

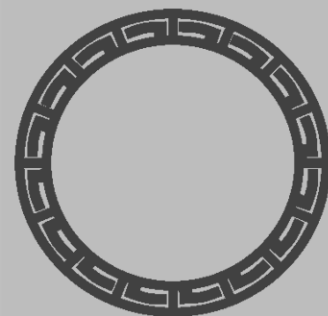
# Material Safety Data Sheet

## Viridian

**Product Code:** PS-IN0045

**Department:** inorganic dry pigments

**C.A.S.:** 12001-99-9, 1303-86-2



**KAMA**  
PIGMENTS

### Section: 1 Identification

Product : Chromium oxide Dihydrate, C.I. Pigment Green 18, C.I. 77289

recommended uses: Colorant in cosmetics and artists colors, paints and coatings Catalyst.

Emergency Telephone Number For hazardous materials incidents only call CHEMTREC Emergency Response Number: 1-800-424-9300 (+1-703-527-3887 International)

### Section: 2 Hazard Identification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Reproductive toxicity: Cat.1B

Label Elements

#### SGH Label Elements



**Signal Word**

attention

**GHS Classification**

Serious eye damage -eye irritation -Cat.2

**Hazard Statements**

H319 - Causes serious eye irritation.

**Precautionary Statements**

P264 - Wash ... thoroughly after handling.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if the victim door and if they can be easily removed. Continue rinsing.

P337 + P313 - If eye irritation persists: consult a doctor.

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**Section: 3 Composition / Information on Ingredients**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Components	CAS-No	Weight %
Chromium Hydrate	12001-99-9	94 - 96 %
Diboron trioxide, boric oxide	1303-86-2	4 - 6 %

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**Section: 4 First-Aid Measures**

General Advice	Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance.
Inhalation:	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Get medical attention immediately.
Skin contact:	Wash off immediately with soap and plenty of water. If a person feels unwell or symptoms of skin irritation appear, consult a physician. Remove and wash contaminated clothing before re-use.
Eye contact:	Rinse thoroughly with plenty of water, also under the eyelids. Call a physician immediately.
Ingestion:	If swallowed, seek medical advice immediately and show this SDS or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
Protection of first-aiders:	Avoid contact with skin and eyes.
Most important symptoms and effects, both acute and delayed:	Long term exposure may damage lungs and respiratory tract.
Notes to physician:	Treat symptomatically.

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**Section: 5 Fire-Fighting Measures**

Suitable extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Extinguishing media not be used for safety reasons:	None
Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:	None in particular
Unusual Fire and Explosion Hazards:	Emits toxic fumes under fire conditions
Hazardous combustion products:	Chromium oxides
Explosion data	
Reactivity Hazard:	None known
Special protective equipment for fire-fighters:	In the event of fire, wear self-contained breathing apparatus.

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## Section: 6 Accidental Release Measures

Personal precautions:	Use personal protective equipment.
Other Information:	Not applicable.
Environmental precautions:	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.
Clean-up methods:	Take up mechanically, placing in appropriate containers for disposal. Sweep up and shovel into suitable containers for disposal. Take up with a HEPA vacuum or mechanically and collect in suitable container for disposal. Prevent product from entering drains. Clean contaminated surface thoroughly. Local authorities should be advised if significant spillages cannot be contained.

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## Section: 7 Handling And Storage

Precautions for Safe Handling:	Avoid contact with skin, eyes and clothing. Use only in area provided with appropriate exhaust ventilation. Avoid breathing mists, dusts, or vapors. Wash hands thoroughly after handling.
Storage Conditions:	Keep container tightly closed. Store at room temperature in the original container. Keep away from food, drink and animal feeding stuffs. Store locked up.
Additional Storage:	Not required under normal use

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## Section: 8 Exposure Control/Personal Protection

Components	OSHA STEL	OSHA PEL	OSHA twa	OEL - Long-term TWA
Chromium Hydrate		0.5 mg/m <sup>3</sup> as Cr <sup>3+</sup> or Cr III		
Diboron trioxide, boric oxide			10-15 mg/m <sup>3</sup>	
Components	ACGIH TLV	AIHA TLV	OSHA TWA	IDLH:
Diboron trioxide, boric oxide 1303-86-2	TWA: 10 mg/m <sup>3</sup>		2000 mg/m <sup>3</sup>	
Appropriate engineering controls				
Engineering Measures	If dusts or vapors are released, use an adequate local exhaust ventilation.			
Individual protection measures, such as personal protective equipment				
Eye protection	Safety glasses. Wear chemical goggles and full face shield appropriate for risk of exposure.			
Skin and body protection	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place			
Respiratory protection:	If dust is released, use respirators tested and approved under appropriate government standards.			
Hand protection:	Use chemical resistant gloves			
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice			

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## Section: 9 Physical and Chemical Properties

Physical state:	Solid
Appearance:	Blue-green Powder
Odor:	Odourless
Color:	Blue green
Odor Threshold:	No information available
pH:	Not applicable
Melting point/range:	> 450 °C
Freezing point:	Not applicable
Physical state:	Solid
Appearance:	Blue-green Powder
Odor:	Odourless
Color:	Blue green
Odor Threshold:	No information available
pH:	Not applicable
Melting point/range:	> 450 °C
Freezing point:	Not applicable
Boiling Point/Range:	No data available
Flash Point:	Not applicable
Evaporation rate:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	3.21 g/cm <sup>3</sup>
Water solubility:	Insoluble in Water
Solubility in other solvents:	No data available
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	No data available
Oxidizing Properties:	Not applicable
Pour point:	Not applicable
Molecular weight:	188
Bulk Density:	400 kg/m <sup>3</sup> approx.

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## Section: 10 Stability And Reactivity

Reactivity:	No dangerous reaction known under conditions of normal use. Boron oxide may react slowly with water to form Boric acid.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions:	None known
Conditions to Avoid:	Exposure to moisture
incompatible Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	At high temperatures, Chromium (VI) Compounds.

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## Section: 11 Toxicological Information

### Information on likely routes of exposure

Inhalation:	May cause irritation of respiratory tract.
Eye contact:	Contact with eyes may cause irritation.
Skin contact:	Non-irritating to the skin.
Ingestion:	Not expected to cause adverse effects in amounts likely to be ingested by accident.

Component information:	LD50/Oral	LD50/Dermal	LC50/inhalation
Chromium (III) oxide 1308-38-9	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)	>5.41 mg/l 4 h (rat)

Diboron trioxide, boric oxide 1303-86-2	3163 mg/kg (Mouse) 3150 mg/kg (Rat)
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### Information on Toxicological Effects

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

Corrosivity:	None known.
Sensitization:	No sensitizing effects known
Mutagenic effects:	None expected. Not regarded as mutagenic.
Carcinogenic effects:	Chromium and Chromium compounds has been reviewed by IARC. There is inadequate evidence in humans for the carcinogenicity of metallic chromium and chromium[III] compounds. There is inadequate evidence for the carcinogenicity of metallic chromium and chromium[III] compounds in experimental animals. Therefore, the working group concluded that Metallic chromium and chromium[III] compounds are not classifiable as to their carcinogenicity to humans (Group 3)
IARC:	Group 3- Unclassifiable as to Carcinogenicity to Humans (metallic chromium & chromium[III])

Reproductive Toxicity:	May damage fertility. May damage the unborn child Dietary levels of Boric Acid of 6,700 ppm in chronic feeding studies in rats and gogs produced testicular changes (Weir, Fisher, 1972). In chronic feeding studies of mice on diets containing 5,000 ppm Boric Acid, testicular atrophy was present, while mice fed 2,500 ppm Sodium Tetraborate Pentahydrate showed no significant increase in testicular atrophy. In another chronic Boric Acid study, degeneration of semiferous tubules was present together with a reduction of germ cells in mice fed 4,500 ppm Sodium Tetraborate Pentahydrate.
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Developmental Toxicity:	Boric Acid at dietary levels of 1,000 ppm administered to pregnant female rats throughout gestation caused a slight reduction in fetal weight, but was considered close to the no observable affect level. Doses of 2,000 ppm and above caused fetal melformations and maternal toxicity. In mice, the no effect level for fetal weight reduction and maternal toxicity was 1,000 ppm Boric Acid. fetal weight loss was noted at dietary level of 2,000 ppm and above. Malformations (agenesis or shortening of the thirteenth rib) were seen at 4,000 ppm [Heindal et al. 1992]. The doses administered were many times in excess of those to which humans would normally be exposed.
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Chronic toxicity:	Prolonged or repeated inhalation may cause damage to the lungs
Other Adverse Effects:	No information available.

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## Section: 12 Ecological Information

Ecotoxicity:	Diboron trioxide, boric oxide 1303-86-2
Toxicity to Fish:	0.57 g/L: LC50 72 h Carassius auratus flow-through
Daphnia Magna (Water Flea):	EC50: 370 - 490 mg/L (48 h)
Chromium oxide	
LC50:	LC0: > 10 g/L (Zebra fish; 96h)
No Observable Effect Concentration/96hr/48hr/24hr (NOEC):	> 6480 mg/L Pseudomonas Fluorescens (24h)
Diboron trioxide, boric oxide 1303-86-2	
LC50:	150 mg/L B (rainbow trout-24 day)
EC50:	370 - 490 mg/L (Daphnia magna 48 h)
Persistence and degradability:	No data available
Bioaccumulative potential:	Does not bioaccumulate
Mobility:	No information available
General Note:	Do not allow product to reach ground water, water course or sewage system.

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## Section: 13 Disposal Considerations

Waste from residues /unused products:	Do not contaminate ponds, waterways or ditches with chemical or used container Dispose of in accordance with federal, state and local regulations
Contaminated packaging:	Empty containers should be taken to an approved waste handling site for recycling or disposal.
RCRA:	Not listed

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## Section: 14 Transport Information

U.S. Department of Transportation Ground (49 CFR):	Not regulated
International Air Transport Association (IATA):	Not regulated
International Maritime Dangerous Goods (IMDG):	Not regulated
Surface Shipments in Europe (ADR/RID):	Not regulated

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## Section: 15 Regulatory Information

### International Inventories

USA (TSCA):	Complies
EU (EINECS):	Complies
CANADA (DSL):	Complies
JAPAN (ENCS):	Complies
PHILIPPINES (PICCS):	Complies
KOREA (KECL):	Complies
China (IECSC):	Complies
AUSTRALIA (AICS):	Complies
NEW ZEALAND (NZIoC):	Complies
TAIWAN (NECI):	Does not comply

### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Components	EPCRA (SARA Title III) Section 313 Toxic Chemical
Chromium Hydrate 12001-99-9	Listed

SARA 311/312 Hazard Categories: This product contains Chromium (III) Oxide dihydrate which is subject to the reporting requirements of Section 311/312 of SARA Title III and 40 CFR Part 372 under the Chromium Compounds Category.

CWA (Clean Water Act): This product is not listed under the Clean Water Act. However this product contains Chromium that is listed as a Priority Pollutant and Toxic Pollutant.

CERCLA: This product is not listed as a hazardous substance under CERCLA 40 CFR PART 117 and Part 304. However this product contains Chromium and would fall under the broad Cat.of Chromium Compounds. No Reportable Quantity (RQ) has been determined for this broad class of compounds.

TSCA Section 12(b) Export Notification: This product does not contain chemicals that are required to be notified under the TSCA 12(b) Export Notification.

### State Regulations (RTK)

California Proposition 65: This product is not listed under California Proposition 65, however hexavalent chromium is covered under Proposition 65. This product may contain small amounts of hexavalent chromium.

Canada: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

### HMIS:

Health:	2 *
Flammability:	0
Physical Hazard:	0
Chronic Hazard Star Legend:	* = Chronic Health Hazard

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## Section: 16 Other Information

### Abbreviations used

TSCA:	United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS:	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
REACH:	Registration, Evaluation, Authorization and Restriction of Chemicals
DSL/NDL:	Canadian Domestic Substances List/Non-Domestic Substances List
ENCS:	Japan Existing and New Chemical Substances
PICCS:	Philippines Inventory of Chemicals and Chemical Substances
KECL:	Korean Existing and Evaluated Chemical Substances
IECSC:	China Inventory of Existing Chemical Substances
AICS:	Australian Inventory of Chemical Substances
NZIoC:	New Zealand Inventory of Chemicals
NECI:	Taiwan National Existing Chemical Inventory
reference prepared by	manufacturer's material safety data sheet Kama pigments

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Last revision: 2016-09-04