



Material Safety Data Sheet

+ Section 1. Product and Company Identification

Product Name	Malachite Green Oxalate	Product Code	258
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	3/2/2006
		Print Date	3/13/2006

For More Information Call

856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym	BASIC GREEN 4; C.I. #42000
Material Uses	Research & Development.
Chemical Family	Triphenylmethane derivative.

+ Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Malachite Green Oxalate	2437-29-8	100

+ Section 3. Hazards Identification

Physical State and Appearance	Solid. (Crystals solid.)
Emergency Overview	DANGER! HARMFUL IF SWALLOWED. CAUSES SEVERE EYE IRRITATION. CAUSES RESPIRATORY TRACT AND SKIN IRRITATION. VERY TOXIC TO AQUATIC ORGANISMS.
Routes of Entry	Inhalation. Ingestion.
Potential Acute Health Effects	<p>Eyes Extremely hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.</p> <p>Skin Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</p> <p>Inhalation Hazardous in case of inhalation (lung irritant).</p> <p>Ingestion Hazardous in case of ingestion.</p>

Potential Chronic Health Effects

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Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

**Medical Conditions
Aggravated by
Overexposure:**

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product	May be combustible at high temperature.
Auto-ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...).
Fire Hazards in Presence of Various Substances	Not available.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of static discharge: No. Risks of explosion of the product in presence of mechanical impact: No.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Protective Clothing (Fire)	Be sure to use an approved/certified respirator or equivalent.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

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Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing dust. Keep container closed.
Storage	Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
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Personal Protection

Eyes Splash goggles.

Body Lab coat.

Respiratory Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)**Personal Protection in Case of a Large Spill**

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name **Exposure Limits**

Malachite Green Oxalate Not available.

+ Section 9. Physical and Chemical Properties

Odor	Not available.
Color	Green.
Physical State and Appearance	Solid. (Crystals solid.)
Molecular Weight	927.04 g/mole
Molecular Formula	C ₅₂ H ₅₄ N ₄ O ₁₂
pH	Not available.

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Boiling/Condensation Point Not available.

Melting/Freezing Point Not available.

Specific Gravity Not available.

Vapor Pressure Not available.

Vapor Density Not available.

Odor Threshold Not available.

Evaporation Rate Not available.

LogK_{ow} Not available.

Solubility Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Conditions of Instability Not available.

Incompatibility with Various Substances Reactive with oxidizing agents.

Rem/Incompatibility Not available.

Hazardous Decomposition Products Not available.

Hazardous Polymerization Will not occur.

+ Section 11. Toxicological Information

RTECS Number: Malachite Green Oxalate, Certified Biological Stain BQ1190000

Toxicity Acute oral toxicity (LD₅₀): 275 mg/kg [Rat].

Chronic Effects on Humans Not available.

Acute Effects on Humans Extremely hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation (lung irritant). Hazardous in case of ingestion.

Synergetic Products (Toxicologically) Not available.

Irritancy Draize Test: Not available.

Sensitization Not available.

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Toxicity to Reproductive System Not available.

Teratogenic Effects Not available.

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Mutagenic Effects Not available.

Section 12. Ecological Information

Ecotoxicity Ecotoxicity in water (LC50): 0.29 mg/l [EC50, Physiology], 48 hours [Daphnia (Daphnia magna)].

BOD5 and COD Not available.

Toxicity of the Products of Biodegradation The products of degradation are less toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number Not available.

Treatment Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations..

Section 14. Transport Information

DOT Classification Not available.

TDG Classification Not available.

IMO/IMDG Classification Not available.

ICAO/IATA Classification Not available.

+ Section 15. Regulatory Information

U.S. Federal Regulations This material is not listed on the TSCA Inventory. For research and development use only, not for manufacturing or commercial purposes.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Malachite Green Oxalate
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Malachite Green Oxalate: Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada) Class D-1B: Material causing immediate and serious toxic effects (TOXIC).
Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: Malachite Green Oxalate

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS

Malachite Green Oxalate

241-922-5

DSCL (EEC) R22- Harmful if swallowed.
 R37/38- Irritating to respiratory system and skin.
 R41- Risk of serious damage to eyes.
 R50- Very toxic to aquatic organisms.

International Lists Australia (NICNAS): Malachite Green Oxalate

China: Malachite Green Oxalate

Japan (MITI): Malachite Green Oxalate

Korea (TCCL): Malachite Green Oxalate

Philippines (RA6969): Malachite Green Oxalate

China: Malachite Green Oxalate

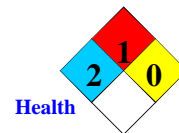
State Regulations

No products were found.

California prop. 65: No products were found.

Section 16. Other Information

**National Fire
 Protection
 Association
 (U.S.A.)**



Fire Hazard

Reactivity

Specific Hazard

**Changed Since Last
 Revision**

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Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.