

Material Safety Data Sheet

GC THORSEN
1801 MORGAN STREET
ROCKFORD, IL
(815)-968-9661

Product: 22-238
Issue: 6
Date: 07/24/96
MSDS No: 0133
Page No: 1

SECTION I - MATERIAL IDENTIFICATION

Product Name: PC BOARD ETCHING SOLUTION
Chemical Family: FERRIC CHLORIDE

Contact: CHEMTREC
Phone: 1-800-424-9300

SECTION II - INGREDIENTS

CAS Number	Chemical Name	%WT	Exposure Limits (PPM)
7705-08-0	FERRIC CHLORIDE SOLUTION	39	N/E
7647-01-0	(42F BAUME) + HCL ACID	61	5 TLV-PEL, N/E STEL

Comments:
NOT CARCINOGENIC

SECTION III - PHYSICAL DATA

Boiling Point:	90 C	Specific Gravity:	1.43
Vapor Pressure:	50 mmHg	% Volatile by Volume:	60
Vapor Density:	0.9	Evaporation Rate:	<1
Solubility in H2O:	VERY	Form:	X Liquid Solid
			Paste Gas

Appearance and Odor:
DARK BROWN LIQUID - HYDROCHLORIC ACID ODOR

SECTION IV - FIRE & EXPLOSION HAZARD DATA

Flash Point:	Open Cup	Flammable Limits	Lower	Upper	
N/A	Closed Cup	(% In Air)	N/A	N/A	
Extinguishing Media:	CO2	H2O	H2O Fog	Chem Foam	Dry Chem

Special Fire Fighting Procedures:
GENERATES HYDROGEN GAS WHEN IT COMES IN CONTACT WITH METALS

Unusual Fire & Explosion Hazards:
HYDROCHLORIC ACID FUMES WILL RESULT IF EXPOSED TO FLAME OR HIGH HEAT

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----- FIRE & EXPLOSION HAZARD DATA - CONTINUED -----

HMIS/NFPA RATINGS	Health 3	Flammability 0	Reactivity 1
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SECTION V - HEALTH HAZARD INFORMATION

TLV: 5 PPM PEL: 5 PPM Other: N/E

Effects of Overexposure:

IRRITATION OF THE MOUTH, THROAT, AND SKIN, RHINITIS, BRONCHITIS, LARYNGITIS, PNEUMONIA, HEADACHE, PALPITATION, NAUSEA, CHILLS, FEVER, SHOC, NEPHRITIS

Primary Routes of entry: X Inhalation X Skin Contact X Eye Contact Ingestion

Emergency/First Aid Procedures:

Eyes:

FLUSH WITH WATER FOR AT LEAST 15 MINUTES - CONSULT PHYSICIAN

Skin:

FLUSH WITH WATER - CONSULT PHYSICIAN IF IRRITATED

Inhalation:

FRESH AIR, OXYGEN - CONSULT PHYSICIAN

Ingestion:

GASTRIC LAVAGE - (5% SODIUM CARBONATE) - CONSULT PHYSICIAN

SECTION VI - REACTIVITY DATA

X Stable Conditions
Unstable to avoid: HIGH TEMPERATURES (PRODUCE HCL FUMES)

Incompatibility: ALKALINE METALS, OXIDIZERS
(Materials to Avoid)

Hazardous Decomposition Products:

CHLORINE, HYDROGEN

Hazardous Polymerization: May Occur X Will not Occur

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SECTION VII - SPILL OR LEAK PROCEDURES

Procedures:

NEUTRALIZE WITH SODIUM CARBONATE, LIME, OR SODIUM BICARBONATE

Waste Disposal:

MAY BE FLUSHED INTO SEWERS WITH A LARGE AMOUNT OF WATER

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory:

SCBA FOR LARGE SPILLS

Eyeware:

CHEMICAL GOGGLES

Ventilation: X Local Exhaust Mechanical AS REQUIRED TO MEET TLV'S

Clothing/Gloves:

BUTYL GLOVES AND APRON IF NECESSARY TO AVOID SKIN CONTACT

SECTION IX - SPECIAL PRECAUTIONS

Handling & Storing:

STORE IN A COOL, WELL-VENTILATED AREA.

Other:

THIS MATERIAL IS HIGHLY CORROSIVE TO STEEL AND MOST METALS.

Prepared by: M. WINSEL

Date: 12/09/98