

CHROMIUM OXIDE GREEN GB4500, GB6500, GB8500

Version 0.0 Revision Date: 11/30/2017 SDS Number: 400000005735 Date of last issue: 11/30/2017
Date of first issue: 11/30/2017

SECTION 1. IDENTIFICATION

Product name : CHROMIUM OXIDE GREEN GB4500, GB6500, GB8500

Manufacturer or supplier's details

Company name of supplier : Venator Materials Corporation
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America (USA)
Telephone : TechInfo: (800) 367-8462

E-mail address of person responsible for the SDS : msds@venatorcorp.com

Emergency telephone number : USA & Canada: +1-800-424-9300 Other Americas: +1-703-741-5970 [CCN 820025]

Recommended use of the chemical and restrictions on use

Recommended use : Industrial use
Colouring agents, pigments

Restrictions on use : Do not use for cosmetics, food additives, drug additives, feed additives or permanent implant applications., Due to lack of related experience or data, the supplier cannot approve this use.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
chromium (III) oxide	1308-38-9	90 - 100

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The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

- | | |
|---|---|
| General advice | : Consult a physician. |
| If inhaled | : If breathed in, move person into fresh air.
Get medical attention if symptoms occur. |
| In case of skin contact | : Wash off with soap and water.
Call a physician if irritation develops or persists. |
| In case of eye contact | : Rinse with water.
If eye irritation persists, consult a specialist. |
| If swallowed | : Rinse mouth with water.
If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
If symptoms persist, call a physician. |
| Most important symptoms and effects, both acute and delayed | : Dust contact with the eyes can lead to mechanical irritation.
Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
The product is not irritant but as with all fine powders can absorb moisture and natural oils from the surface of the skin during prolonged exposure.
Individuals with sensitive skin may experience skin drying on prolonged or repeated exposure. |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training. |
| Notes to physician | : No specific measures identified. |

SECTION 5. FIREFIGHTING MEASURES

- | | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Dry powder
Carbon dioxide (CO ₂) |
| Unsuitable extinguishing media | : High volume water jet |

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- Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions.
- Hazardous combustion products : Cr(VI): Hexavalent chromium
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Standard procedure for chemical fires.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Avoid dust formation.
Remove all sources of ignition.
Never return spills in original containers for re-use.
Treat recovered material as described in the section "Disposal considerations".
For disposal considerations see section 13.
- Environmental precautions : No special environmental precautions required.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.
Sweep up or vacuum up spillage and collect in suitable container for disposal.
Avoid creating dusty conditions and prevent wind dispersal.
Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Minimize dust generation and accumulation.
Avoid formation of respirable particles.
Avoid inhalation, ingestion and contact with skin and eyes.
Avoid exposure - obtain special instructions before use.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

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- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : Keep in a dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
chromium (III) oxide	1308-38-9	TWA	0.5 mg/m ³ (chromium)	OSHA Z-1
		TWA	0.5 mg/m ³ (chromium)	ACGIH

- Engineering measures** : Maintain air concentrations below occupational exposure standards.

Personal protective equipment

- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines
- Hand protection
Remarks : For prolonged or repeated contact use protective gloves.
- Eye protection : Safety glasses
Ensure that eyewash stations and safety showers are close to the workstation location.
- Skin and body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Protective measures : Wear suitable protective equipment.
- Hygiene measures : Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Barrier creams may help to protect the exposed areas of skin, they should however not be applied once exposure has occurred.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: powder
Colour	: green
Odour	: odourless
Odour Threshold	: No data is available on the product itself.
pH	: 5 - 8 Concentration: 10 %
Melting point	: 2,266 °C
Boiling point	: No data is available on the product itself.
Flash point	: No data is available on the product itself.
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: No data is available on the product itself.
Density	: No data is available on the product itself.
Bulk density	: 600 - 1,500 kg/m ³
Solubility(ies)	
Water solubility	: insoluble
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Thermal decomposition	: No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	: No data is available on the product itself.

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Viscosity : No data is available on the product itself.

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable at normal ambient temperature and pressure.
Stable under recommended storage conditions.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Reacts with the following substances:
May react with molten alkali at high temperatures under oxidizing conditions.
chlorine trifluoride producing flame
glycerol - may produce an explosion
Stable under recommended storage conditions.

Conditions to avoid : Exposure to moisture

Incompatible materials : May react with molten alkali at high temperatures under oxidizing conditions.
Lithium
nitroalkanes
dirubidium acetylide
oxygen difluoride
Strong oxidizing agents
chlorine trifluoride producing flame
glycerol - 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.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Acute toxicity (other routes of administration) : No data available

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Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Assessment: No data available

Germ cell mutagenicity

Genotoxicity in vitro : No data available

Genotoxicity in vivo : No data available

Carcinogenicity

No data available

Carcinogenicity - Assessment : No data available

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Effects on fertility : No data available

Effects on foetal development : No data available

Reproductive toxicity - Assessment : No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

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Repeated dose toxicity

No data available

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Ingestion: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity**

Toxicity to fish : No data available

Toxicity to daphnia and other aquatic invertebrates : No data available

Toxicity to algae : No data available

M-Factor (Acute aquatic : No data available

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toxicity)

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No data available

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to microorganisms : No data available

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability

Biodegradability - Product : Result: Not readily biodegradable.

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

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Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation - Product : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : No data available

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment - Product : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

Global warming potential (GWP) : No data available

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SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

- Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of wastes in an approved waste disposal facility.
- Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA**

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

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

Not applicable for product as supplied.

National Regulations**DOT Classification**

Not regulated as dangerous goods

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act**

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

chromium (III) oxide	1308-38-9	>= 90 - <= 100 %
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The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

chromium (III) oxide	1308-38-9
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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), birth defects (M) or other reproductive (R) harm.

The components of this product are reported in the following inventories:

CH INV : On the inventory, or in compliance with the inventory
 DSL : All components of this product are on the Canadian DSL
 AICS : On the inventory, or in compliance with the inventory
 NZIoC : On the inventory, or in compliance with the inventory
 ENCS : On the inventory, or in compliance with the inventory
 KECI : On the inventory, or in compliance with the inventory
 PICCS : On the inventory, or in compliance with the inventory
 IECSC : On the inventory, or in compliance with the inventory
 TCSI : On the inventory, or in compliance with the inventory
 TSCA : On the inventory, or in compliance with the inventory

Inventories

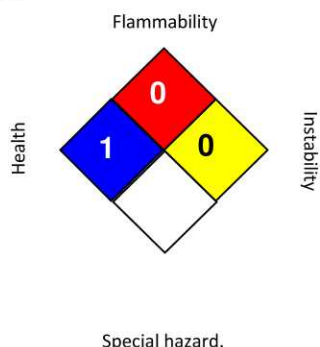
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION**Further information****NFPA:****HMIS® IV:**

HEALTH	*	1
FLAMMABILITY		0
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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

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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.

LABEL CODE : N/A

Sources of key data used to compile the Safety Data Sheet : Information taken from reference works and the literature., Information derived from practical experience.

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ACGIH : USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1
Limits for Air Contaminants
ACGIH / TWA : 8-hour, time-weighted average
OSHA Z-1 / TWA : 8-hour time weighted average

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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