

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****1.1 Product identifier**

Name: CHROME OXIDE GREEN

Synonym: Cr<sub>2</sub>O<sub>3</sub>; chromium oxide greens; chromium(III) oxide; chromia; chromium(3+) oxide; chromic oxide; chromium green oxide; C.I. 77288;dichromium trioxide; Green Cinnabar; Ultramarine green; Green rouge; chromium (III) oxide Cr<sub>2</sub>O<sub>3</sub>; Chrome oxide green; casalis green;chromium sesquioxide; leaf green; oil green; green chromic oxide; Merck Chromium (III) oxide GPR (chromic oxide); Chromium Green OxideM100; hematite, chromium green black (CAS RN: 68909-79-5); haematite, chromium green black; C.I. Constitution No. 77288; CPMA 3-05-3;Acanthus Green; Acqua Blue; Chromium Oxide Green Deep; Chromium Oxide Green (Opaque); Chromium Oxide Light; Chromium Oxyd Green;Lamoriniere Green; Opaque Oxide of Chromium; Oxide of Chromium; Oxide of Chromium Green; chromium oxide green;

CAS Number: 1308-38-9

EC number: 215-160-9

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Application of the substance / the preparation:

Industrial uses: Uses of substances as such or in preparations at industrial sites

Uses advised against: No further relevant information available.

**1.3 Details of the supplier of the safety data sheet**

Manufacturer: Xi'an Delike Chemical Co., Ltd.

Address No.: Room 8-2608, Mingyue Hongcheng, No. 8, Liyuan Road, Weiyang District, Xi'an, Shaanxi, China

Emergency Tel: +86 (0)29 8579 5526

Email: sales@delikechem.com

**2. HAZARD(S) IDENTIFICATION****Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

OSHA Regulatory	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

#### Chemical characterisation: Substances

CAS No. Description

1308-38-9 CHROMIUM (III) OXIDE

Identification number(s)

EC number: 215-160-9

Composition comments: Pigment Green 17, C.I. 77288

SVHC

CAS: 1308-38-9

CHROMIUM (III) OXIDE

> 98%

### 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures

<b>Inhalation</b>	If exposed to excessive levels of dust or fumes, remove to fresh air. Get medical attention if cough or other symptoms develop.
<b>Ingestion</b>	Contact physician if larger quantity has been consumed.
<b>Skin Contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
<b>Eye contact</b>	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.

**4.2 Most important symptoms and effects, both acute and delayed**

<b>Inhalation</b>	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
<b>Ingestion</b>	Due to the physical nature of this material it is unlikely that swallowing will occur.
<b>Skin Contact</b>	Prolonged contact may cause redness, irritation and dry skin.
<b>Eye contact</b>	May cause temporary eye irritation.

**4.3 Indication of immediate medical attention and special treatment needed**

<b>Notes for the doctor</b>	No specific recommendations.
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**5. FIREFIGHTING MEASURES****5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	Use fire-extinguishing media suitable for the surrounding fire.
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**5.2 Special hazards arising from the substance or mixture**

<b>Flammability Class</b>	Flammability Class
<b>Specific hazards</b>	Fire conditions may produce small amounts of hexavalent chromium.

**5.3 Advice for firefighters**

<b>Protective actions during firefighting</b>	N/A
<b>Special protective equipment for firefighters</b>	Use protective equipment appropriate for surrounding materials.

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	For personal protection, see Section 8.
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**6.2 Environmental precautions:**

<b>Environmental precautions</b>	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.
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**6.3 Methods and material for containment and cleaning up:**

<b>Methods for cleaning up</b>	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.
<b>Reference to other sections</b>	Reference to other sections

**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

<b>Usage precautions</b>	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.
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**7.2 Conditions for safe storage, including any incompatibilities**

<b>Storage precautions</b>	Keep container dry.
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**7.3 Specific end use(s)**

<b>Specific end use(s)</b>	The identified uses for this product are detailed in Section 1.2.
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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters**

Occupational exposure limits

**CHROMIUM (III) OXIDE**Long-term exposure limit (8-hour TWA): ACGIH 0.5 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH

ACGIH = American Conference of Governmental Industrial Hygienists.

<b>Ingredient comments</b>	Threshold Limit Values (2005), ACGIH, by the American Conference on Governmental Industrial Hygienists.
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**8.2 Exposure controls****Personal protective equipment:**

<b>Appropriate engineering controls</b>	Provide adequate ventilation. Avoid inhalation of dust. Observe any occupational exposure limits for the product or ingredients.
<b>Eye/face protection</b>	The following protection should be worn: Chemical splash goggles.
<b>Hand protection</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.
<b>Other skin and body protection</b>	Provide eyewash station and safety shower.
<b>Hygiene measures</b>	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.
<b>Respiratory protection</b>	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.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Appearance:</b>	Dusty powder.
<b>Form:</b>	Crystalline
<b>Colour:</b>	Green.
<b>Odour:</b>	Odorless.
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	pH (concentrated solution): pH (diluted solution): 5 - 9 @ 10%
<b>Change in condition</b>	
<b>Melting point/freezing point:</b>	Not determined.

<b>Initial boiling point and boiling range:</b>	Not applicable.
<b>Flash point:</b>	Not applicable.
<b>Flammability (solid, gas):</b>	Product is not flammable.
<b>Ignition temperature:</b>	Not determined.
<b>Decomposition temperature:</b>	2266°C
<b>Initial boiling point and range</b>	Not relevant.
<b>Relative density</b>	5.1 @ kg/m <sup>3</sup> °C
<b>Bulk density</b>	600-1500 kg/m <sup>3</sup>
<b>Solubility(ies)</b>	Insoluble @ °C Insoluble in water.
<b>Other information</b>	No information required.
<b>Volatile organic compound</b>	Volatile organic compound

**9.2 Other information: No further relevant information available.**

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

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

### 10.2 Chemical stability

Stable at normal ambient temperatures and when used as recommended.

#### **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

### 10.3 Possibility of hazardous reactions

Will not polymerize.

### 10.4 Conditions to avoid

Water, moisture.

### 10.5 Materials to avoid

Chomic 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.

**10.6 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****11.1 Information on toxicological effects**

<b>Toxicological effects</b>	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)
<b>Other health effects</b>	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.
<b>Acute toxicity oral</b> <b>(LD<sub>50</sub>mg/kg)</b>	5,000.0
<b>Acute toxicity inhalation</b> <b>(LC<sub>50</sub>dust/mist mg/l)</b>	5.41
<b>General information</b>	No specific health hazards known.
<b>Inhalation</b>	Dust may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing. Prolonged inhalation may be harmful.
<b>Ingestion</b>	No harmful effects expected from quantities likely to be ingested by accident. Possible nausea or diarrhea if large amounts ingested.
<b>Skin Contact</b>	No specific health hazards known. Substance may cause slight skin irritation.
<b>Eye contact</b>	Dust in the eyes will cause irritation. May cause slight irritation.
<b>Route of entry</b>	Inhalation Skin absorption Ingestion. Skin and/or eye contact

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**12. Ecological information****12.1 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.

**12.2 Persistence and degradability**

The product contains only inorganic substances which are not biodegradable.

**12.3 Bioaccumulative potential**

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

**12.4 Mobility in soil**

The product is insoluble in water.

**12.5 Results of PBT and vPvB assessment**

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

**12.6 Other adverse effects**

No further relevant information available.

**12.7 General information**

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

**12.8 Toxicity**

Not considered toxic to fish.

**13. Disposal considerations****13.1 Waste treatment methods**

<b>General information</b>	Waste to be treated as controlled waste. Disposal in accordance with federal, state and local regulations.
<b>Disposal methods</b>	Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal



**Waste class**

site in accordance with the requirements of the local Waste Disposal Authority.

Product does not exceed the RCRA extraction procedure limit of 5 PPM for total soluble chromium as shipped from the manufacturer. This product when discarded as sold is not an RCRA hazardous waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40CFR261.20-24). Chemical processing of this product (particularly at elevated temperatures) can cause chemical reactions which produce substances which will exceed the RCRA limits. 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.

**14. Transport information**

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

**14.1 UN-Number**

Not applicable.

**14.2 UN proper shipping name**

Not applicable.

**14.3 Transport hazard class(es)**

Not applicable.

**14.4 Packing group**

Not applicable.

**14.5 Environmental hazards**

No.

**14.6 Special precautions for user**

Not applicable.

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

**15. Regulatory information**

**15.1 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**

<b>CHROMIUM (III) OXIDE</b>	0.10 %
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**CAA Accidental Release Prevention**

None of the ingredients are listed or exempt.

**15.2 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**

<b>CHROMIUM (III) OXIDE</b>	Yes.
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**Rhode Island "Right To Know" List**

<b>CHROMIUM (III) OXIDE</b>	Not listed.
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**Minnesota "Right To Know" List**

<b>CHROMIUM (III) OXIDE</b>	Not listed.
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**New Jersey "Right To Know" List**

<b>CHROMIUM (III) OXIDE</b>	Yes.
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**Pennsylvania "Right To Know" List**

<b>CHROMIUM (III) OXIDE</b>	Not listed.
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**15.3 Inventories**

<b>EU - EINECS/ELINCS</b>	EINECS	All the ingredients are listed or exempt.
<b>Canada - DSL/NDSL</b>	DSL	All the ingredients are listed or exempt.
<b>US - TSCA</b>		All the ingredients are listed or exempt.
<b>US - TSCA 12(b) Export</b>		NO
<b>Notification</b>		
<b>Australia - AICS</b>		All the ingredients are listed or exempt.
<b>Japan - MITI</b>		All the ingredients are listed or exempt.
<b>Korea - KECI</b>		All the ingredients are listed or exempt.
<b>China - IECSC</b>		All the ingredients are listed or exempt.
<b>Philippines - PICCS</b>		All the ingredients are listed or exempt.
<b>New Zealand - NZIOC</b>		All the ingredients are listed or exempt.

**16. Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing SDS:**

Xi'an Delike Chemical Co., Ltd.

Email: sds@delikechem.com

**Abbreviations and acronyms:**

**REACH:** Registration, Evaluation, Authorisation and Restriction of Chemicals

**MARPOL:** (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships

**IBC Code:** International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

**UN:** United Nations (also UNO: United Nations Organization)

**NOEC:** No Observed Effect Concentration

**OECD:** Organisation for Economic Co-operation and Development

**ASTM:** American Society for Testing and Materials

**WAF:** Water Accommodated Fraction

**ADR:** Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

**IMDG:** International Maritime Code for Dangerous Goods

**IATA:** International Air Transport Association

**GHS:** Globally Harmonised System of Classification and Labelling of Chemicals

**EINECS:** European Inventory of Existing Commercial Chemical Substances

**CAS:** Chemical Abstracts Service (division of the American Chemical Society)

**DNEL:** Derived No-Effect Level (REACH)

**PNEC:** Predicted No-Effect Concentration (REACH)

**LC50:** Lethal concentration, 50 percent

**LD50:** Lethal dose, 50 percent

**PBT:** Persistent, Bioaccumulative and Toxic

**SVHC:** Substances of Very High Concern

**vPvB:** very Persistent and very Bioaccumulative

**Ox. Sol. 1:** Oxidizing solids – Category 1

**Acute Tox. 3:** Acute toxicity – Category 3

**Acute Tox. 2:** Acute toxicity – Category 2

**Skin Corr. 1A:** Skin corrosion/irritation – Category 1A

**Resp. Sens. 1:** Respiratory sensitisation – Category 1

**Skin Sens. 1:** Skin sensitisation – Category 1

**Muta. 1B:** Germ cell mutagenicity – Category 1B

**Carc. 1A:** Carcinogenicity – Category 1A

**Repr. 2:** Reproductive toxicity – Category 2

**STOT SE 3:** Specific target organ toxicity (single exposure) – Category 3

**STOT RE 1:** Specific target organ toxicity (repeated exposure) – Category 1

**Aquatic Acute 1:** Hazardous to the aquatic environment - acute aquatic hazard – Category 1

**Aquatic Chronic 1:** Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

**\* Data compared to the previous version altered.**