



**MATERIAL SAFETY DATA SHEET**

BAYER CORPORATION  
 PRODUCT SAFETY & REGULATORY AFFAIRS  
 100 Bayer Road  
 Pittsburgh, PA 15205-9741

61137-7004

Green

*Mosaic Cement clint*

TRANSPORTATION EMERGENCY  
 CALL CHEMTREC: 800-424-9300  
 DISTRICT OF COLUMBIA: 202-483-7616

NON-TRANSPORTATION  
 BAYER EMERGENCY PHONE...: (412) 923-1800  
 BAYER INFORMATION PHONE.: (800) 662-2927

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Chrome Oxide Green GX  
 PRODUCT CODE.....: A404-2000  
 CHEMICAL FAMILY.....: Chrome (III) Oxide  
 COLOR INDEX NAME.....: Pigment Green 17  
 COLOR INDEX NUMBER...: 77:88  
 DCMA NUMBER.....: 3-(5-3)  
 CHEMICAL NAME.....: Chromium Oxide  
 SYNONYMS.....: Chromium Green-Black Hematite  
 CAS NUMBER.....: 1308-38-9  
 FORMULA.....: Cr<sub>2</sub>O<sub>3</sub>

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
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\*\*\*\*\* HAZARDOUS INGREDIENTS \*\*\*\*\*

Chrome (III) Oxide		
1308-38-9	OSHA : .50 mg/m <sup>3</sup> *TWA	Essentially 100 %
	ACGIH: .50 mg/m <sup>3</sup> *TWA	
* Chrome (III) Compounds (as Cr)		

V-1268

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3. HAZARDS IDENTIFICATION:

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*                                     *
*               EMERGENCY OVERVIEW   *
*                                     *
* CAUTION! Color: Green; Form: Solid; Powder; Odor:      *
* Odorless; Harmful if inhaled; May cause mechanical    *
* irritation to eyes.                                     *
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POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Eye Contact; Skin Contact; Inhalation

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE EFFECTS OF EXPOSURE.....: On the basis of animal toxicity testing (See Section 11), we would expect this product to be non-irritating to the eyes and skin and to be essentially non-toxic by ingestion. Mechanical irritation (ie. abrasion) to the eyes may occur due to exposure to fines. Eyes may become red and scratchy and may tear. As with all dusty materials, inhalation may cause respiratory irritation, sneezing, coughing and runny nose.

CHRONIC EFFECTS OF EXPOSURE...: No applicable information was found concerning any adverse chronic health effects from overexposure to this product.

OTHER EFFECTS OF EXPOSURE.....: Repeated or prolonged inhalation of trivalent chromium compounds may cause chronic respiratory effects. (1)

CARCINOGENICITY

NTP.....: Not listed.

IARC.....: Not listed.

OSHA.....: Not regulated.

OTHER.....: NTP, IARC and ACGIH found that "there is sufficient evidence for the carcinogenicity of Chromium and Certain Chromium Compounds both in humans and experimental animals". The Chromium Compounds that are considered carcinogenic are hexavalent chromium compounds. This product is a trivalent chromium compound. It is not specifically listed as a carcinogen by NTP, IARC or ACGIH. This product contains an average of 50 ppm to 100 ppm of leachable hexavalent chromium (0.0050 % to 0.010 %).

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Persons with preexisting eye conditions or impaired pulmonary function may be more susceptible to the effects of this product.

1 ACGIH "Documentation of the Threshold Limit Values".

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4. FIRST AID MEASURES:

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FIRST AID FOR EYES.....: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician if irritation persists.

FIRST AID FOR SKIN.....: In case of contact, flush skin with water. Wash clothing before reuse. Call a physician if irritation persists.

FIRST AID FOR INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

FIRST AID FOR INGESTION.: If swallowed, call a physician.

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5. FIRE FIGHTING MEASURES:

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FLASH POINT.....: Not Applicable.

AUTO-IGNITION TEMPERATURE.....: Not Applicable.

EXTINGUISHING MEDIA.....: Material is not combustible. Use extinguishing media suitable for other combustible materials in the area.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Avoid dusting.

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6. ACCIDENTAL RELEASE MEASURES:

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SPILL OR LEAK PROCEDURES.....: Utilize recommended protective clothing and equipment. Spills should be swept up and placed in containers. Avoid generation of dust. If dust is generated, use appropriate respiratory protection. Spill area can be washed with water. Collect wash water for approved disposal. Keep from entering water or ground water.

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7. HANDLING AND STORAGE:

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STORAGE TEMPERATURE(MIN/MAX): Ambient/Ambient.

SHELF LIFE.....: Unlimited in tightly closed containers.

SPECIAL SENSITIVITY.....: None known.

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**7. HANDLING AND STORAGE (Continued)**

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**HANDLING/STORAGE PRECAUTIONS:** Avoid breathing dust. Avoid getting in eyes or on skin. Wash thoroughly after handling. Store in a dry place away from excessive heat. Avoid contact with moisture. Reseal containers immediately after use. Store away from food and beverages.

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**8. PERSONAL PROTECTION:**

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**EYE PROTECTION REQUIREMENTS.....:** Chemical safety goggles are recommended.  
**SKIN PROTECTION REQUIREMENTS.....:** Chemically resistant gloves and clothing are recommended to minimize skin contact. Employees should wash their hands and face before eating, drinking or using tobacco products.  
**VENTILATION REQUIREMENTS.....:** Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit.  
**RESPIRATOR REQUIREMENTS.....:** Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved dust respirator should be worn.  
**ADDITIONAL PROTECTIVE MEASURES.....:** Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product.

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**9. PHYSICAL AND CHEMICAL PROPERTIES:**

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**PHYSICAL FORM.....:** Solid; Powder  
**COLOR.....:** Green  
**ODOR.....:** Odorless  
**MOLECULAR WEIGHT.....:** 151.99  
**pH.....:** 5 to 7 @ 50 g/L water @ 68 F (20 C); DIN 53200  
**BOILING POINT.....:** Not Applicable  
**MELTING/FREEZING POINT.....:** Greater than 1832 F (1000 C)  
**VISCOSITY.....:** Not Applicable  
**SOLUBILITY IN WATER.....:** Essentially insoluble  
**SPECIFIC GRAVITY.....:** 5.2 @ 68 F (20 C)  
**BULK DENSITY.....:** Approx. 800 kg/m<sup>3</sup> @ 68 F (20 C)  
**VAPOR PRESSURE.....:** Not Applicable  
**VAPOR DENSITY.....:** Not Applicable (Air = 1)

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**10. STABILITY AND REACTIVITY:**

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**STABILITY.....:** This is a stable material.  
**HAZARDOUS POLYMERIZATION...:** Will not occur.  
**INCOMPATIBILITIES.....:** None known.

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10. STABILITY AND REACTIVITY (Continued)

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INSTABILITY CONDITIONS.....: None known.  
DECOMPOSITION TEMPERATURE...: Not established.  
DECOMPOSITION PRODUCTS.....: None known.

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11. TOXICOLOGICAL INFORMATION:

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ACUTE TOXICITY

ORAL LD50.....: Greater than 10,000 gm/kg (Rat). (1)  
EYE EFFECTS.....: Moderately irritating to rabbit eyes by mechanical  
action. (1)  
SKIN EFFECTS.....: Non-irritating to rabbit skin (24 hr.). (1)  
MUTAGENICITY.....: Micronucleus test: negative (mouse). (1)

1 Tests at the Institute for Toxicology, Bayer AG.

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12. ECOLOGICAL INFORMATION:

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AQUATIC TOXICITY.....: Zebra barbel (brachydanio rerio) LCo is greater  
than 10,000 mg/L (96 hrs.). (2)  
No harmful effect on Escherichia coli: 1000 mg/L. (2)  
No harmful effect on Pseudomonas fluorescens: 10,000 mg/L. (2)  
ECOLOGICAL POSTNOTE.....: 2 Examinations made at the Institute of  
Environmental Analysis and evaluation of Bayer AG.

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13. DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD.....: Waste disposal should be in accordance with  
existing federal, state and local environmental regulations.

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14. TRANSPORTATION INFORMATION:

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TECHNICAL SHIPPING NAME.....: Chrome Oxide  
FREIGHT CLASS BULK.....: Paints, NOI, Dry  
FREIGHT CLASS PACKAGE.....: Paints, NOI, Dry  
PRODUCT LABEL.....: Chrome Oxide Green GX

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14. TRANSPORTATION INFORMATION (Continued)

DOT (DOMESTIC SURFACE)

PROPER SHIPPING NAME.....: None  
 HAZARD CLASS OR DIVISION .....: Non-Regulated

IMO / IMDG CODE (OCEAN)

PROPER SHIPPING NAME.....: None  
 HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

PROPER SHIPPING NAME.....: None  
 HAZARD CLASS DIVISION NUMBER...: Non-Regulated

15. REGULATORY INFORMATION:

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS.....: On TSCA Inventory  
 CERCLA REPORTABLE QUANTITY...: Chromium and Compounds - no RQ has been established for this generic class.

SARA TITLE III:  
 SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES...: None.  
 SECTION 311/312 HAZARD CATEGORIES.....: Immediate Health Hazard

SECTION 313 TOXIC CHEMICALS.....: Chromium Compounds, 100 % (< 70 % total Cr).  
 RCRA STATUS.....: When discarded in its purchased form, this product is a RCRA hazardous waste and should be managed as a hazardous waste (40 CFR 261.20-40). Based upon random TCLP analyses, this product contains approx. 5 ppm to 10 ppm leachable chromium.

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
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## 15. REGULATORY INFORMATION (Continued)

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Chrome (III) Oxide 1308-38-9	Essentially 100 %	PA1, MA, NJ2
Hexavalent Chromium (Cr+6) 18540-29-9	50 to 100 ppm**	CA, MA
Lead 7439-92-1	< 2 ppm*	CA
Arsenic 7440-38-2	< 2 ppm*	CA, MA
Cadmium 7440-43-9	< 2 ppm*	CA, MA
Mercury 7439-97-6	< 0.05 ppm*	CA

CA = California Proposition 65  
MA = Massachusetts Hazardous Substance List  
NJ2 = New Jersey Environmental Hazardous Substance List  
PA1 = Pennsylvania Hazardous Substance List

\* Please note that these were random sample analyses and content may vary from batch to batch. \*\* Water soluble hexavalent chromium.

## 16. OTHER INFORMATION:

HMIS RATINGS:                    Health    Flammability    Reactivity  
   1                    0                    0  
   0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

Bayer' method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS ratings are provided by Bayer as a customer service.

REASON FOR ISSUE.....: Update to 16 Section Format; Revise Regulatory Information  
PREPARED BY.....: D. P. Kelly  
APPROVED BY.....: J. M. Mostowy  
APPROVAL DATE.....: 02/17/96  
SUPERSEDES DATE.....: 06/01/92  
MSDS NUMBER.....: 05461

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