

SAFETY DATA SHEET

Creation Date 21-Sep-2010

Revision Date 24-Dec-2021

Revision Number 4

1. Identification

Product Name Chromic oxide

Cat No. :

CAS No 1308-38-9
Synonyms Chromium (III) oxide; Chrome Green; Chromic sesquioxide (Powder/Technical/Certified)

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Stanford Advanced Materials
Address : 23661 Birtcher Dr.,
Lake Forest, CA 92630 U.S.A.
Tel: (949) 407-8904
Fax: (949) 812-6690

Emergency Telephone Number (949) 407-8904
(This telephone number is available 24 hours per day, 7 days per week.)

2. Hazard(s) identification

Classification

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

Label Elements

None required

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS No | Weight % |
|----------------------|-----------|----------|
| Chromium (III) oxide | 1308-38-9 | 99 |

4. First-aid measures

| | |
|--|--|
| Eye Contact | Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if symptoms occur. |
| Skin Contact | Rinse skin with water. Get medical attention if symptoms occur. |
| Inhalation | Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration. |
| Ingestion | Do NOT induce vomiting. Get medical attention if symptoms occur. |
| Most important symptoms and effects | No information available. |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | Not applicable |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Non-combustible. None reasonably foreseeable.

Hazardous Combustion Products

No information available.

Protective Equipment and Precautions for Firefighters

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

NFPA

| | | | |
|---------------|---------------------|--------------------|-------------------------|
| Health | Flammability | Instability | Physical hazards |
| 1 | 0 | 1 | N/A |

6. Accidental release measures

| | |
|-----------------------------|--|
| Personal Precautions | Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes or clothing. |
|-----------------------------|--|

Environmental Precautions Avoid release to the environment.

Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Metals.

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|----------------------|-----------|--------------------------------------|--|----------------------------|
| Chromium (III) oxide | | (Vacated) TWA: 0.5 mg/m ³ | IDLH: 25 mg/m ³ TWA: 0.5 mg/m ³ | TWA: 0.5 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures None under normal use conditions.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection No protective equipment is needed under normal use conditions.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|---|--------------------------|
| Physical State | Powder Solid |
| Appearance | Green |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | 5-7 |
| Melting Point/Range | 2435 °C / 4415 °F |
| Boiling Point/Range | 4000 °C / 7232 °F |
| Flash Point | Not applicable |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | 5.210 |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |

| | |
|----------------------------------|--------------------------------|
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | Not applicable |
| Molecular Formula | Cr ₂ O ₃ |
| Molecular Weight | 151.99 |

10. Stability and reactivity

| | |
|---|--|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. Hygroscopic. |
| Conditions to Avoid | Avoid dust formation. Incompatible products. Exposure to moisture. |
| Incompatible Materials | Metals |
| Hazardous Decomposition Products | No information available |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|----------------------|---------------------------|-------------|------------------------------|
| Chromium (III) oxide | LD50 > 5000 mg/kg (Rat) | Not listed | LC50 > 5.41 mg/L (Rat) 4 h |

Toxicologically Synergistic Products No information available

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

| | |
|------------------------|--|
| Irritation | No information available |
| Sensitization | No information available |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|----------------------|-----------|------------|------------|------------|------------|------------|
| Chromium (III) oxide | 1308-38-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

| | |
|--|---------------------------|
| Mutagenic Effects | No information available |
| Reproductive Effects | No information available. |
| Developmental Effects | No information available. |
| Teratogenicity | No information available. |
| STOT - single exposure | None known |
| STOT - repeated exposure | None known |
| Aspiration hazard | No information available |
| Symptoms / effects,both acute and delayed | No information available |
| Endocrine Disruptor Information | No information available |

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.

12. Ecological information

Ecotoxicity

Do not empty into drains. .

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|----------------------|------------------|--|------------|------------|
| Chromium (III) oxide | Not listed | LC50: > 10000 mg/L, 96h static (Danio rerio) | Not listed | Not listed |

Persistence and Degradability Insoluble in water

Bioaccumulation/ Accumulation No information available.

Mobility Is not likely mobile in the environment due its low water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. Regulatory information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|----------------------|-----------|------|---|-----------------------------|
| Chromium (III) oxide | 1308-38-9 | X | ACTIVE | - |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|----------------------|-----------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Chromium (III) oxide | 1308-38-9 | X | - | 215-160-9 | X | X | X | X | X | KE-10237 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313

| Component | CAS No | Weight % | SARA 313 - Threshold Values % |
|----------------------|-----------|----------|-------------------------------|
| Chromium (III) oxide | 1308-38-9 | 99 | 1.0 |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|----------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Chromium (III) oxide | - | - | X | - |

Clean Air Act

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|----------------------|-----------|-------------------------|-------------------------|
| Chromium (III) oxide | X | | - |

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|----------------------|---------------|------------|--------------|----------|--------------|
| Chromium (III) oxide | X | X | X | X | X |

U.S. Department of Transportation

Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|----------------------|---|---|---|
| Chromium (III) oxide | - | Use restricted. See item 75. (see link for restriction details) | - |

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|----------------------|-----------|----------|------------------------------|---------------------------|--|
| Chromium (III) oxide | 1308-38-9 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|----------------------|-----------|---|--|----------------------------|------------------------------------|
| Chromium (III) oxide | 1308-38-9 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other information

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS