

Material Safety Data Sheet


MPSI

 Mineral and Pigment
Solutions, Inc.

Chromium Oxide Pigments - Green -

C.A.S. Number: 1308-38-9 / MSDS C.A.S. Code: 0140

PRODUCT/MATERIAL: CHROMIUM OXIDE

MANUFACTURER/DISTRIBUTOR: MINERAL AND PIGMENT SOLUTIONS, INC.
ADDRESS: 1000 COOLIDGE STREET
 SOUTH PLAINFIELD, NJ 07080
EMERGENCY TELEPHONE NO: 908) 561-6100

SECTION I - PRODUCT IDENTIFICATION:

TRADE NAME: CHROMIUM GREEN OXIDE
SYNONYM: CHROMIUM OXIDE
CHEMICAL FAMILY: METAL OXIDE
FORMULA: Cr₂O₃
 C.I. PIGMENT GREEN 17
 C.I. NO. 77288
CAS NUMBER: 1308-38-9
HMS: HEALTH 1
 FLAMMABILITY 0
 REACTIVITY 0

SECTION II - HAZARDOUS INGREDIENTS:

COMPONENT: CHROMIC OXIDE
PERCENT: >98
EXPOSURE LIMITS: **OSHA PEL:** 0.5 MG/M³ AS Cr-8 HR. TWA
ACGIH TLV: 0.5 MG/M³ AS Cr-8 HR. TWA

SECTION III - PHYSICAL DATA:

BOILING POINT (°F): NOT APPLICABLE
VAPOR PRESSURE (mmHG): NOT APPLICABLE
VAPOR DENSITY (AIR 1): NOT APPLICABLE
SOLUBILITY IN WATER: INSOLUBLE
SPECIFIC GRAVITY (H₂O 1): 5.2
PERCENT VOLATILE BY VOLUME: NOT APPLICABLE

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MATERIAL SAFETY DATA

EVAPORATION RATE (H₂O 1): NOT APPLICABLE
APPEARANCE AND ODOR: GREEN POWDER.
NO ODOR.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

FIRE AND EXPLOSION HAZARD: NONE
FLASH POINT: NOT FLAMMABLE
EXTINGUISHING MEDIA : AS APPLICABLE TO OTHER MATERIALS INVOLVED IN THE FIRE.
SPECIAL FIRE FIGHTING PROCEDURES: USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

SECTION V - HEALTH HAZARD DATA:

THRESHOLD LIMIT VALUE: ACGIH 0.5 MG/M³ AS Cr - 8 Hr. TWA
CARCINOGENICITY: CHROMIC OXIDE IS NOT LISTED AS A CARCINOGEN BY NTP, IARC OR OSHA.

SUMMARY OF HEALTH RISKS AND SYMPTOMS OF EXPOSURE: MAY CAUSE SKIN AND EYE IRRITATION.
REPEATED AND PROLONGED EXPOSURES TO TRIVALENT CHROMIUM COMPOUNDS MAY CAUSE DELAYED EFFECTS INVOLVING THE RESPIRATORY SYSTEM.

PRINCIPAL ROUTES OF ENTRY: INHALATION, INGESTION, SKIN AND EYE CONTACT.

ACUTE EFFECTS: CAUSES SKIN IRRITATION. MAY CAUSE EYE IRRITATION.

CHRONIC EFFECTS: CONTAINS TRIVALENT CHROMIUM COMPOUND. AS NOTED BY THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS IN THEIR PUBLICATION "DOCUMENTATION OF THE THRESHOLD LIMIT VALUES" REPEATED AND PROLONGED EXPOSURES TO TRIVALENT CHROMIUM COMPOUNDS MAY CAUSE DELAYED EFFECTS INVOLVING THE RESPIRATORY SYSTEM.

EMERGENCY AND FIRST AID PROCEDURES:

EYES: FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MIN. CALL A PHYSICIAN.

SKIN: WASH THOROUGHLY WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. IF IRRITATION DEVELOPS, CONSULT A PHYSICIAN.

INHALATION: REMOVE TO FRESH AIR. CALL A PHYSICIAN.

INGESTION: IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER TO INDUCE VOMITING. GET MEDICAL ATTENTION.

ACUTE ORAL LD₅₀ (RATS): GREATER THAN 5,000 mg/kg.

SECTION VI - REACTIVITY:

REACTIVITY: STABLE

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MATERIAL SAFETY DATA

INCOMPATIBILITIES: CAN REACT WITH MOLTEN ALKALI AT VERY HIGH TEMPERATURES UNDER OXIDIZING CONDITIONS. MAY REACT WITH CHLORINE TRIFLUORIDE, LITHIUM, NITROALKANES, DIRUBIDIUM ACETYLIDE, OXYGEN DIFLUORIDE AND OTHER STRONG OXIDIZERS.

CONDITIONS TO AVOID: NONE

HAZARDOUS DECOMPOSITION PRODUCTS: A SMALL AMOUNT (LESS THAN 0.1% AS Cr) OF REVERSION TO HEXAVALENT CHROMIUM MAY OCCUR IF THIS PRODUCT IS EXPOSED TO ELEVATED TEMPERATURES.

HAZARDOUS POLYMERIZATION - CONDITIONS TO AVOID: NONE

SECTION VII - SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED: VACUUM OR USE WET CLEAN-UP TECHNIQUES AND PLACE WASTE MATERIAL IN CLOSED CONTAINER.

WASTE DISPOSAL METHOD: AS APPLICABLE TO INERT, NON-TOXIC MATERIALS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

AS SHIPPED FROM MANUFACTURER, THIS PRODUCT DOES NOT EXCEED THE RCRA EXTRACTION PROCEDURE LIMIT OF 5 PPM FOR TOTAL SOLUBLE CHROMIUM. ADDITIONAL PROCESSING, ESPECIALLY AT ELEVATED TEMPERATURES MAY CAUSE CHEMICAL REACTIONS WHICH PRODUCE SUBSTANCES WHICH WILL EXCEED THE RCRA LIMIT. TESTING OF PROCESSED MATERIAL SHOULD BE PERFORMED TO DETERMINE THE PROPER WASTE CLASSIFICATION.

SECTION VIII - SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION: MSHA/NIOSH APPROVED FILTER TYPE RESPIRATOR USED IN ACCORDANCE WITH THE REQUIREMENTS OF 29 CFR 1910.134.

VENTILATION: SUFFICIENT TO MAINTAIN WORKPLACE CONCENTRATION BELOW TLV.

PROTECTIVE GLOVES: RUBBER, PVC OR NEOPRENE GLOVES ARE RECOMMENDED TO PREVENT SKIN CONTACT.

EYE PROTECTION: SAFETY GLASSES. CLOSE FITTING CHEMICAL SAFETY GOGGLES ARE RECOMMENDED WHEN DUST IS PRESENT.

OTHER PROTECTIVE EQUIPMENT: RUBBER BOOTS, LONG-SLEEVE SHIRT AND HARD HAT ARE RECOMMENDED. AVAILABILITY OF SAFETY SHOWER AND EYEWASH FOUNTAIN IS RECOMMENDED.

SECTION IX - HANDLING AND STORAGE:

PRECAUTIONS IN STORING AND HANDLING: STORE IN A DRY PLACE.
HANDLE MATERIAL SO AS TO AVOID GENERATION OF AIRBORNE DUST.

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AVOID BREATHING DUST.
KEEP SEPARATED FROM FOOD PRODUCTS.

OTHER PRECAUTIONS:

SINCE ACTUAL USE BY OTHERS IS BEYOND THE CONTROL OF THE MANUFACTURER, USERS MUST TAKE PRECAUTIONS TO ENSURE THAT THE ENVIRONMENTAL CONTROLS ARE ADEQUATE TO MAINTAIN CONDITIONS WITHIN THE REQUIRED EXPOSURE LEVELS FOR THIS PRODUCT AND ANY REACTION PRODUCTS.

SECTION X - REGULATORY INFORMATION:

FEDERAL REGULATIONS:

TOXIC SUBSTANCES CONTROL ACT (TSCA): CHROMIC OXIDE IS ON THE 8(b) INVENTORY LIST (40 CFR 710).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 116: CHROMIC OXIDE IS NOT COVERED BY THE CLEAN WATER ACT.

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112: CHROMIC OXIDE IS NOT COVERED BY THE CLEAN AIR ACT.

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: UNDER THIS RULE CHROMIC OXIDE IS HAZARDOUS.
ACGIN TLV 0.5 MG/M³ TWA AS Cr

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT ACT OF 1986 (SARA TITLE 111) CERCLA, 40 CFR 117, 302:

CHROMIC OXIDE DOES NOT HAVE A LISTED REPORTABLE QUANTITY (RQ).

CHROMIC OXIDE IS SUBJECT TO THE REPORTING REQUIREMENTS OF OF SECTIONS 311, 312, AND 313.

CHROMIC OXIDE IS NOT LISTED IN APPENDIX A AND B, 40 CFR 355, AS AN EXTREMELY HAZARDOUS SUBSTANCE.

OUR HAZARD EVALUATION OF CHROMIC OXIDE HAS DETERMINED THAT THIS PRODUCT IS HAZARDOUS. IT SHOULD BE REPORTED UNDER THE FOLLOWING EPA HAZARD CATERGORIES AS INDICATED.

XX IMMEDIATE (ACUTE) HEALTH HAZARD.

XX DELAYED (CHRONIC) HEALTH HAZARD.

-- FIRE HAZARD.

-- SUDDEN RELEASE OF PRESSURE HAZARD.

-- REACTIVE HAZARD.

STATE REGULATIONS:

CALIFORNIA PROPSITION 65: THIS MATERIAL MAY CONTAIN APPROXIMATELY 100 PPM HEXAVALENT CHROMIUM. HEXAVALENT CHROMIUM IS ON THE CALIFORNIA GOVERNOR'SLIST OF "CHEMICALS KNOWN TO CAUSE CANCER OR REPRODUCTIVE TOXICITY". THE CALIFORNIA HEALTH AND WELFARE AGENCY

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HAS ESTABLISHED A "NO SIGNIFICANT RISK" LEVEL FOR HEXAVALENT CHROMIUM OF 0.001 MICROGRAMSIDAY. WORKPLACE EXPOSURES TO THIS PRODUCT BELOW THE TLV FOR CHROMIC OXIDE COULD RESULT IN EXPOSURES TO HEXAVALENT CHROMIUM IN EXCESS OF 0.001 MICROGRAM/DAY APPROPRIATE WARNINGS SHOULD BE GIVEN.

SECTION XI - TOXICOLOGICAL INFORMATION:

CHROMIC OXIDE FED TO RATS IN DOSAGES UP TO 5%; FOR TWO YEARS PRODUCED NO TREATMENT RELATED EFFECTS. (NOEL)

SECTION XII - ECOLOGICAL INFORMATION:

THIS MATERIAL IS INSOLUBLE IN WATER AND DOES NOT EXCEED THE LIMIT OF 5 ppm FOR TOTAL SOLUBLE CHROMIUM BY THE RCRA EXTRACTION PROCEDURE (U.S.). FOR THE PROTECTION OF FRESH WATER AQUATIC LIFE, THE CONCENTRATION OF Cr (+3) SHOULD NOT EXCEED $e^{[1.08 \text{Ln}(\text{HARDNESS}) + 3.48]}$ micrograms/liter AND Cr (+6) SHOULD NOT EXCEED 0.29 micrograms/liter AS A 24 hr. AVERAGE, NEVER EXCEEDING A MAXIMUM OF 21 micrograms/liter. FOR THE PROTECTION OF SALTWATER AQUATIC LIFE, THE CONCENTRATION OF Cr (+3) SHOULD NOT EXCEED 10.3 milligrams/liter ON AN ACUTE TOXICITY BASIS AND Cr (+6) SHOULD NOT EXCEED 18 micrograms/liter AS A 24 hr. AVERAGE NEVER EXCEEDING A MAXIMUM OF 1,260 micrograms/liter.

SECTION XIII - TRANSPORTATION:

CHROMIUM OXIDE PIGMENTS ARE CONSIDERED TO BE NON-HAZARDOUS ACCORDING TO U.S. DEPARTMENT OF TRANSPORTATION AND INTERNATIONAL SHIPPING REGULATIONS.

SECTION XIV - OTHER INFORMATION:

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Issued: 4/01
Supercedes: 1/98

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