SAFETY DATA SHEET
SUPERIOR NO. 50TS
DATE REVISED: January 1, 2017

Product Name: Superior No. 50TS
Manufacturer: Superior Flux & Mfg. Co. 6615 Parkland Blvd. Cleveland, OH 44139
Emergency Phone Number: 1-800-424-9300 (CHEMTREC)
Other Information Calls: (440) 349-3000

To the Purchaser: This SDS contains important environmental, health, and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of the SDS should be given to the buyer.

H.M.I.S. INFORMATION: HEALTH = 2 FLAMMABILITY = 0 REACTIVITY = 0

SECTION I - IDENTIFICATION

Common Name: Superior No. 50TS
Chemical Family: Non-Halide, Organic Acid
CAS Number: NA
Chemical Name: NA
Formula: See Below

SECTION II – HAZARDS IDENTIFICATION

Classification of Substance or Mixture:
Classification (CLP): No Data Available
Label Elements (CLP): No Data Available

Precautionary Statements: P260, P280, P284, P305+P351+P338, P310
Risk Phrases: R34
Safety Phrases: S36, S39
See section XVI for full text description of S and R phrases
Other Hazards: None if used properly

SECTION III- COMPOSITION INFORMATION

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>%</th>
<th>OSHA PEL</th>
<th>H Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric Acid</td>
<td>7665-38-2</td>
<td>10-30</td>
<td>NA</td>
<td>H302, H313, H314, H330</td>
</tr>
<tr>
<td>Glutamic Acid</td>
<td>15767-75-6</td>
<td>5-15</td>
<td>10 mg/m³</td>
<td>NA</td>
</tr>
</tbody>
</table>

Unlisted percentages are non-hazardous stabilizers, activators, and water. None of the materials in this product are listed in NTP, IARC, or OSHA as carcinogens.
SECTION IV - HEALTH HAZARDS

Primary Routes of Entry: Fume inhalation, ingestion, skin, and eyes.

Signs and Symptoms of Exposure:

1) Acute Effects: Reddening of eyes and skin, acid stomach if ingested, inhalation may cause respiratory tract irritation.

2) Chronic Effects: No specific information available

Medical Conditions Generally Aggravated by Overexposure: None presently known.

Chemical Listed as a Carcinogen or Potential Carcinogen: None

OSHA Permissible Exposure Limit (PEL): 5 mg/m³

ACGIH Threshold Limit Value (TLV): 5 mg/m³

EMERGENCY AND FIRST AID PROCEDURES

Eyes: Flush with water for 10 minutes. Call a physician.
Skin: Wash thoroughly with water.
Inhalation: Remove to fresh air or administer oxygen. Call a physician.
Ingestion: If patient is fully conscious, give two glasses of water. Obtain medical attention immediately.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flash Point: None-water base
Flammable Limits: Lower-NA Upper-NA
Extinguishing Media: Not needed
Auto Ignition Temperature: None
Special Fire Fighting Procedures: Non-flammable
Unusual Fire and Explosion Hazards: None

SECTION VI - ACCIDENTAL RELEASE MEASURES

Steps to be Taken in Case Material is Spilled: First, neutralize with soda ash or sodium bicarbonate. Dilute with water and dispose of in accordance with EPA regulations. Wash spill area with plenty of water.

SECTION VII - HANDLING AND STORAGE

Storage Requirements: Store in plastic containers in cool area, away from heat.
Handling Precautions: Safe, precautionary practices to avoid spills and exposure to skin or fumes.
Other Precautions: None

SECTION VIII - CONTROL MEASURES
Respiratory Protection (TYPE): Adequate ventilation and air removal from solder area is required. If working in inadequate ventilation area, wear NIOSH approved respirators.

Ventilation: Yes
Mechanical (General): Yes
Local Exhaust: Yes
Eye Protection: Safety glasses/goggles
Protective Gloves: Recommended, NIOSH approved
Other Protective Clothing or Equipment: Optional to user preference

SECTION IX - PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point: 105°C
Specific Gravity (Water = 1): 1.250
Vapor Pressure (mm Hg): NA
Percent Volatile by Volume: 70%
Vapor Density (Air = 1): NA
Evaporation Rate (Butyl Acetate = 1): NA
Melting Point: NA
Solubility in Water: Completely soluble
Reactivity in Water: None
Appearance and Odor: Clear, yellow color, lemon odor

SECTION X - STABILITY AND REACTIVITY

Stability: Product is Stable (Conditions to Avoid): NA
Incompatibility: Strong Oxidizers, Metals.
Hazardous Decomposition Products: Small Amounts of HCl.
Hazardous Polymerization: Will Not Occur (Conditions to Avoid): NA

SECTION XI - TOXICOLOGICAL INFORMATION

Acute Toxicity Data
1) Oral: LD-50 (rat): Not available
2) Inhalation: LC-50 (rat): Not available
3) Dermal: LD-50 (rabbit): Not available
4) Skin Irritation: (rabbit): Not available

Chronic Toxicity Data
1) Repeated Skin Application: (rat): Not available
2) Eye Irritation: (rabbit): Not available

SECTION XII - ECOLOGICAL INFORMATION

This Material has not been Tested for Environmental Effects.

SECTION XIII - DISPOSAL CONSIDERATIONS
Waste Disposal Method: Dispose of in accordance with EPA regulations.

SECTION XIV - TRANSPORTATION

D.O.T. Proper Shipping Name: Phosphoric Acid Solution
Hazard Class: 8
Identification Number: UN 1805
Packing Group: III
Type D.O.T Label Required Information: Corrosive

SECTION XV - REGULATORY INFORMATION

OSHA Hazardous Chemical According to 29 CFR 1910.1200: None

Carcinogenicity Classification (Components Present at 0.1% or More): Non-Carcinogenic
International Agency for Research on Cancer (IARC): Not Listed
American Conference of Governmental Industrial Hygienists (ACGIH): Not Listed
National Toxicology Program (NTP): Not Listed
Occupational Safety and Health Administration (OSHA): Not Listed

None of the Components of this Product are Listed on the U.S. Toxic Substances Control Act. Inventory or Otherwise Comply with TSCA Pre-manufacture Notification Requirements.
This Product is RoHS Compliant.

SECTION XVI - OTHER INFORMATION

The labeling of this product is indicated in Section II. The full text of all abbreviations indicated by codes in the SDS are as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R34</td>
<td>Causes burns</td>
</tr>
<tr>
<td>S-36/39</td>
<td>Wear suitable protective clothing and eye/face protection</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H313</td>
<td>May be harmful in contact with skin</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H330</td>
<td>Fatal if inhaled</td>
</tr>
<tr>
<td>P260</td>
<td>Do not breathe dust/fumes/gas/mist/vapours/spray.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves/protective clothing/eye protection/face protection</td>
</tr>
<tr>
<td>P284</td>
<td>[In case of inadequate ventilation] wear respiratory protection</td>
</tr>
<tr>
<td>P305+P351+P338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing</td>
</tr>
<tr>
<td>P310</td>
<td>IF SWALLOWED: Immediately call a POISON CENTER/doctor</td>
</tr>
</tbody>
</table>

Disclaimer: Judgments as to the suitability of information herein or the purchaser's purposes are necessarily the purchaser's responsibility. Reasonable care has been taken in the preparation of this material, but there are NO WARRANTIES, NO REPRESENTATIONS AND NO RESPONSIBILITY AS TO THE ACCURACY OR THE SUITABILITY OF THIS INFORMATION FOR ANY PURCHASER'S USE OR FOR ANY CONSEQUENCE TO USE.