

MATERIAL SAFETY DATA SHEET

MANUFACTURER'S NAME:

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SECTION I. MATERIAL IDENTIFICATION

Material Names: **RTM SOLUTION "B",**
PC Electroless Copper Part D,
Palladium Chloride 5%

Chemical family: Precious metal formulation

Reviewed April 2004

HMIS Code: Health 1 Flammability 0 Reactivity 0

SECTION II. INGREDIENTS AND HAZARDS

		<u>%</u>	<u>HAZARD DATA</u>
PALLADIUM CHLORIDE	CAS# 7647-10-1	1-5	Toxicity (mg / M ³) N / A
HYDROCHLORIC ACID	CAS# 7647-01-0	1-5	5ppm
AQUEOUS SOLUTION	NON-HAZARDOUS	BALANCE	

SECTION III. PHYSICAL DATA

Boiling Point (° F)	212	Specific gravity, 20/4°C	N/A
Vapor Pressure at 15°C, mm Hg	N/A	Evap. Rate (BuAc = 1)	N/A
Vapor Density (Air = 1)	N/A	Volatiles, %	N/A
Water Solubility	Miscible	Molecular weight	N/A

Appearance and odor: Amber clear, odorless solution.

SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Auto-ignition	Flammability Limits in Air	LOWER	UPPER
Non-flammable	N/A	N/A	---	---

Extinguishing media: Water

* Highly corrosive to most metals with evolution of hydrogen

Special fire fighting procedures: Neutralize with soda ash. Wear protective gear. Use NIOSH approved self-contained breathing apparatus.

SECTION V. REACTIVITY DATA

STABILITY: Stable
Unstable

Conditions to avoid: Excessive heat, strong bases

Incompatible with: Metals, Cyanide solutions, strong bases

Hazardous decomposition products: Hydrogen gas

Hazardous polymerization: May occur

Will not occur

Conditions to avoid: None

SECTION VI. HEALTH HAZARD INFORMATION

Effects of overexposure: Very slightly irritating to skin, will disappear after exposure. Experimentally, palladium chloride may produce liver/ kidney damage with dosage greater than 0.5mg/kg. External-flush thoroughly with excess water.

FIRST AID:

Eye contact: Wash thoroughly for at least 15 minutes with water; consult physician.

Skin contact: Slightly irritating to skin will disappear after exposure. Flush thoroughly with excess water.

Inhalation: May cause irritation of the nose and throat. Exposure to high concentration has narcotic effect, producing symptoms of drowsiness, headache, staggering, unconsciousness and possibly death.

Ingestion: May cause drowsiness, unconscious, and death. Gastrointestinal pain, cramps, nausea, vomiting and diarrhea may also result. The single lethal dose for a human adult is about 250 mls (SAX Sixth Edition).

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

SPILLS, LEAKS: Neutralize with sodium carbonate, dilute with water and collect with absorbent material.

DISPOSAL: Follow local, state, federal regulations for disposal. (Waste may have monetary value due to Palladium metal content.)

SECTION VIII. SPECIAL PROTECTION INFORMATION

Respiratory protection: For large spills, utilize self-contained breathing apparatus.

Ventilation: Local exhaust or mechanical general exhaust.

Protective gloves: Rubber gloves

Eye protection: Safety goggles

Other protective equipment: Appropriate work clothes, proper industrial hygiene

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Storage & Handling information: Keep in tightly closed container, in a cool area. Do not breathe vapors, wash thoroughly after handling.

ADDENDUM TO MATERIAL SAFETY DATA SHEET REGULATORY STATUS

THIS ADDENDUM MUST NOT BE
DETACHED FROM THE MSDS
IDENTIFIES SARA 313 SUBSTANCE(S)

Any copying or redistribution of the MSDS
must include a copy of this addendum
(Chem.Key: PHACD)

HAZARD CATEGORIES FOR SARA

Section 311/312 Reporting

Acute Chronic Fire Pressure Reactive

Product or Components Of Products	SARA EHS Sect. 302		SARA Section 313 Chemicals		CERCLA Sec. 103	RCRA
	RQ (lbs.)	TPQ (lbs.)	Name List	Chemical Category	RQ (lbs.)	Section 261.33
Hydrochloric Acid (7647-01-0)	5000	500	Yes	No	5000	No

Applicable Products:

PC Copper Etchant (CE-100, CE-200)
CRE-473, Iron Oxide Mask Etchant, TFP,
TFTN, Electroless Nickel Plating Strike,
PC Electroless Copper D, Bright Electroless
Tin Part B, SF50

SARA Section 302 EHS RQ: Reportable Quantity of Extremely Hazardous Substance, listed at 40 CFR 355.

SARA Section 302 EHS TPQ: Threshold Planning Quantity of Extremely Hazardous Substance. An asterisk (*) following a threshold Planning Quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning Quantity + 10,000 LBS.

SARA Section 313 Chemicals: Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.

CERCLA Sec 103: Comprehensive Environmental Response, Compensation and Liability Act (Superfund). Releases to air, land or water of these hazardous substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center (800-424-8802); Listed at 40 CFR 302.4

RCRA: Resource Conservation and Reclamation Act. Commercial chemical product wastes designated as acute hazards and toxic under 40 CFR 261.33

Effective Date April 2002 Supersedes 04-30-86

Hydrochloric Acid