



MATERIAL SAFETY DATA SHEET

Section 1. Company Identification and Product Information			
Product Name or Identity:	Veratox for Malachite Green		
Manufacturer's Name:	Neogen Corporation	Emergency Phone No.:	859-254-1221
	944 Nandino Blvd.	Fax No.:	859-255-5532
	Lexington, KY	e-mail:	foodsafety@neogen.com
Date Prepared or Revised:	November 2011	Chemtrec:	(800) 424-9300
		Outside US and Canada:	(703) 527-3887

Section 2. Composition / Information on Hazardous Ingredients			
This product is a mixture of the substances listed below with the addition of nonhazardous materials.			
Hazardous Components, Specific Chemical Identity:	CAS-No.	% Concentration	Hazard Symbol
Sulfuric Acid (Stop Solution)	7664-93-9	4.7 - 5.0 %	C (Corrosive)
Sodium Phosphate (Control, Reconstitution Sol.)	7558-79-4	1.0 %	Xi (Irritant)
Sodium Chloride (Control, Reconstitution Sol.)	7647-14-5	1.0 %	Xi (Irritant)
Methanol (Control)	67-56-1	10 %	T (Toxic), F (Flammable)
K-Blue (Substrate)	N/A	N/A	Xi (Irritant)
Citric Acid (Extraction Buffer)	5949-29-1	1.5 %	Xi (Irritant)
Acetonitrile (Control)	75-05-8	90-99 %	F (Flammable), Xn (Harmful)
Stabilzyme (Stabilizer)	N/A	50 %	Xi (Irritant)

Section 3. Health Hazard Identification	
Health Hazards: (<i>Acute and Chronic</i>)	Information pertaining to particular dangers for man and environment. R 35 Corrosive. Causes severe burns. (Sulfuric Acid) R 10 / 23 / 24 / 25 / 39, Flammable. Toxic by inhalation, in contact with skin and if swallowed. (Methanol) R 20 / 21 / 22, Harmful by inhalation, in contact with skin, and if swallowed. (Acetonitrile) R 36, 37, 38 Irritating to eyes, respiratory system, and skin.

Section 4. First Aid Measures	
Emergency / First Aid Procedures:	General Information: Effects should be less severe than from exposure to higher concentrations of sulfuric acid. Ingestion: DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately, show product label or MSDS. Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately. Eye Contact: Immediately rinse opened eye for at least 15 minutes under running water, lifting lower and upper eyelids occasionally. Remove contact lenses if able. Seek medical attention immediately. Skin Contact: Immediately wash with plenty of soap and water for at least 15 minutes while removing contaminated clothing. Wash clothing before reuse. Seek medical attention. Excess acid on skin can be neutralized with a 2% solution of bicarbonate of soda.

Section 5. Fire and Explosion Hazard Data	
Flash Point (Method Used): Closed Cup 24°C (Methanol), 93°C (K-Blue)	Flammable Limits: LEL –6.0% (Methanol), 1.3% (K-Blue) UEL – 36% (Methanol), 9.5% (K-Blue)
Extinguishing Media: Use water spray, dry powder, or carbon dioxide.	
Protective Equipment: Above flashpoint, vapor-air mixtures are explosive within flammable limits noted above. Moderate Firefighters should wear full protective equipment and self-contained breathing apparatus.	
Unusual Fire and Explosion Hazards: Contacts with metals causes formation of flammable and explosive hydrogen gas. Sensitive to static discharge.	
Hazardous Combustion Products: Sulfuric Acid is not combustible, but it is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.	

Section 6. Accidental Release Measures

Personal Precautions: Shut off all sources of ignition, ventilate spill area. Avoid inhalation of vapors and contact with skin and eyes. Wear suitable protective clothing, gloves, and eye protection. Place contaminated material in a chemical waste container.

Environmental Precautions: Prevent dispersion of material. Avoid discharge into drains, water courses or onto the ground. Inform authorities if large amounts are involved. Do not flush into sewer.

Clean-up Methods: Contain and recover liquid when possible. Neutralize with alkaline material, then absorb with an inert material and place into chemical waste container. Contact safety officer if questions arise and ventilate area.

Section 7. Handling and Storage

Handling: Avoid inhalation of vapors and contact with skin and eyes. Wear appropriate personal protective equipment. Protect against physical damage. Avoid prolonged or repeated exposure.

Storage: Keep container tightly closed in a well-ventilated place. Store in closed original container at 2-8°C. Keep away from heat, sparks, flame, and incompatible materials. Protect from physical damage.

Section 8. Exposure Controls / Personal Protection

Components with limit values that require monitoring: Sulfuric Acid (7664-93-9, 100%), Methanol (67-56-1, 100%)

Chemical Name	Source	Type	Exposure Limits
Sulfuric Acid	US ACGIH TLV	TWA	0.2 mg/m ³
Methanol	US OSHA -PEL	TWA	260 mg/m ³
Acetonitrile	US OSHA - TLV	TWA	70 mg/m ³

Respiratory Protection: Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. If engineering controls do not maintain airborne concentrations below recommended exposure limits an approved respirator must be worn. In the US, assure compliance with OSHA Standard 63 FR 1152. Use a NIOSH-approved respirator.

Personal Protective Equipment: Personal Protection listed below are general requirements for laboratory personnel. Follow the usual precautionary measures for handling chemicals / powder. Avoid contact with eyes, skin, and clothing. Proper ventilation required. Safety shower and eye bath required.

Keep away from food, beverages, and feed.

Wash hands before and after entering laboratory.

Immediately remove all soiled and contaminated clothing.

Hand Protection: Use chemical resistant gloves. Be aware that the liquid may penetrate gloves.

Eye Protection: Wear approved safety goggles.

Body Protection: Wear lab coat or other protective work clothing.

Section 9. Physical and Chemical Properties

Appearance and Odor: N/A	Specific Gravity: N/A
Boiling Point: N/A	Vapor Pressure: N/A
Melting Point: N/A	Vapor Density (Air=1): N/A

Section 10. Stability and Reactivity

Stability:	Unstable		Conditions to Avoid: Avoid heat, sources of ignition and friction.
	Stable	X	
Incompatibility (Materials to Avoid): Incompatible with strong oxidizing and reducing agents.			
Hazardous Decomposition or Byproducts: Carbon monoxide, Carbon dioxide, and Nitrogen oxides. Sulfuric Acid reacts with carbonates to generate Carbon dioxide gas.			
Hazardous Polymerization:	May Occur		Conditions to Avoid: Heat, sparks, open flame, and incompatible materials.
	Will Not Occur	X	

Section 11. Toxicological Information**LD/LC50 values that are relevant:**

LD₅₀: ORL-RAT, 2140 mg/kg (Sulfuric Acid)

LD₅₀: ORL-RAT, 5628 mg/kg (Methanol)

LD₅₀: ORL-RAT, 2,460 mg/kg (Acetonitrile)

Carcinogenicity Classification:

IARC (International Agency for Research on Cancer) – Category 1 as “strong inorganic acid mists containing Sulfuric Acid. This classification applies only to mists containing Sulfuric Acid and not to Sulfuric Acid or Sulfuric Acid solutions.

NTP (National Toxicology Program) - Not Listed

Eye: Produces eye irritation. Exposed individuals may experience blurred vision, redness, pain, and burns to eye tissue.

Ingestion: Symptoms may include severe burns of the mouth, throat, and stomach. May cause sore throat, vomiting, and diarrhea. Additional symptoms include gastrointestinal irritation with nausea, vomiting, and diarrhea.

Inhalation: Symptoms may include irritation of the nose and throat, labored breathing, as well as lung edema, damage to the mucous membranes and upper respiratory tract.

Skin: Symptoms may include redness, pain, and burns to the skin.

Chronic: Long term exposure to mist or vapors may cause damage to teeth. Chronic exposure to mists containing Sulfuric Acid is a cancer hazard.

Additional toxicological information: Any toxin(s) present in this kit are at concentration levels below the regulatory threshold limits which require registration under the Select Agent Program in as detailed in 42 CFR Part 73, 9 CFR, Part 121, and 7 CFR Part 331.

Section 12. Ecological Information

Ecotoxicity Tests: When released into the soil, this material may leach into groundwater. This material (Sulfuric acid) may be toxic to aquatic life.

Section 13. Disposal Considerations

Waste Disposal Method: Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Contact safety officer if questions arise and ventilate area. Dispose in accordance with all applicable federal (40 CFR 261.3), state, and local environmental regulations.

RCRA P-Series: None listed.

RCRA U-Series: CAS # 67-56-1: Waste Number U154 (Ignitable waste).

Contact a licensed professional waste disposal service to dispose of this material if questions arise.

Container Information: Do not remove labels from containers until they have been cleaned. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14. Transport Information**DOT Regulations:**

UN No. 3316

Proper Shipping name: Chemical Kit, (contains 2 -3% Sulfuric Acid, Acetonitrile, and Methanol)

Class 9

Packing Group: III

Label: Excepted/Limited Quantity

Land Transport ADR/RID/TDG (cross-border):

UN No. 3316

Proper Shipping name: Chemical Kit, (contains 2 - 3% Sulfuric Acid, Acetonitrile, and Methanol)

Class 9

Packing Group: III

Label: Excepted/Limited Quantity

**Maritime Transport IMDG:**

UN No. 3316

Proper Shipping name: Chemical Kit, (contains 2 - 3% Sulfuric Acid, Acetonitrile, and Methanol)

Class 9

Packing Group: III

Label: Excepted/Limited Quantity

Marine Pollutant: Not determined**Air Transport ICAO-TI and IATA-DGR:**

UN No. 3316

Proper Shipping name: Chemical Kit, (contains 2 - 3% Sulfuric Acid, Acetonitrile, and Methanol)

Class 9

Packing Group: III

Label: Excepted/Limited Quantity

Section 15. Regulatory Information**EU Regulations, Hazard Symbol(s):****Sulfuric Acid**, C (Corrosive)**Sodium Phosphate**, Xi (Irritant)**Sodium Chloride**, Xi (Irritant)**Methanol**, F (Flammable), T (Toxic)**K-Blue**, Xi (Irritant)**Citric Acid**, Xi (Irritant)**Acetonitrile**, F (Flammable), Xn (Harmful)**Stabilzyme**, Xi (Irritant)**Risk Phrases:**

R 35 Corrosive. Causes severe burns.

R 11 / 23 / 24 / 25 / 39, Flammable. Toxic by inhalation, in contact with skin and if swallowed.

R 20 / 21 / 22, Harmful by inhalation, in contact with skin, and if swallowed

R 36, 37, 38 Irritating to eyes, respiratory system, and skin.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36, 37, 39 Wear suitable protective clothing, gloves, and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately.

Section 16. Other Information

This document is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Neogen Corporation shall not be held liable for any damage resulting from handling or from contact with the above product. These suggestions should not be confused with state, municipal or insurance requirements, and constitute NO WARRANTY.