



Neutron[®]Pharmaceutical Co.
Manufacturer of Laboratory Chemical & Pharmaceutical Materials

SAFETY DATA SHEET

Preparation Date: 12/13/2017

Revision Date: 08/14/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: 6.5080
Product Name: MALACHITE GREEN, CRYSTAL, TECHNICAL

Other means of identification

Synonyms: C.I. Basic Green 4; Acryl Brilliant Green B; Aizen Malachite Green; Aniline green; Astra Malachite Green; Basic Green 4; Benzal Green; Benzaldehyde green; C.I. 42000; Calcozine Green V; China Green; Diamond Green B; Green Malaquite; Green MX; Grenoble Green; Hidaco Malachite Green Base; Malachite Green 4; Malachite green chloride; Malachite Lake Green A

CAS #: 569-64-2
RTECS # BQ11800006
CI#: 42000

Recommended use of the chemical and restrictions on use

Recommended use: Dye for wool and silk. Dyeing leather. Biological stain. Reagent. Fungicide.
Uses advised against No information available

Supplier: NEUTRON PHARMACHEMICAL CO 98, 9th Floor, Borjsaz Building, Azadi Ave, Tehran, Iran

info@neutronco.com
www.neutronco.com

Emergency telephone 125

2. HAZARDS IDENTIFICATION

Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
Serious eye damage/eye irritation	Category 1
Germ cell mutagenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3

Label elements

Danger

Product code: MA143

Product name: MALACHITE GREEN,
CRYSTAL, TECHNICAL

1 / 13

Hazard statements

Toxic if swallowed
Causes serious eye damage
Suspected of damaging fertility or the unborn child
May cause respiratory irritation

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Very toxic to aquatic life with long lasting effects
Very toxic to aquatic life

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Malachite Green	569-64-2	100

4. FIRST AID MEASURES**First aid measures**

Product code: MA143

Product name: MALACHITE GREEN,
CRYSTAL, TECHNICAL

2 / 13

General Advice:	National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops.
Eye Contact:	Flush eyes with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Toxic if swallowed. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms	Causes serious eye irritation Risk of serious damage to eyes May cause corneal opacity May cause destructive keratitis Irritating to respiratory system Abdominal pain May cause diarrhea
-----------------	---

Indication of any immediate medical attention and special treatment needed

Notes to Physician:	Treat symptomatically.
----------------------------	------------------------

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:	Dry chemical. Carbon dioxide (CO ₂). Water spray mist or foam.
--------------------------------------	--

Unsuitable Extinguishing Media:	No information available.
--	---------------------------

Specific hazards arising from the chemical

Hazardous Combustion Products:	Carbon Monoxide, Carbon Dioxide. Nitrogen Oxides. Hydrogen chloride.
---------------------------------------	--

Specific hazards:	May be combustible at high temperatures.
--------------------------	--

Special Protective Actions for Firefighters

Specific Methods:	Dike fire-control water for later disposal; do not scatter the
--------------------------	--

material. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Malachite Green	569-64-2	None	None	None	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Malachite Green	569-64-2	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Malachite Green	569-64-2	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. 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.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:	Safety glasses with side-shields. or Goggles
Skin and body protection:	Long sleeved clothing Chemical resistant apron Gloves
Respiratory protection:	Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.
Hygiene measures:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: Crystals.	Color: Green.
Odor: Odorless.	Taste No information available.	Formula: C ₂₃ H ₂₅ ClN ₂
Molecular/Formula weight (g/mole): 364.90	Flammability: No information available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): 201°C (sublimes)/393.8°F	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F):		

No information available

Bulk density:
No information available

Density (g/cm³):
No information available

Specific gravity:
No information available

pH:
No information available

Vapor pressure @ 20°C (kPa):
No information available

Evaporation rate:
No information available

Vapor density:
No information available

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
log Kow = 0.62

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Easily soluble in water
Soluble in Alcohol
Soluble in Methanol

10. STABILITY AND REACTIVITY

Reactivity

No information available

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Avoid dust formation. Incompatible materials.

Incompatible Materials: Strong oxidizing agents

Hazardous decomposition products: Carbon monoxide. Nitrogen oxides (NO_x). Hydrogen chloride gas.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Inhalation.

Acute Toxicity

Component Information

Malachite Green	
CAS-No.	569-64-2

LD50/oral/rat = No information available

LD50/oral/mouse = 80 mg/kg Oral LD50 Mouse

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available
 LC50/inhalation/rat = No information available
 LC50/inhalation/mouse = No information available
 Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
 VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
 Value - Acute Tox Oral = 80 mg/kg

LD50/dermal/rabbit
 VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
 VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
 VALUE-Vapor = No information available
 VALUE-Gas = No information available
 VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
 VALUE-Vapor = No information available
 VALUE - Gas = No information available
 VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation.

Eye Contact: Risk of serious damage to eyes. May cause corneal opacity. May cause destructive keratitis.

Inhalation Irritating to respiratory system.

Ingestion Toxic if swallowed. May cause abdominal pain. May cause diarrhea.

Aspiration hazard No information available.

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

Chronic Toxicity Prolonged or repeated ingestion may affect the kidneys.

Sensitization: No information available.

Mutagenic Effects: Suspected of causing genetic defects
 DNA damage - hamster ovary

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Malachite Green	569-64-2	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity Suspected of damaging fertility or the unborn child

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure Respiratory system.

STOT - repeated exposure No information available.

Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Malachite Green	569-64-2	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN3143

Proper Shipping Name: Dyes, solid, toxic, n.o.s. (Malachite green)

Hazard Class: 6.1

Subsidiary Class No information available

Packing group: III

Emergency Response Guide 151

Number

Product code: MA143

Product name: MALACHITE GREEN,
CRYSTAL, TECHNICAL

8 / 13

Marine Pollutant	No data available
DOT RQ (lbs):	No information available
Special Provisions	IB8, IP3, T1, TP33
Symbol(s):	[DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.
Description:	UN3143, Dyes, solid, toxic, n.o.s. (Malachite Green), 6.1, III

TDG (Canada)	
UN-No:	UN3143
Proper Shipping Name:	Dye intermediate, solid, toxic, n.o.s.
Hazard Class:	6.1
Subsidiary Risk:	No information available
Packing Group:	III
Marine Pollutant	No Information available
Description:	UN3143, Dye intermediate, solid, toxic, n.o.s. (Malachite Green), 6.1, III

ADR	
UN-No:	UN3143
Proper Shipping Name:	Dye, solid, toxic, n.o.s.
Hazard Class:	6.1
Packing Group:	III
Subsidiary Risk:	No information available
Special Provisions	274
Description:	UN3143, Dye, solid, toxic, n.o.s. (Malachite Green), 6.1, III, ENVIRONMENTALLY HAZARDOUS

IMO / IMDG	
UN-No:	UN3143
Proper Shipping Name:	Dyes, solid, toxic, n.o.s. (Malachite green)
Hazard Class:	6.1
Subsidiary Risk:	No information available
Packing Group:	III
Marine Pollutant	No information available
EMS:	F-A
Special Provisions	223, 274
Description	UN3143, Dye, solid, toxic, n.o.s. (MALACHITE GREEN), 6.1, III, Marine pollutant

RID	
UN-No:	UN3143
Proper Shipping Name:	Dye, solid, toxic, n.o.s.
Hazard Class:	6.1
Subsidiary Risk:	No information available
Packing Group:	III
Special Provisions	274
Description:	UN3143, Dye, solid, toxic, n.o.s. (Malachite Green), 6.1, III, ENVIRONMENTALLY HAZARDOUS

ICAO	
UN-No:	UN3143
Proper Shipping Name:	Dye intermediate, solid, toxic, n.o.s.
Hazard Class:	6.1
Subsidiary Risk:	No information available
Packing Group:	III
Description:	UN3143, Dye intermediate, solid, toxic, n.o.s. (Malachite Green), 6.1, III
Special Provisions	A3, A5

IATA	
UN-No:	UN3143

Proper Shipping Name: Dye intermediate, solid, toxic, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 6L
Special Provisions No information available
Description: UN3143, Dye intermediate, solid, toxic, n.o.s. (Malachite Green), 6.1, III

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Malachite Green	569-64-2	PresentACTIVE	Present KE-06976	Present	Present (5)-2033	Present	Present	Present 209-322-8

U.S. Regulations

Malachite Green

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0448
New Jersey (EHS) List: 0448 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Malachite Green	569-64-2	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Malachite Green	569-64-2	None	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Malachite Green	569-64-2	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification

Product code: MA143

Product name: MALACHITE GREEN,
CRYSTAL, TECHNICAL

Information:

Component
Malachite Green
569-64-2 (100)

WHMIS 2015 Hazard Classification
Acute toxicity - Oral - Category 3: H301 Toxic if swallowed.;
Specific target organ toxicity - Repeated exposure - Category 2:
H373 May cause damage to organs through prolonged or
repeated exposure.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Components	WHMIS Ingredient Disclosure List -
Malachite Green	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Malachite Green	569-64-2	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Malachite Green	569-64-2	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Malachite Green	569-64-2	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Malachite Green	569-64-2	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Serious Eye Damage/Eye Irritation - Eye Dam. 1: H318 Causes serious eye damage.; Reproductive Toxicity - Repr. 2: H361d Suspected of damaging the unborn child. (Hazard statements H360 and H361 indicate a general concern for effects on both fertility and development: May damage/Suspected of damaging fertility or the unborn child; According to the criteria, the general hazard statement can be replaced by the hazard statement indicating the specific effect of concern in accordance with section 1.1.2.1.2; When the other differentiation is not mentioned, this is due to evidence proving no such effect, inconclusive data or no data and the obligations in Article 4(3) shall apply for that differentiation); Hazardous to aquatic environment - acute hazard - Aquatic Acute 1: H400 Very toxic to aquatic life.; Hazardous to aquatic environment - chronic hazard - Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects.602-096-00-5

EU - CLP (1272/2008)

Product code: MA143

Product name: MALACHITE GREEN,
CRYSTAL, TECHNICAL

11 / 13

R-phrases(s)

R22 - Harmful if swallowed.

R41 - Risk of serious damage to eyes.

R50 - Very toxic to aquatic organisms.

R53 - May cause long-term adverse effects in the aquatic environment.

R63 - Possible risk of harm to the unborn child.

S -phrase(s)

S 2 - Keep out of the reach of children.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S46 - If swallowed, seek medical advice immediately and show this container or label.

S60 - This material and its container must be disposed of as hazardous waste.

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Malachite Green	569-64-2	Xn; R22 Xi; R41 N; R50-53 Repr.Cat.3; R63	No information	S: (2) 26 36/37/39 46 60 61

The product is classified in accordance with Annex VI to Directive 67/548/EEC**Indication of danger:**

Xn - Harmful.

Xi - Irritant.

N - Dangerous for the environment.

Xn**Xi****N****16. OTHER INFORMATION**

Preparation Date: 12/13/2017
Revision Date: 08/14/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the

completeness or accuracy of the information contained herein.

End of Safety Data Sheet