PLATO - "TIP TINNER"

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PLATO - "TIP TINNER"
PRODUCT DESCRIPTION: Coating used to re-tin soldering tips.
PRODUCT CODE: TT-95, TT-95-S, TT-95-SP
ACTIVE INGREDIENT(S): Phosphoric acid, diammonium salt; Tin

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Gray Solid with low odor
IMMEDIATE CONCERNS: Fumes produced during normal use may contain ammonia and organic decomposition products which can irritate the eyes, mucous membranes, and the respiratory system (throat, esophagus, lungs, etc.)

POTENTIAL HEALTH EFFECTS

EYES: Moderately irritating to the eyes.
SKIN: May cause skin irritation.
SKIN ABSORPTION: None Expected.
INGESTION: Not likely to be ingested.
INHALATION: Prolonged or excessive inhalation may cause respiratory tract irritation.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Contact may cause eye irritation.
SKIN: May cause slight irritation.
SKIN ABSORPTION: None Expected.
INGESTION: Not a likely route of exposure.
INHALATION: Inhalation may cause respiratory tract irritation.

CHRONIC EFFECTS: Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).
CARCINOGENICITY: None known.
MUTAGENICITY: None known.

REPRODUCTIVE TOXICITY

REPRODUCTIVE EFFECTS: None known.
TERATOGENIC EFFECTS: None known.

ROUTES OF ENTRY: Eyes and Inhalation of fumes are the major routes of entry.
PLATO - "TIP TINNER"

TARGET ORGAN STATEMENT: Eyes, mucous membranes, and respiratory system.
CANCER STATEMENT: NOT listed
PHYSICAL HAZARDS: Avoid breathing (dust, mist, fumes).

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt.%</th>
<th>CAS</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>0.1 - 1.5</td>
<td>7440-50-8</td>
<td>231-159-6</td>
</tr>
<tr>
<td>Phosphoric acid, diammonium salt</td>
<td>49 - 52</td>
<td>7783-28-0</td>
<td>231-987-8</td>
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<tr>
<td>Tin</td>
<td>35 - 45</td>
<td>7440-31-5</td>
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</tr>
<tr>
<td>Alcohols, C12-15, ethoxylated</td>
<td>2 - 10</td>
<td>68131-39-5</td>
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</table>

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.
SKIN: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
INGESTION: Ingestion is unlikely because of the physical properties and is not expected to be hazardous. Do not induce vomiting unless instructed to do so by a physician.
INHALATION: Remove to fresh air.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: None . . . . ASTM D-56 (Tag C.C.)
FLAMMABLE LIMITS: None to None
AUTOIGNITION TEMPERATURE: Not Applicable
GENERAL HAZARD: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
EXTINGUISHING MEDIA: Water, foam, dry chemical, carbon dioxide.
EXPLOSION HAZARDS: None known.
FIRE FIGHTING EQUIPMENT: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.
SENSITIVE TO STATIC DISCHARGE: None
HAZARDOUS DECOMPOSITION PRODUCTS: Forced combustion yields carbon and silicone oxides.

6. ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Vacuum or sweep up material and place in a disposal container.
RELEASE NOTES: None Expected.
SPECIAL PROTECTIVE EQUIPMENT: NA = Not Applicable

7. HANDLING AND STORAGE
PLATO - "TIP TINNER"

GENERAL PROCEDURES: Wash thoroughly after handling. Use only in a well ventilated area. Store in a cool dry place.

HANDLING: Use with adequate ventilation.

STORAGE: Store in a cool place in original container and protect from sunlight.

STORAGE TEMPERATURE: Not Applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ppm</th>
<th>mg/m³</th>
<th>ppm</th>
<th>mg/m³</th>
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<td>TWA</td>
<td>NL [1]</td>
<td>[1]</td>
<td>NL</td>
<td>NL</td>
<td></td>
</tr>
</tbody>
</table>

OSHA TABLE COMMENTS:

1. * NL = Not Listed

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

SKIN: None Expected.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

WORK HYGIENIC PRACTICES: Avoid contact with eyes. Avoid fume inhalation. Limit skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid

ODOR: Characteristic odor.

APPEARANCE: Gray Solid with low odor

pH: Not Applicable

PERCENT VOLATILE: None

VAPOR PRESSURE: Not Applicable

VAPOR DENSITY: Not Applicable

BOILING POINT: Not Applicable

FREEZING POINT: Not Applicable

MELTING POINT: 160°C (320°F)

FLASHPOINT AND METHOD: None : . . . . ASTM D-56 (Tag C.C.)

EVAPORATION RATE: Not Applicable
DENSITY: Not Applicable
SPECIFIC GRAVITY: > 1.000 (water=1)
VISCOITY: Not Applicable
MOLECULAR WEIGHT: Not Applicable
(VOC): g/L

10. STABILITY AND REACTIVITY

STABLE: Yes
HAZARDOUS POLYMERIZATION: No
STABILITY: Stable.
POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Stable. However, may decompose if heated.
HAZARDOUS DECOMPOSITION PRODUCTS: When heated to solder melting temperatures, thermal degradation may produce ammonia, aliphatic aldehydes and acids, and other potentially harmful organic fumes.
INCOMPATIBLE MATERIALS: Oxidizing materials.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: May be mildly irritating to eyes.
SKIN EFFECTS: Not Established
CARCINOGENICITY
Notes: Not listed as a carcinogen.
SENSITIZATION: Not Established

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Biodegradability - Minimal
ECOTOXICOLOGICAL INFORMATION: Not Established

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Federal, State, and Local laws governing disposal of materials can differ. Ensure compliance with proper authorities before disposal.
PRODUCT DISPOSAL: Solder can be reclaimed.
GENERAL COMMENTS: Dispose of in a manner consistent with federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)
PROPER SHIPPING NAME: Nonhazardous
PRIMARY HAZARD CLASS/DIVISION: Not Regulated
UN/NA NUMBER: N/A
PACKING GROUP: N/A
15. REGULATORY INFORMATION

UNITED STATES
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
311/312 HAZARD CATEGORIES: NHH, NPH
FIRE: No  PRESSURE GENERATING: No  REACTIVITY: No  ACUTE: Yes  CHRONIC: Yes
313 REPORTABLE INGREDIENTS: Copper (CAS No. 7440-50-8)

EPCRA SECTION 313 SUPPLIER NOTIFICATION

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TITLE III NOTES: Not listed as an Extremely Hazardous Substance.

302/304 EMERGENCY PLANNING
EMERGENCY PLAN: NOT listed

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)
CERCLA REGULATORY: Listed in table 302.4 of 40CFR Part 302 as a hazardous substance however, this material is greater than 100 micrometers therefore it does not have a reportable quantity.

CERCLA RQ: None

EPA
EPA RQ INGREDIENT: None

TSCA (TOXIC SUBSTANCE CONTROL ACT)
MATERIAL SAFETY DATA SHEET
Finished Product

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TSCA REGULATORY: All chemicals in this product are listed on the TSCA Inventory.

TSCA STATUS: All chemicals in this product are listed in the TSCA inventory.

CLEAN AIR ACT
40 CFR PART 68---RISK MANAGEMENT FOR CHEMICAL ACCIDENT RELEASE PREVENTION: NA = Not Applicable

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
29 CFR1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: None of the chemicals in this product are considered highly hazardous by OSHA.

CALIFORNIA PROPOSITION 65: This product does not contain any chemicals known to the State of California to cause cancer.

RCRA STATUS: NA = Not Applicable


CLEAN WATER ACT: Not Available

CARCINOGEN: NOT listed

CANADA
WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Not a controlled product.

WHMIS CLASS: Class D2B - Toxic Materials

DOMESTIC SUBSTANCE LIST (INVENTORY): All components of this product are listed on the Canadian DSL.

16. OTHER INFORMATION

APPROVED BY: Pierce A. Pillon       TITLE: Chemist
PREPARED BY: Heath Layton

REVISION SUMMARY: This MSDS replaces the 06/02/2011 MSDS.

HMIS RATING

<table>
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<tr>
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<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
<th>PERSONAL PROTECTION</th>
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<tbody>
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NFPA CODES

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responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.