

Material Safety Data Sheet

Revision Date April 22, 2009	Prepared by Patti Rogers	Technical Information 1-800-201-8822 or support@mgchemicals.com
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Section 1: Product Identification

MSDS Code: 41692 Name: Tin stripper

Related Part Numbers: 41692-1L

Use: To remove Tin from the Copper Electro Plated Boards.

Section 2: Hazardous Ingredients

CAS#-	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
7439-89-6	Iron (forms Ferric Nitrate CAS# 1041-48-4 In solution	1-10%	N/E	1	N/E
7697-37-2	Nitric Acid	15-25%	400ppm	5	10

Section 3: Hazards Identification

- Eyes:** Contact with eyes will cause irritation, pain, reddening, and blindness.
- Skin:** Depending on the duration of the skin contact, skin overexposures may cause reddening, discomfort, and irritation and chemicals burns. Skin may turn yellow in color. Chemical burns result in blistering of the skin and possible scarring. Repeated skin-overexposures can result in dermatitis (inflammation and reddening of the skin).
- Inhalation:** If vapors, mist or sprays of this solution are inhaled, this product may cause pulmonary irritation, irritation of the mucus membranes coughing, and a sore throat. In case of severe over-exposure, damage to the tissues of the respiratory system may occur and result in potentially fatal lung conditions. (chemical pneumonitis and pulmonary edema).
- Ingestion:** Though not anticipated to be significant route of occupational exposure, ingestion of this product can cause burning and irritation of the mouth, throat, esophagus, and other tissues of the digestive system when will occur immediately upon contact. Ingestion of large quantities maybe fatal, due to corrosive damage to the gastro-intestinal system and by iron poisoning.
- Chronic:** Persistent irritation and dermatitis may result from repeated exposures to this solution. Chronic exposure to excess levels of a component of this product, Iron (50-100mg iron/day), can result in pathological deposition of iron in the body tissues and result in variety of disorders (i.e. fibrosis of the pancreas, diabetes, and liver cirrhosis).

Section 4: First Aid Measure

- Eyes:** If this product's liquid or vapors enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes.
- Skin:** If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.
- Inhalation:** If vapors, mist, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.
- Ingestion:** If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Rinse mouth with water immediately. Victim should drink milk, egg whites, or large quantities of water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having a convulsions, or unable to swallow.

Section 5: Fire Fighting Measures

- Autoignition Temperature:** N/A **Flash Point:** N/A **LEL / UEL:** N/A
- Extinguishing Media:** Use water spray, foam, halon, dry chemical, or carbon dioxide.
- General Information:** This product is corrosive, and presents a significant contact hazard to fire fighter. When involved in a fire, this material may decompose and produce acidic vapors and toxic gases. Though Nitric acid is an oxidizer, which can act to initiate and sustain the combustion of flammable materials, the concentration of this chemical is too dilute to classify the product as an oxidizer.

Section 6: Accidental Release Measures

- Spill Procedure:** Uncontrolled releases should be responded by trained personnel using pre-planned procedures. Proper protective equipment should be used. Absorb spilled liquid with polypads or other suitable absorbent materials. Neutralize residue with soda ash or other acid-neutralizing agent. Decontaminate the area thoroughly. Test the area with pH paper to ensure neutralization is complete. Place all spill residues in an appropriate container and seal. Wash area with soap and water.

Section 7: Handling and Storage

- Handling:** Wash thoroughly after handling. Do not eat or drink while handling this material. Remove contaminated clothing immediately. All employees who handle this material should be trained to handle it safely. Avoid breathing sprays or mists generated by this product. Containers must be properly labeled. Open containers carefully on stable surface. Use in work areas, which can be easily decontaminated. Wash thoroughly after using this material.
- Storage:** Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Keep containers tightly closed when not in use. Storage areas should be made of fire-resistant materials. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

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. Use a NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

Physical State:	Liquid	Odor:	Acrid	Solubility in water:	Completely	Evaporation Rate:	Similar to water	
Boiling Point:	>104°C	Specific Gravity:	1.2	Vapor Pressure:	18 mmHg @20°C	Vapor Density:	Similar to water	pH: <2

Section 10: Stability and Reactivity

Stability:	Stable at normal temperatures and pressures.
Conditions to avoid:	Contact with incompatible material.
Incompatibilities:	Strong bases metals, metal oxides, powdered metals, flammable materials, carbides, sulfides, hydrides and strong reducing agents
Polymerization:	Will not occur.
Decomposition:	Nitrogen oxides and iron compounds

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure)		N/E		
Carcinogenicity: (risk of cancer)		No		
Teratogenicity: (risk of malformation in an unborn fetus)		N/E		
Reproductive Toxicity: (risk of sterility)		N/E		
Mutagenicity: (risk of heritable genetic effects)		N/E		
Lethal Exposure Concentrations:	Ingestion (LD50):	Inhalation (LC50):	Skin (LD50):	Inhalation (TCLo):
Iron (forms Ferric Nitrate CAS# 1041-48-4 In solution)	20 gm/kg Guinea pig	N/E	N/E	150 mg/m3/6H/4W Rat
Nitric Acid	N/E	N/E	N/E	N/E
Ferric Nitrate	N/E	130mg/m3/4H Rat	150ml/kg Rat	50 ug/m3/4H/3D Rat

Section 12: Ecological Information

General Information:	Avoid runoff into storms and sewers, which lead into waterways. Water runoff can cause environmental damage and aquatic life.
Volatile Organic compounds, % by weight:	0%
Volatile Organic compounds, grams per litre:	0 g/L

Section 13: Disposal Information

General Information:	Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.
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Section 14: Transportation Information

Ground Canada: (1 Liter and smaller)

Classified as **Limited Quantity**. **MSDS must accompany each carton.**

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations).

Recommend Shipper be trained and certified.

Ground USA: (1 Liter and smaller)

Classified as **Limited Quantity**. **MSDS must accompany each carton. Refer to USA CFR 49 Regulations.**

Meets **ORM-D** label requirements and dual marking is permissible.

Recommend Shipper be trained and certified.

Ground Canada and USA: (sizes over 1 L)

Shipper must be trained and certified. Refer to CFR 49 (USA), and TDG regulations (Canada).

Shipping Name: **CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, Ferric Nitrate)**, UN number: **3264**, Class: **8**, Packing Group: **II**.

Recommend using original MG Chemicals UN Certified outer cartons. Tape all seams on the carton. Hazard Label required – **CORROSIVE**. A double arrow orientation label is required and is already printed on the original outer carton.

Air: (all sizes 1L or smaller)

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

Shipping Name: **CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, Ferric Nitrate)**, UN number: **3264**, Class: **8**, Packing Group: **II**.

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

Sea:

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

Shipping Name: **CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, Ferric Nitrate)**, UN number: **3264**, Class: **8**, Packing Group: **II**.

Section 15: Regulatory Information

CANADA

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.

DSL

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

WHMIS

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

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.

Health Canada

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

USA

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

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 contains (Nitric Acid Cas# 7697-37-2, 20%) a 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 contains (Nitric Acid Cas# 7697-37-2, 20%) a chemical subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

Section 15: Regulatory Information Cont.

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)

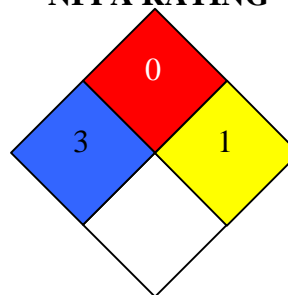
This product does not contain any chemicals listed.

HMIS RATING

HEALTH:	3
FLAMMABILITY:	0
PHYSICAL HAZARD:	1
PERSONAL PROTECTION (PPE):	H

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

NFPA RATING



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.