

SAFETY DATA SHEET

Preparation Date: 3/9/2017

Revision Date: 3/9/2017

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: C1255
Product Name: CHROMIUM OXIDE, GREEN, POWDER, PURIFIED

Other means of identification

Synonyms: Anhydride chromique [French]
C.I. 77288
C.I. Pigment Green 17
Chrome Green
Chrome Ocher
Chrome ochre
Chrome oxide
Chromic Acid Green
Chromic oxide
Chromium Oxide Green
Chromium oxide
Chromium sesquioxide
Chromium trioxide
Chromium(3+) oxide
Chromium(3+) trioxide
Chromium(III) oxide
Chromium(III) oxide (2:3)
Dichromium trioxide
Green Chrome Oxide
Green Oxide of Chromium
Green chromic oxide
Green chromium oxide
Green cinnabar
Oxide of chromium

CAS #: 1308-38-9
RTECS # GB6475000
CI#: 77288

Recommended use of the chemical and restrictions on use

Recommended use: Pigment.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000.

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300

Contact Person: Martin LaBenz (West Coast)

Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Not classified

Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Chromium Oxide	1308-38-9	100

4. FIRST AID MEASURES

First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms May cause eye/skin irritation. Health injuries are not known or expected under normal use.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

Chlorine trifluoride reacts violently with Chromium oxide producing flames. Contact between glycerol and Chromium oxide may produce explosion.

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Hygroscopic. Protect from moisture. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**National occupational exposure limits****United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Chromium Oxide	1308-38-9	0.5 mg/m ³ TWA (as Cr)	0.5 mg/m ³ TWA (as Cr)	0.5 mg/m ³ TWA (as Cr)	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Chromium Oxide	1308-38-9	0.5 mg/m ³ TWA (as Cr)	0.5 mg/m ³ TWA (as Cr)	0.5 mg/m ³ TWA (as Cr)	0.5 mg/m ³ TWAEV (as Cr)

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Chromium Oxide	1308-38-9	0.5 mg/m ³ TWA (as Cr)	0.5 mg/m ³ TWA (as Cr)

Appropriate engineering controls**Engineering measures to reduce exposure:**

Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment**Personal Protective Equipment**

Eye protection: Goggles or Safety glasses with side-shields

Skin and body protection: Long sleeved clothing
Gloves
Chemical resistant apron

Respiratory protection: Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or

smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: Powder.	Color: Dark green.
Odor: Odorless.	Taste No information available.	Formula: Cr2O3
Molecular/Formula weight: 151.99 g/mole	Flammability: No information available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): 2435°C (4415°F)	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): 4000°C (7232°F)	Bulk density: No information available	Density (g/cm3): No information available
Specific gravity: 5.21	pH: No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Practically insoluble in water Insoluble in Acetone Insoluble in Alcohol Slightly soluble in acids Slightly soluble with alkalies	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents

Turns brown on heating, but reverts to green color on cooling

Can react with molten alkali at very high temperature under oxidizing conditions

May react with chlorine trifluoride, lithium, nitroalkanes, oxygen difluoride, rubidium acetylide, and other strong oxidizers.

A vigorous reaction occurs between oxygen difluoride and chromium oxide.

A vigorous reaction occurs between oxygen difluoride and chromium oxide.

Chromium (III) compounds are reduced to Chromium (II) compounds by hypophosphites, concentrated perchloric acid, sodium bismuthate, permanganate, electrolysis, reducing metals such as zinc, magnesium and aluminum in acid solution.

In basic solution, Cr (III) is readily oxidized to CrO₄(-2) by hypochlorite, hypobromite, peroxide, and oxygen under pressure at high temperature.

Chromium oxide and rubidium acetylide react exothermically.

Chlorine trifluoride reacts violently with Chromium oxide producing flames

Contact between glycerol and Chromium oxide may produce explosion

Chemical stability

Stability: Hygroscopic. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Exposure to moisture. Exposure to moist air. Incompatible materials.

Incompatible Materials: Oxidizing agents

Hazardous decomposition products: No information available.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document
Component Information

Chromium Oxide	
CAS-No.	1308-38-9

LD50/oral/rat = No information available

LD50/oral/mouse = No information available

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = 621 mg/kg Oral LD50 mammal(species unspecified)

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =

Value - Acute Tox Oral = No information available

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

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VALUE - Gas = No information available
 VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation by mechanical action.
Eye Contact: May cause eye irritation.
Inhalation May cause irritation of respiratory tract.
Ingestion No information available. Health injuries are not known or expected under normal use. May cause digestive (gastrointestinal) tract irritation.
Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Inhalation: Contains trivalent chromium compound. As noted by ACGHI, in their publication, "Documentation of Threshold Limit Values" repeated and prolonged exposures may cause delayed effects involving the respiratory system such as chronic bronchitis, pulmonary edema, pneumoconiosis. Prolonged or repeated inhalation may affect the liver (fatty liver degeneration), thyroid, kidneys (renal failure, tubular necrosis).

Sensitization: No information available.

Mutagenic Effects: Experiments with bacteria and/or yeast have shown mutagenic effects
 Mutations in microorganisms
 Mutagenic effects in mammalian somatic cells

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Chromium Oxide	1308-38-9	Group 3 - Not Classified - Monograph 49 [1990] Supplement 7 [1987] Monograph 23 [1980] Monograph 2 [1973]	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

*IARC (International Agency for Research on Cancer)
 Group 3 - Not classifiable as to its carcinogenicity to humans
 NTP (National Toxicology Program)*

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.
Persistence and degradability: No information available
Bioaccumulative potential: No information available.
Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Chromium Oxide	1308-38-9	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Class No information available
Packing group: No information available
Emergency Response Guide Number No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No Information available

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Description: No information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available

IMO / IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No information available

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
ERG Code: No information available
Special Provisions No information available

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Chromium Oxide	1308-38-9	Present	Present KE-10237	Present	Present (1)-284	Present	Present	Present 215-160-9

U.S. Regulations

Chromium Oxide

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: sn 0434 (chromic oxide)
sn 2245 (chromium compounds)
New Jersey (EHS) List: SN 2245 500lb. TPQ (chromium compounds)
New Jersey - Discharge Prevention - List of Hazardous Substances: Present (chromium compounds)
Minnesota - Hazardous Substance List: Present (chromium (III) compounds)
Louisana Reportable Quantity List for Pollutants: 100 lb RQ (chromium compounds)

Product code: C1255

Product name: CHROMIUM OXIDE,
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California Directors List of Hazardous Substances: Present (chromium compounds)

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Chromium Oxide	1308-38-9	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Chromium Oxide	1308-38-9	None	None	None	Chromium (III) compounds	1.0%

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Chromium Oxide	1308-38-9	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

Non-controlled

Components
Chromium Oxide

WHIMHAZ

Uncontrolled product according to WHMIS classification criteria

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Chromium Oxide	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Chromium Oxide	1308-38-9	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Chromium Oxide	1308-38-9	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Chromium Oxide	1308-38-9	Not listed

EU Classification

R-phrase(s)

not determined (not applicable)

S -phrase(s)

Product code: C1255

Product name: CHROMIUM OXIDE,
GREEN, POWDER, PURIFIED

none

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Chromium Oxide	1308-38-9		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

None.

16. OTHER INFORMATION

Preparation Date: 3/9/2017
Revision Date: 3/9/2017
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet