SAFETY DATA SHEET
RUBYFLUID STAINLESS STEEL
DATE REVISED: April 2, 2018

SECTION 1 -- IDENTIFICATION
Product Name/Part number: Rubyfluid Stainless Steel
Recommended use: Stainless Steel Soldering Flux
6615 Parkland Blvd Emergency Phone No. 1-800-424-9300 (CHEMTREC)
Cleveland OH, 44139

SECTION 2 – HAZARD(S) IDENTIFICATION
Classification of the substance or mixture

GHS Classification in accordance with OSHA HCS (29 CFR 1910)
- Corrosive to metals (Category 1) H290
- Acute toxicity, Oral (Category 4) H302
- Skin corrosion (Category 1B) H314
- Serious eye damage (Category 1) H318
- Specific target organ toxicity – Single exposure, respiratory system (Category 2) H335
- Specific target organ toxicity – Repeated exposure, oral, kidneys (Category 2) H373
- Acute aquatic toxicity (Category 1) H400
- Chronic aquatic toxicity (Category 1) H410

See below for full text of H-Statement

GHS Label Elements, including precautionary statements
Pictogram(s):

Signal Word: Danger
Hazard Statement(s)
- H290 May be corrosive to metals
- H302 Harmful if swallowed
- H314 Causes severe skin burns and eye damage
- **H318 Causes serious eye damage
- H335 May cause respiratory irritation
- H373 May cause damage to kidney through prolonged or repeated exposure if swallowed
- **H400 Very toxic to aquatic life
- H410 Very toxic to aquatic life with long lasting effects
*May be omitted from label due to presence of stronger statement.

Precautionary statement(s)
P260 Do not breathe mist, fumes, or vapors
P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to the environment
P280 Wear protective gloves, protective clothing, eye protection, and face protection
P301+P312+P330 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340+P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call POISON CENTER/doctor.
P314 Get medical advice or attention if you feel unwell.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P405 Store locked up.
P501 Dispose of contents and/or container to an approved waste disposal plant.

Hazards not otherwise classified or not covered by GHS: None.

SECTION 3 – COMPOSITION INFORMATION

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc chloride</td>
<td>7646-85-7</td>
<td>30-45</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>20-50</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>3-10</td>
</tr>
</tbody>
</table>

SECTION 4 – FIRST AID MEASURES

Description of first aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Inhalation: If breathed in, move to fresh air. If not breathing, give artificial respiration. Consult a physician.

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

Skin: Wash off with soap and plenty of water. Consult a physician.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

The most important known symptoms and effects, both acute and delayed

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: NA

Flammable Limits: NA

Extinguishing Media: Dry chemical, CO₂ foam

Auto Ignition Temperature: None

Special Fire Fighting Procedures: Normal cautions when dealing with chemicals.

Unusual Fire and Explosion Hazards: Will release small amounts of HCl upon decomposition.
SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. See section 8 for personal protection.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

In Case Material is spilled: First neutralize with soda ash or sodium bicarbonate, dilute with water and dispose of in accordance with EPA regulations.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin and eyes. For full precaution statements see Section 2

Storage Requirements: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

OSHA Permissible Exposure Limit (PEL): 2.5 mg/m³
ACGIH Threshold Limit Value (TLV): 2.5 mg/m³

Engineering Controls: Use local exhaust ventilation to maintain air concentrations of vapors and fumes below occupational exposure standards.

Special Engineering Control Needs: NA

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (USA) or ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested an approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

Protective Gloves: Handle with gloves. (Nitrile Rubber recommended) Gloves must be inspected prior to use. Use proper glove removal techniques (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good lab practices. Wash and dry hands after handling.

Eye Protection: Use tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (USA) or EN 166 (EU)

Body Protection: Complete suit protecting against chemical, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

SECTION 9 - PHYSICAL AND CHEMICAL CHARACTERISTICS
Appearance: Red liquid
Odor: None
Odor threshold: No data available
pH: 4.00-5.00 @ 20-25°C
Melting point/Freezing point: < -1°C / 30°F
Initial boiling point and boiling range: 107°C / 225°F
Flash point: No data available
Evaporation rate (Butyl Acetate = 1): < 1
Flammability (Solid, gas): No data available
Upper flammability or explosive limits: No data available
Lower flammability or explosive limits: No data available
Vapor pressure: No data available
Vapor density: <18 mmHg @ 20°C
Relative density: 1.320 (Water = 1)
Solubility(ies): Soluble in water
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available

SECTION 10 - STABILITY AND REACTIVITY
Reactivity: No data available
Stability: Product is stable under recommended storage conditions
Possibility of hazardous reactions: No data available
Conditions to Avoid: Metals
Incompatibility: Alkaline, strong oxidizers or reducers, cyanides or combustible materials
Hazardous Decomposition Products: HCl, zinc chloride, zinc oxide
In the event of fire: See Section 5

SECTION 11 - TOXICOLOGICAL INFORMATION
Likely Route(s) of Exposure: Inhalation, ingestion, skin and eye contact
Symptoms (Immediate and Chronic) from
  Acute Exposure: No data available
  Prolonged or Repeated Exposure: No data available
Measure(s) of toxicity: No data available
Is this chemical listed in the National Toxicology Program (NTP) Report on Carcinogens? No data available
Is this chemical found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs or by the Occupational Safety and Health Administration (OSHA) No data available
SECTION 12 - ECOLOGICAL INFORMATION
Toxicity
   No data available
Persistence and degradability
   No data available
Bioaccumulative potential
   No data available
Mobility in soil
   No data available
Other adverse effects
   Hazard to ozone layer: No data available

SECTION 13 - DISPOSAL CONSIDERATIONS
Waste treatment methods
Product
   Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging
   Dispose of as unused product.

SECTION 14 - TRANSPORTATION
D.O.T. (USA)
Proper Shipping Name:
   Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Zinc Chloride, Hydrochloric Acid)
Identification Number:
   UN3264
Hazard Class(es):
   8
Packing Group:
   III
D.O.T. Label Req:
   Corrosive

SECTION 15 - REGULATORY INFORMATION
SARA 302 Components
   No Chemicals in this material are subject to the reporting requirement of SARA Title III, Section 302.
SARA 313 Components
   This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 302 Components
   Fire Hazard, Acute Health Hazard, Chronic Health Hazard

California Prop. 65 Components
   This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

THIS PRODUCT IS ROHS 2 COMPLIANT
SECTION 16 - OTHER INFORMATION

Further information:
Judgments as to the suitability of information herein or the purchaser's purposes are necessarily the purchaser's responsibility. The above information does not represent any guarantee of the properties of the product. It is believed to be correct, but does not purport to be all inclusive and should be used only as a guide. Reasonable care has been taken in the preparation of this material, and is based on the present state of our knowledge.

Superior Flux & Mfg. Co. shall not be held liable for any damage resulting from handling or from contact with the above product.

Reference(s):  
Zaclon – SDS for Product Zinc Chloride

Preparation information  
Superior Flux & Mfg. Co.
440-349-3000