Material Safety Data Sheet

Version 4.1 Revision Date 02/16/2013 Print Date 04/30/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Malachite Green solution

Product Number HT8028 Brand Sigma

Supplier Sigma-Aldrich

> 3050 Spruce Street SAINT LOUIS MO 63103

USA

+1 800-325-5832 Telephone Fax +1 800-325-5052 Emergency Phone # (For (314) 776-6555

both supplier and

manufacturer)

Preparation Information Sigma-Aldrich Corporation

Product Safety - Americas Region

1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Target Organ Effect, Toxic by ingestion, Corrosive, Teratogen

Target Organs

Kidney, Teeth.

GHS Classification

Skin corrosion (Category 1A) Serious eye damage (Category 1) Skin sensitisation (Category 1) Reproductive toxicity (Category 2) Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child. H361

H402 Harmful to aquatic life.

Precautionary statement(s)

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

HMIS Classification

3 Health hazard:

Chronic Health Hazard: * Flammability: 0 Physical hazards: 0

NFPA Rating

Health hazard: 3
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous

membranes and upper respiratory tract.

SkinCauses skin burns.EyesCauses eye burns.IngestionToxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component		Classification	Concentration
Glycerol			
CAS-No.	56-81-5		10 - 30 %
EC-No.	200-289-5		
Acetic acid			
CAS-No.	64-19-7	Flam. Liq. 3; Skin Corr. 1A;	10 - 30 %
EC-No.	200-580-7	H226, H314	
Index-No.	607-002-00-6		
Bis[[4-[4-(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium] oxalate			
CAS-No.	2437-29-8	Acute Tox. 3; Eye Dam. 1;	1 - 5 %
EC-No.	219-441-7	Repr. 2; Aquatic Acute 1;	
		Aquatic Chronic 1; H301,	
		H318, H361d, H410	

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Glycerol	56-81-5	TWA	10 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	5 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	10 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Upper Respiratory Tract irritation			
		TWA	15 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	5 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	See Append	dix D - Sub	stances with No E	stablished RELs
Acetic acid	64-19-7	TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Eye & Uppe	Eye & Upper Respiratory Tract irritation Pulmonary function		
		STEL	15 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Uppe	er Respirat	ory Tract irritation I	Pulmonary function
		TWA	10 ppm 25 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	10 ppm 25 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in	n mg/m3 is	approximate.	

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TWA	10 ppm 25 mg/m3	USA. NIOSH Recommended Exposure Limits
ST	15 ppm 37 mg/m3	USA. NIOSH Recommended Exposure Limits

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Гожи	امني بيمنا
Form	liquid

Colour no data available

Safety data

pH no data available

Melting no data available

point/freezing point

Boiling point no data available
Flash point no data available
Ignition temperature no data available
Auto-ignition no data available
temperature

Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure no data available
Density no data available
Water solubility no data available
Partition coefficient: no data available
n-octanol/water

Relative vapour

no data available

density

Odour no data available
Odour Threshold no data available

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10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Materials to avoid

Strong bases, Oxidizing agents, Strong oxidizing agents, Metals, Amines, Alcohols, Peroxides, permanganates, e.g. potassium permanganate, Soluble carbonates and phosphates, Hydroxides

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx) Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

no data available

Inhalation LC50

no data available

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

Eyes: no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a

known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous

membranes and upper respiratory tract.

IngestionToxic if swallowed.SkinCauses skin burns.EyesCauses eye burns.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea

Synergistic effects

no data available

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 2790 Class: 8 Packing group: III

Proper shipping name: Acetic acid solution

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Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 2790 Class: 8 Packing group: III EMS-No: F-A, S-B

Proper shipping name: ACETIC ACID, SOLUTION

Marine pollutant: No

IATA

UN number: 2790 Class: 8 Packing group: III

Proper shipping name: Acetic acid solution

15. REGULATORY INFORMATION

OSHA Hazards

Target Organ Effect, Toxic by ingestion, Corrosive, Teratogen

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Acetic acid	64-19-7	2007-03-01
Glycerol	56-81-5	2007-03-01
Pennsylvania Right To Know Components		

	CAS-No.	Revision Date
Water	7732-18-5	
Acetic acid	64-19-7	2007-03-01
Glycerol	56-81-5	2007-03-01

New Jersey Right To Know Components

ylidene]dimethylammonium] oxalate

	CAS-No.	Revision Date
Water	7732-18-5	
Acetic acid	64-19-7	2007-03-01
Glycerol	56-81-5	2007-03-01
Bis[[4-[4-(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-	2437-29-8	

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox. Aquatic Acute	Acute toxicity Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Dam.	Serious eye damage
Flam. Liq.	Flammable liquids

Flammable liquid and vapour. H226

Toxic if swallowed. H301

Causes severe skin burns and eye damage. H314

Causes serious eye damage. H318

H361d Suspected of damaging the unborn child.

Very toxic to aquatic life with long lasting effects. H410

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Further information

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