

Material Safety Data Sheet

Revision Date April 6, 2011	Prepared by Howard Clark	Technical Information 1-800-201-8822 or support@mgchemicals.com
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Section 1: Product Identification

MSDS Code: 41602

Name: Micro Etch Part A

Related Part Numbers: 41602-250ML

Use: In tank # 2 in the MG Electroless Copper-Plating System.

Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
7664-93-9	Sulfuric Acid	17-20%	0.2 mg/m ³	N/E	N/E

Section 3: Hazards Identification

Eyes:	Contact of liquid will cause severe eye burns, corneal damage, which may result in permanent blindness.
Skin:	May cause severe skin irritation with possible burns.
Inhalation:	Causes respiratory irritation and at high concentrations may cause severe injury.
Ingestion:	May be corrosive to the gastrointestinal tract. May cause chemical burns in the mouth, throat, esophagus, and stomach.
Chronic:	Repeated exposure may cause chronic bronchitis with cough, shortness of breath, emphysema, dermatitis, tearing of the eyes, nosebleeds, and upset stomachs.

Section 4: First Aid Measure

Eyes:	Remove contact lenses. Flush with plenty of water. Get medical aid.
Skin:	Wash skin with soap and water. Get medical aid if symptoms persist.
Inhalation:	Immediately remove from exposure to fresh air.
Ingestion:	Do not induce vomiting. If conscious, give 1-2 glasses of water. Get medical aid.

Section 5: Fire Fighting Measures

Autoignition Temperature:	N/A	Flash Point:	N/A	LEL / UEL:	N/A
Extinguishing Media:	Water spray, foam, carbon dioxide, dry chemical				
General Information:	Wear NOSH/MSHA approved self-contained breathing apparatus and full protective clothing if vapors or mists are present. For fighting fires in close proximity to spill or vapors use acid-resistant personal protective equipment. Evacuate residents who are downwind of fire. Prevent unauthorized entry to fire area. Neutralize runoff with lime, soda ash or other suitable neutralizing agents.				

Section 6: Accidental Release Measures

Spill Procedure: Cover spill with dry earth, sand or other non-combustible material. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale.
Storage: Keep away from sources of ignition. Store in a cool, dry, well-ventilated area, away from incompatible substances. Keep from freezing.

Section 8: Exposure Controls

Routes of entry: Eyes, ingestion, inhalation, and skin.
Ventilation: Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.
Personal Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Wear Neoprene, butyl or natural rubber gloves. Use a NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

Physical State: Liquid	Odor: odorless	Solubility in water: 100% soluble	Evaporation Rate: Similar to water
Boiling Point: 100°C	Specific Gravity: 1.17@25°C	Vapor Pressure: N/A	Vapor Density: N/A PH: <1.0

Section 10: Stability and Reactivity

Stability: Stable at normal conditions and temperatures.
Conditions to avoid: Contact with incompatible materials.
Incompatibilities: Strong oxidizers, strong caustic chemicals, reducing agents, phenols, acetylene, hydroxylamine and urea.
Polymerization: Will not occur.
Decomposition: Oxides and salts of copper, carbon dioxide, carbon monoxide and oxides or sulfur.

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure) None Known
 The IARC has classified "strong inorganic acid mists containing sulfuric acid" as known human carcinogens (class 1). This classification applies only to mists and not to sulfuric acid or sulfuric acid solutions.

Carcinogenicity: (risk of cancer)

Teratogenicity: (risk of malformation in an unborn fetus) None Known

Reproductive Toxicity: (risk of sterility) None Known

Mutagenicity: (risk of heritable genetic effects) None Known

Lethal Exposure Concentrations:	Ingestion (LD50):	Inhalation (LC50):	Skin (LD50):	Inhalation (TCLo):
Sulfuric Acid	350 mg/kg Rat	18 mg/m ³ /8H Guinea pig	N/E	8 mg/m ³ /5D Guinea pig

Section 12: Ecological Information

General Information: Avoid runoff into storms and sewers, which lead into waterways. Water runoff can cause environmental damage

Volatile Organic Compounds, % by weight: 0
 Volatile Organic Compounds, grams per litre: 0

Section 13: Disposal Information

General Information: Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage

Section 14: Transportation Information

Ground Canada: (1 Liter and smaller)

Classified as **LTD. QTY**

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations). **Recommend Shipper be trained and certified.**

Ground USA: (1 Liter and smaller)

Classified as **LTD. QTY**. Refer to USA CFR 49 Regulations.

Recommend Shipper be trained and certified.

Air: (all sizes 1L or smaller)

Shipper must be trained and certified. Refer to IATA Dangerous Goods Regulations.

Shipping Name: **SULPHURIC ACID with not more than 51 per cent acid**, UN number: **2796**, Class: **8**, Packing Group: **II**.

Recommend: **DO NOT SHIP BY AIR.**

Sea:

Shipper must be trained and certified. Refer to IMDG regulations.

Shipping Name: **SULPHURIC ACID with not more than 51 per cent acid**, UN number: **2796**, Class: **8**, Packing Group: **II**.

Section 15: Regulatory Information

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

CANADA

DSL

All ingredients in this product are listed on the Domestic Substances List

Health Canada

Products produced by MG Chemicals intended for retail display conform to the Canadian Consumer Labeling regulations.

Industry and Science Canada

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance

WHMIS

This product belongs to the following categories: **D1A, E**

USA

CAA (Clean Air Act, USA)

This product does not contain any class 1-ozone depletors.

This product does not contain any class 2-ozone depletors.

This product does not contain any chemicals listed as hazardous air pollutants.

SARA (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

This product does not contain a toxic chemical subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain a toxic chemical subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

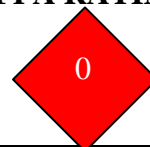
All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

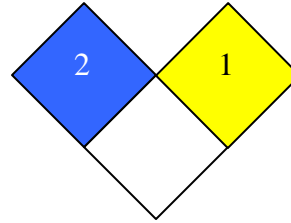
HMIS RATING

NFPA RATING



HEALTH:	2
FLAMMABILITY:	0
PHYSICAL HAZARD:	1
PERSONAL PROTECTION: (PPE)	H

Protection = H (Splash goggles, gloves, protective apron, and vapor respirator.)



EUROPE

RoHS

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, and complies with European RoHS regulations.

WEEE

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

Definitions: N/A = not applicable, N/E = not established

Disclaimer: This material safety data sheet is provided as an information resource only. M.G. Chemicals believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.