

# Material Safety Data Sheet

According to regulation (EC) No. 1907/2006 (REACH)



## 44250 Viridian Green

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Revised edition: 15.02.2013

Version: 1

Printed: 10.06.2015

### 1. Identification of the Substance/Mixture and of the Company/Undertaking

#### 1.1. Product Identifier

Product Name: Viridian Green

Article No.: 44250

#### 1.2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:

Colorant in cosmetics, artists colors, paints and coatings; catalyts.

Uses advised against:

#### 1.3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

Company: Kremer Pigmente GmbH & Co. KG

Address: Hauptstr. 41-47, 88317 Aichstetten, Germany

Tel./Fax.: Tel +49 7565 914480, Fax +49 7565 1606

Internet: www.kremer-pigmente.de

E-Mail: info@kremer-pigmente.de

Importer: --

#### 1.4. Emergency No.

Emergency No.: +49 7565 914480 (Mon-Fri 8:00 - 17:00)

### 2. Hazards Identification

#### 2.1. Classification of the Substance or Mixture

Classification according to EC Regulation 1272/2008

H360  
Cat.: 1B  
Reproductive toxicity, category 1B  
May damage fertility or the unborn child.

Classification according to EC Regulation No. 67/548 or No. 1999/45

Toxic (T), Repr. Cat. 2  
R60  
R61  
May impair fertility.  
May cause harm to the unborn child.

Safety Phrases:

Possible Environmental Effects:

#### 2.2. Label Elements

Classification according to EC Regulation 1272/2008

Hazard designation:



GHS08-2

Signal word:

Danger

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### Hazard designation:

H360 May damage fertility or the unborn child.

### Safety designation:

P281 Use personal protective equipment as required.  
P308+P313 If exposed or concerned: Get medical advice/attention.  
P405 Store locked up.

### Hazardous components for labelling:

#### 2.3. Other Hazards

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### 3. Composition/Information on Ingredients

#### 3.1. Substance

#### 3.2. Mixture

*Chemical Characterization:* Chromic oxide dihydrate. Pigment Green 18, C.I. 77289  
REACH Reg. No.: 01-2119433951-39-0002

### Hazardous Ingredients:

Chromium hydrate	94-96 %	CAS-Nr: 12001-99-9 EINECS-Nr: 215-160-9 EC-Nr:
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Boron oxide (T; R60-61; H360FD)	4-6 %	CAS-Nr: 1303-86-2 EINECS-Nr: 215-125-8 EC-Nr: 005-008-00-8
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### Additional information:

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### 4. First Aid Measures

#### 4.1. Description of the First Aid Measures

##### General information:

Seek medical attention in case of complaints.

##### After inhalation:

Supply fresh air and seek medical advice in case of complaints.  
Give artificial respiration in case breathing is not regular or if it has stopped.

##### After skin contact:

Wash with soap and rinse with plenty of water.  
Wash contaminated clothing before reuse.

##### After eye contact:

Rinse open eyes with plenty of water for at least 15 minutes.  
Consult physician.

##### After ingestion:

#### 4.2. Most important Symptoms and Effects, both Acute and Delayed

##### Symptoms:

Long-term exposure may damage the lungs and respiratory tract.

##### Effects:

Indication of any Immediate Medical Attention and special Treatment needed

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4.3.

*Treatment:*

*No further information available.*

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### 5. Fire-Fighting Measures

#### 5.1. Extinguishing Media

*Suitable extinguishing media:*

*Product itself does not burn.*

*Use extinguishing media for surrounding fire.*

*Unsuitable extinguishing media:*

#### 5.2. Special Hazards arising from the Substance or Mixture

*Special hazards:*

*No special hazards.*

#### 5.3. Advice for Firefighters

*Protective equipment:*

*Wear suitable protective clothing.*

*Wear self-contained respiratory protective device.*

*Further information:*

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### 6. Accidental Release Measures

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

*Personal precautions:*

*Wear protective clothing.*

#### 6.2. Environmental Precautions

*Environmental precautions:*

*Prevent contamination of soil, drains and surface waters.*

*Contact local authorities if product pollutes soil or vegetation.*

#### 6.3. Methods and Material for Containment and Cleaning Up

*Methods and material:*

*Take up mechanically and collect in suitable containers for disposal. Avoid dust formation.*

#### 6.4. Reference to other Sections

*Protective clothing, see Section 8.*

*See Section 13 for information on disposal.*

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### 7. Handling and Storage

#### 7.1. Precautions for Safe Handling

*Instructions on safe handling:*

*Wear adequate protective clothing (see para. 8).*

*Avoid contact with eyes, skin and clothing.*

*Provide adequate ventilation.*

*Hygienic measures:*

*Keep away from foodstuffs and drinks.*

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### 7.2. Conditions for Safe Storage, including any Incompatibilities

*Storage conditions:*

*Store in tightly sealed containers in a dry room.  
Store locked up.*

*Requirements for storage areas and containers:*

*Information on fire and explosion protection:*

*Do not store together with ignitable sources, heat and fire.*

*Storage class (VCI):*

*Further Information:*

### 7.3. Specific End Use(s)

*Further information:*

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## 8. Exposure Controls/Personal Protection

### 8.1. Parameters to be Controlled

*Parameters to be controlled (DE):*

*B<sub>2</sub>O<sub>3</sub>, WEL: 10 mg/m<sup>3</sup> (GB, 8h)  
Cr<sup>3+</sup>, CAS 16065-83-1, TLV: 0.5 mg/m<sup>3</sup> (8h)  
Boron oxide, CAS 1303-86-2, MAK: 15 mg/m<sup>3</sup> (inhalable fraction);  
STEL 75 mg/m<sup>3</sup> (inhalable fraction); TWA: 10 mg/m<sup>3</sup>*

*Parameters to be controlled (EC):*

*Derived No-Effect Level (DNEL):*

*Chromium Hydrate (12001-99-9): 0.5 mg/m<sup>3</sup> (inhalation)*

*Predicted No-Effect Concentration (PNEC):*

*Additional Information:*

*Workplace Exposure Limit (WEL): The user must take precautions to ensure that the environmental controls employed are adequate to maintain the exposure level below the WEL.*

### 8.2. Exposure Controls

*Technical protective measures:*

*Adequate ventilation.  
Facilities storing or utilizing this material should be equipped with an eyewash facility.*

*Personal Protection*

*General protective measures:*

*Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.*

*Respiratory protection:*

*Required in case of insufficient ventilation (EN 143 or 149).*

*Hand protection:*

*Chemical protective gloves (EN 374 (Europe), F739 (US)).*

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*Protective glove material:*

*Eye protection:*

*Safety glasses with protective shields (EN 166).*

*Body protection:*

*Protective clothing should be laundered at the end of the working period.*

*Environmental precautions:*

*Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.*

*Chromium hydrate is not classified for environmental effects and its solubility is very low.*

## 9. Physical and Chemical Properties

### 9.1. Information on Basic Physical and Chemical Properties

*Form:* powder

*Color:* blue-green

*Odor:* odorless

*Odor threshold:*  
No information available.

*pH-Value:*  
not applicable

*Melting temperature:* > 723°C

*Boiling temperature:*  
not available

*Flash point:*  
not applicable

*Evaporation rate:*  
not applicable

*Flammability (solid, gas):*  
non-combustible

*Upper explosion limit:*  
no information available

*Lower explosion limit:*  
no information available

*Vapor pressure:*  
not applicable

*Vapor density:*

*Density:* 2.9 g/cm<sup>3</sup> (20°C)

*Solubility in water:* insoluble

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*Coefficient of variation (n-Octanol/Water):*

*not determined*

*Auto-ignition temperature:*

*not applicable*

*Decomposition temperature:*

*not applicable*

*Viscosity, dynamic:*

*not applicable*

*Explosive properties:*

*not applicable*

*Oxidizing properties:*

*not oxidizing*

*Bulk density:*

*400 kg/m<sup>3</sup>*

### 9.2. Further Information

*Solubility in solvents:*

*Viscosity, kinematic*

*Burning class:*

*Solvent content:*

*Solid content:*

*Particle size:*

*Other information:*

*No further information.*

## 10. Stability and Reactivity

### 10.1. Reactivity

*Chromium hydrate may react with molten alkali at high temperatures under oxidizing conditions. Reaction with chlorine trifluoride produces flame. Contact between glycerol and chromic oxide may produce an explosion. Boron oxide may react slowly with water to form boric acid.*

### 10.2. Chemical Stability

*Stable if used according to specifications.*

### 10.3. Possibility of Hazardous Reactions

*Hazardous polymerisation will not occur.*

### 10.4. Conditions to Avoid

*Conditions to avoid:*

*Avoid humidity.*

*Thermal decomposition:*

### 10.5. Incompatible Materials

*Strong oxidizing agents, water, glycerol.*

### 10.6. Hazardous Decomposition Products

*A small amount (less than 0.1 % as Cr) of reversion to hexavalent*

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*chromium may occur if this product is exposed to elevated temperatures.*

### 10.7. Further Information

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## 11. Toxicological Information

### 11.1. Information on Toxicological Effects

#### *Acute Toxicity*

#### *LD50, oral:*

*Boron oxide (impurity) (1303-86-2): 3163 mg/l (mouse); other: 1868 (mouse)*

*Chromic oxide (1308-38-9): > 5000 mg/kg (rat)*

#### *LD50, dermal:*

*No information available.*

#### *LC50, inhalation:*

*Chromic oxide (1308-38-9): > 5.41 mg/l (4h; rat)*

*High concentrations of dust may irritate throat and respiratory system and cause coughing.*

#### *Primary effects*

#### *Irritant effect on skin:*

*No information available*

#### *Irritant effect on eyes:*

*Dust may irritate eyes.*

#### *Inhalation:*

*No information available.*

#### *Ingestion:*

*No information available*

#### *Sensitization:*

*No sensitizing effects known.*

#### *Mutagenicity:*

*No data available.*

*No mutagenic activity was observed for boric acid in a recent battery of four short-term mutagenicity assays.*

#### *Reproductive toxicity:*

*May damage fertility. May damage the unborn child.*

*A human study of occupationally exposed borate worker population showed no adverse reproductive effects. Animal studies indicate that boric acid reduces or inhibits sperm production, causes testicular atrophy, and, when given to pregnant animals during gestation, may cause developmental changes.*

*These feed studies were conducted under chronic exposure conditions leading to doses well in excess of those that could occur through inhalation of dust in the occupational setting.*

#### *Carcinogenicity:*

*This product is not considered to be a carcinogen by IARC,ACGIH, NTP or OSHA.*

*Chromium ion (Cr3+) (CAS 16065-83-1):*

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*IARC: 3, Not classifiable as to carcinogenicity to humans.*

*Teratogenicity:*

*Not considered to be teratogenic.*

*Specific target organ toxicity (STOT):*

*Single exposure: no information available.*

*Repeated exposure: no information available.*

*Additional toxicological information:*

*Symptoms:*

*Long-term exposition may damage the lungs and respiratory tract. Boric acid and borates may be absorbed via broken skin, ingestion, or from mucous membranes and body cavities. Long-term exposure may cause dry skin and mucous membranes, anorexia, weight loss, vomiting, diarrhea, skin rash, hair loss, convulsions and anemia.*

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## 12. Ecological Information

### 12.1. Aquatic Toxicity

*Fish toxicity:*

*No data available.*

*Daphnia toxicity:*

*Bacteria toxicity:*

*Algae toxicity:*

### 12.2. Persistency and Degradability

*Generally chromium hydrate is removed from the atmosphere through wet and dry deposition. Chromium hydrate particles < 20 µm aerodynamic diameter may remain airborne for long periods and may be transported long distances. Chromium hydrate particles are not expected to be transported from the troposphere to the stratosphere.*

*Chromium hydrate is expected to remain unchanged following release into soil. The predominant form of chromium in soil probably is as insoluble chromic oxide.*

### 12.3. Bioaccumulation

*Bioaccumulation of chromium from soil to above ground parts of plants is unlikely. There are no indication of biomagnification of chromium along the terrestrial food chain (soil-plant-animal).*

### 12.4. Mobility

*Chromium hydrate is expected to remain unchanged following release into soil. The predominant form of chromium in soil probably is as insoluble chromic oxide.*

### 12.5. Results of PBT- und vPvP Assessment

*Not applicable.*

### 12.6. Other Adverse Effects

*Water hazard class:*

*Do not let product contaminate ground water, waterways or sewage system.*

*Behaviour in sewage systems:*

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*Further ecological effects:*

*AOX Value:*

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### 13. Disposal Considerations

#### 13.1. Waste Treatment Methods

*Product:*

*Dispose of according to official national and local regulations.*

*European Waste Code (EWC):*

*Waste codes should be assigned by the user based on the application for which the product was used.*

*Uncleaned packaging:*

*Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.*

*Waste Code No.:*

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### 14. Transport Information

#### 14.1. UN Number

*ADR, IMDG, IATA*

#### 14.2. UN Proper Shipping Name

*ADR/RID:*

*No hazardous goods according to ADR (land transportation).*

*IMDG/IATA:*

*No hazardous goods according to IMDG.*

#### 14.3. Transport Hazard Classes

*ADR Class:*

*not applicable*

*Hazard no.:*

*Classification code:*

*Tunnel no.:*

*IMDG Class (sea):*

*Hazard no.:*

*EmS No.:*

*IATA Class:*

*not applicable*

*Hazard no.:*

#### 14.4. Packaging Group

*ADR/RID:*

*not applicable*

*IMDG:*

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*IATA:*

**14. 5. Environmental Hazards**

*None*

**14. 6. Special Precautions for User**

*Not classified as a dangerous good under transport regulations.*

**14. 7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code**

*not applicable*

**14. 8. Further Information**

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### **15. Regulatory Information**

**15. 1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture**

*Water hazard class:*

*1, slightly hazardous for water*

*Local regulations on chemical accidents:*

*Employment restrictions:*

*Restriction and prohibition of application:*

*Technical instructions on air quality:*

**15. 2. Chemical Safety Assessment**

*A Chemical Safety Assessment has not been carried out for this product.*

**15. 3. Further Information**

*Regulation (EC) 2037/2000 - Substances that Deplete the Ozone Layer: not regulated*

*Regulation (EC) 850/2004 - Persistent organic pollutants and amending Directive 79/117/EEC: not regulated*

*Regulation (EC) 689/2008 concerning the export and import of dangerous chemicals: not regulated*

*Directive 96/61/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Regulation (EPER): Chromium ion (Cr<sup>3+</sup>) (CAS 16065-83-1)*

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### **16. Other Information**

*This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.*