SAFETY DATA SHEET
Chromium oxide green

1. Identification

Product identifier

Product name: Chromium oxide green
Product number: 5320, 5371, 5376
CAS number: 1308-38-9

Recommended use of the chemical and restrictions on use

Application: Industrial color

Details of the supplier of the safety data sheet

Supplier: Huntsman Pigments Americas LLC
P.O. Box 4980
The Woodlands, TX 77387
+1 301 210 3400 / +1 323 269 7311
MSDS@huntsman.com

Emergency telephone number

Emergency telephone: CHEMTREC: (800) 424-9300 (Contract No: 191118)

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status: This Product is Hazardous under the OSHA Hazard Communication Standard.

Physical hazards: Not Classified
Health hazards: Not Classified
Environmental hazards: Not Classified

Label elements

Hazard statements: NC Not Classified

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/Information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>CHROMIUM (III) OXIDE</th>
<th>&gt; 98%</th>
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</thead>
<tbody>
<tr>
<td>CAS number: 1308-38-9</td>
<td>REACH registration number: Proprietary</td>
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</tbody>
</table>

Classification

Not Classified

The Full Text for all Hazard Statements are Displayed in Section 16.
Chromium oxide green

Composition comments
Pigment Green 17, C.I. 77288

4. First-aid measures

Description of first aid measures

Inhalation
If exposed to excessive levels of dust or fumes, remove to fresh air. Get medical attention if cough or other symptoms develop.

Ingestion
Contact physician if larger quantity has been consumed.

Skin Contact
Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

Eye contact
Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.

Most important symptoms and effects, both acute and delayed

Inhalation
Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

Ingestion
Due to the physical nature of this material it is unlikely that swallowing will occur.

Skin contact
Prolonged contact may cause redness, irritation and dry skin.

Eye contact
May cause temporary eye irritation.

Indication of immediate medical attention and special treatment needed

Notes for the doctor
No specific recommendations.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Flammability Class
No Uniform Fire Code noted.

Specific hazards
Fire conditions may produce small amounts of hexavalent chromium.

Advice for firefighters

Protective actions during firefighting
N/A

Special protective equipment for firefighters
Use protective equipment appropriate for surrounding materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
For personal protection, see Section 8.

Environmental precautions

Environmental precautions
Avoid spreading dust or contaminated materials. Avoid discharge into drains or watercourses or onto the ground. Avoid the spillage or runoff entering drains, sewers or watercourses.
Chromium oxide green

Methods for cleaning up
Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Avoid generation and spreading of dust. Avoid the spillage or runoff entering drains, sewers or watercourses.

Reference to other sections
For personal protection, see Section 8.

7. Handling and storage

Precautions for safe handling
Usage precautions
Do not eat, drink or smoke when using the product. Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. For pallets wrapped in polyethylene plastic, removal may cause an electrostatic spark; removal of the wrap should not be done in the presence of flammable vapors.

Conditions for safe storage, including any incompatibilities
Storage precautions
Keep container dry.

Specific end uses(s)
The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters
Occupational exposure limits
CHROMIUM (III) OXIDE
Long-term exposure limit (8-hour TWA): ACGIH 0.5 mg/m³
Short-term exposure limit (15-minute): ACGIH

ACGIH = American Conference of Governmental Industrial Hygienists.

Ingredient comments
Threshold Limit Values (2005), ACGIH, by the American Conference on Governmental Industrial Hygienists.

Exposure controls
Protective equipment
Appropriate engineering controls
Provide adequate ventilation. Avoid inhalation of dust. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection
The following protection should be worn: Chemical splash goggles.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

Other skin and body protection
Provide eyewash station and safety shower.

Hygiene measures
No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. Wash hands at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection
A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator’s use.
Chromium oxide green

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance
Dusty powder.

Color
Green.

Odor
Odorless.

pH
pH (concentrated solution): pH (diluted solution): 5 - 9 @ 10%

Melting point
2266°C

Initial boiling point and range
Not relevant.

Relative density
5.1 @ kg/m³°C

Bulk density
600-1500 kg/m³

Solubility(ies)
Insoluble @ °C Insoluble in water.

Other information
No information required.

Volatile organic compound
This product contains a maximum VOC content of None.

10. Stability and reactivity

Reactivity
The following materials may react with the product: molten alkali at high temperature chlorine trifluoride producing flame glycerol - may produce an explosion

Stability
Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous reactions
Will not polymerize.

Conditions to avoid
Water, moisture.

Materials to avoid
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 with glycerol and chromic oxide may produce an explosion.

Hazardous decomposition products
A small amount (<0.1% as Cr) of reversion to hexavalent chromium may occur if the dry chromium (III) oxide powder is exposed to elevated temperatures.

11. Toxicological Information

Information on toxicological effects

Toxicological effects
From literature surveys undertaken for Chromium (III) oxide in powder form: LD₅₀: >5000 mg/kg (oral rat). Chromic oxide fed to rats in dosages up to 5% for 2 years produced no treatment related effects.[Ivankovic S. & Preussman R., Food Cosmet. Toxicol. 13, 347-351 (1975).] Dermal: non-irritant Rabbit skin (24 h)

Other health effects
IARC Not Listed. NTP Not Listed. OSHA Not Regulated. This product is a trivalent chromium compound that contains less than 100 ppm hexavalent chromium. Trivalent chromium is not specifically listed as a carcinogen by NTP, IARC or ACGIH.

Acute toxicity - oral
Acute toxicity oral (LD₅₀ mg/kg)
5,000.0
Chromium oxide green

**Acute toxicity - inhalation**

**Acute toxicity inhalation (LC₅₀ dust/mist mg/l)** 5.41

**General information**

No specific health hazards known.

**Inhalation**

Dust may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing. Prolonged inhalation may be harmful.

**Ingestion**

No harmful effects expected from quantities likely to be ingested by accident. Possible nausea or diarrhea if large amounts ingested.

**Skin contact**

No specific health hazards known. Substance may cause slight skin irritation.

**Eye contact**

Dust in the eyes will cause irritation. May cause slight irritation.

**Route of entry**

Inhalation Skin absorption Ingestion. Skin and/or eye contact

### 12. Ecological Information

**Ecotoxicity**

From literature surveys undertaken for Chromium (III) oxide in powder form:- Aquatic toxicity (fish) = Zebra barb.: LC0 (96 hours): >10000 mg/l Bacterial toxicity: harmless against Escherichia coli at 1000 mg/l and Pseudomonas fluorescens at >10000 mg/l. Water hazard classification: according to the present state of knowledge, this pigment slurry is not hazardous to water. Biological or Chemical Oxygen Demand: Slight.

**Toxicity**

Not considered toxic to fish.

**Persistence and degradability**

The product contains only inorganic substances which are not biodegradable.

**Bioaccumulative potential**

Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

**Mobility in soil**

The product is insoluble in water.

**Results of PBT and vPvB assessment**

This product does not contain any substances classified as PBT or vPvB.

**Other adverse effects**

None known.

### 13. Disposal considerations

**Waste treatment methods**

**General information**

Waste to be treated as controlled waste. Disposal in accordance with federal, state and local regulations.

**Disposal methods**

Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 14. Transport information
Chromium oxide green

General
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DoT).

UN Number
Not applicable.

UN proper shipping name
Not applicable.

Transport hazard class(es)
Not applicable.

DOT hazard class
Not regulated.

DOT hazard label
No DOT label requirement noted

Packing group
Not applicable.

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
Not applicable.

Transport in bulk according to
Annex II of MARPOL 73/78
and the IBC Code

15. Regulatory information

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

<table>
<thead>
<tr>
<th>CHROMIUM (III) OXIDE</th>
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<td>0.10 %</td>
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CAA Accidental Release Prevention
None of the ingredients are listed or exempt.

US State Regulations
State Regulations Comments
California Prop 65 Warning: This product contains chemicals, as trace impurities and not intentionally added, known to the state of California to cause cancer (C) and birth defects or other reproductive (R) harm.

Massachusetts "Right To Know" List
Chromium oxide green

CHROMIUM (III) OXIDE
Yes.

Rhode Island “Right To Know” List
CHROMIUM (III) OXIDE
Not listed.

Minnesota “Right To Know” List
CHROMIUM (III) OXIDE
Not listed.

New Jersey “Right To Know” List
CHROMIUM (III) OXIDE
Yes.

Pennsylvania “Right To Know” List
CHROMIUM (III) OXIDE
Not listed.

Inventories
EU - EINECS/ELINCS
EINECS
All the ingredients are listed or exempt.

Canada - DSL/NDSL
DSL
All the ingredients are listed or exempt.

US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
No.

Australia - AICS
All the ingredients are listed or exempt.

Japan - MITI
All the ingredients are listed or exempt.

Korea - KECI
All the ingredients are listed or exempt.

China - IECSC
All the ingredients are listed or exempt.

Philippines - PICCS
All the ingredients are listed or exempt.

New Zealand - NZIOC
All the ingredients are listed or exempt.

16. Other Information

Revision date 6/23/2015
Chromium oxide green

Revision: 16
Supersedes date: 6/19/2015
SDS No.: 21304
SDS status: Approved.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.