:

Inhalation: Irritation of upper respiratory tract (Cr₂O₃).

Ingestion: May be harmful, gastrointestinal irritation (Cr₂O₃).

Skin Contact: May cause irritation (Cr₂O₃).

Eye Contact: May cause irritation.

HEALTH HAZARDS - Chronic: Blood and liver damage (Cr₂O₃).

Signs and Symptoms of Exposure: No information found.

Medical Conditions Generally Aggravated by Exposure: No information found.

EMERGENCY FIRST AID PROCEDURES - Seek medical assistance for further treatment, observation, and support if necessary.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes, lifting upper and lower

eyelids occasionally.
Ingestion: CALL A PHYSICIAN. If swallowed, if conscious, give large amounts of water. Induce vomiting. (Cr₂O₃)
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Skin Contact: Flush skin with water. (Cr₂O₃)

SARA/TITLE III HAZARD CATEGORIES AND LISTS

Acute: Yes (Cr₂O₃) Chronic: Yes (Cr₂O₃) Flammability: No Pressure: No Reactivity: No
Extremely Hazardous Substance: No
CERCLA Hazardous Substance: Yes (Cr₂O₃) Contains Chromium (RQ 1 lb.)
SARA 313 Toxic Chemicals: Yes (Cr₂O₃) Contains Chromium
Generic Class: Generic Class Removed from CFR 7-1-91
TSCA Inventory: Yes (Cr₂O₃)
State Lists: For products sold in the state of California, the state requires that we provide to users and their employees the following message: WARNING: THIS PRODUCT IS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER. (Cr₂O₃)

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (Specify Type): Required if airborne concentration exceeds TLV. At concentrations up to 1 ppm, a dust/mist respirator is recommended. Above this level, a self-contained breathing apparatus is advised. (Cr₂O₃)
Protective Gloves: Wear rubber gloves.
Eye Protection: Wear chemical safety goggles.
VENTILATION TO BE USED: Use adequate general or local exhaust ventilation to keep fume or dust levels as low as possible.
 Local Exhaust Mechanical (General) Special
 Other(Specify)
Other Protective Clothing and Equipment: Wear clean body-covering clothing.
Hygienic Work Practices: Avoid contact with eyes. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING & LEAK/USE PROCEDURES

Steps to be taken if material is spilled or released: Wear self-contained breathing apparatus and full protective clothing. With clean shovel, carefully place material into clean, dry container and cover; remove from area. Flush spill area with water. (Cr₂O₃)
Waste Disposal Methods: Dispose in accordance with all applicable local, state, federal environmental regulations.
Precautions to be taken in handling and storage: Keep in a tightly closed container. Store away from incompatibles. Store in accordance with all applicable local, state, and federal environmental regulations.
Other precautions and/or special hazards: No information available.
NFPA Rating: Health: **2** Flammability: **0** Reactivity: **1**
HMIS Rating: No information available.

SECTION 8 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

Domestic (D.O.T.)

Proper Shipping Name: Chemical, n.o.s. (Non-regulated)

International (T.M.O.)

Proper Shipping Name: Chemical, n.o.s. (Non-regulated)

AIR (I.C.A.O.)

Proper Shipping Name: Chemical, n.o.s. (Non-regulated)

The information published in this Material Safety Data Sheet has been compiled from our experience and data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and assume no liability resulting from its use. We reserve the right to revise Material Safety Data Sheets periodically as new information becomes available.