

# SAFETY DATA SHEET

## SUPERIOR NO. 461

DATE REVISED: April 9, 2020

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### SECTION 1 -- IDENTIFICATION

**Product Name/Part number:** Superior No. 461

**Recommended use:** Organic acid, chloride activated soldering flux

**Manufacturer:** Superior Flux & Mfg. Co.  
6615 Parkland Blvd  
Cleveland OH, 44139

**Emergency Contact:** CHEMTREC  
**Emergency Phone:** 1-800-424-9300  
**For other info:** (440) 349-3000

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### SECTION 2 – HAZARD(S) IDENTIFICATION

#### Classification of the substance or mixture

##### GHS Classification in accordance with OSHA HCS (29 CFR 1910)

Acute toxicity, Oral (Category 4)	H302
Acute toxicity, Inhalation (Category 4)	H332
Acute toxicity, Dermal (Category 4)	H312
Skin corrosion (Category 1B)	H314
Serious eye damage (Category 1)	H318
Specific target organ toxicity – Single exposure, Respiratory system (Category 3)	H335
Acute aquatic toxicity (Category 1)	H402
Chronic aquatic toxicity (Category 1)	H412

*See below for full text of H-Statement*

#### GHS Label Elements, including precautionary statements

##### Pictogram(s):



**Signal Word:** Danger

##### Hazard Statement(s)

H302+H332+H312	Harmful if swallowed, inhaled or in contact with skin
H314	Causes severe skin burns and eye damage
**H318	Causes serious eye damage
H335	May cause respiratory irritation
**H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

\*\*Can be omitted from label due to presence of stronger statement.

##### Precautionary statement(s)

P261	Avoid breathing fumes, gas, mist, vapors, or spray
P264	Wash skin thoroughly after handling
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area
P273	Avoid release to the environment
P280	Wear protective gloves, protective clothing, and eye or face protection.
P301+P312+P330+P331	IF SWALLOWED: Call a POISON CENTER if you feel unwell. Rinse mouth. Do NOT induce vomiting.

P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P304+P340+P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or 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 a POISON CENTER or doctor.
P337+P313	If eye irritation persists, get medical attention.
P363	Wash contaminated clothing before reuse
P391	Collect spillage
P403+P223+P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up
P501	Dispose of contents and container to an approved waste disposal plant.

**Other hazards** - None

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### SECTION 3 – COMPOSITION INFORMATION

Components	CAS No.	%
Hydroxyacetic acid	79-14-1	10 – 30
Ammonium chloride	12125-02-9	10 – 45
Hydrochloric acid	7647-01-0	10 – 30
Monoethanolamine	141-43-5	5 – 10

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### SECTION 4 – FIRST AID MEASURES

Description of first aid measures

- General:** Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
- Inhalation:** If breathed in, move to fresh air. If not breathing, give artificial respiration. Get medical advice.
- Skin:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
- Eyes:** Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most Important Symptoms and effects, both acute and delayed

*The most important known symptoms and effects are described in section 2 (labeling)*

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### SECTION 5 – FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Use carbon dioxide or dry chemical

**Special Hazards:** No data available

**(Special) Advice for Firefighters:** Wear self-contained breathing apparatus for firefighting if necessary. Use water spray to cool unopened containers

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions and Equipment and emergency procedures:** Use personal protective equipment. Avoid breathing gas, vapors or mist. Ensure adequate ventilation. 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. Discharge into the environment must be avoided.

**In Case Material is spilled:** Contain spillage, and then collect and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

*See section 13 for disposal*

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## SECTION 7 - HANDLING AND STORAGE

**Precautions for safe handling:** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from oxidizing agents.

*For full precaution statements see Section 2*

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

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## SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION CONTROL PARAMETERS

**OSHA Permissible Exposure Limit (PEL):** 3 mg/m<sup>3</sup>

**ACGIH Threshold Limit Value (TLV):** 3 mg/m<sup>3</sup>

**Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

**Eye/Face Protection:** Tightly fitting safety goggles. Faceshield. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**Skin Protection:** Handle with gloves. 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.

**Body Protection:** Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (US) or type 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 and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of Environmental Exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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.

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## SECTION 9 - PHYSICAL AND CHEMICAL CHARACTERISTICS

<b>Appearance</b>	Clear liquid
<b>Odor</b>	Slight
<b>Odor threshold</b>	No data available
<b>pH</b>	No data available
<b>Melting point/Freezing point</b>	10°C/50°F (approx.)
<b>Initial boiling point and boiling range</b>	112°C/234°F (approx.)
<b>Flash point</b>	Not applicable
<b>Evaporation rate (Butyl Acetate = 1)</b>	No data available
<b>Flammability (Solid, gas)</b>	Not applicable
<b>Upper flammability or explosive limits</b>	Not applicable
<b>Lower flammability or explosive limits</b>	Not applicable
<b>Vapor pressure</b>	No data available
<b>Vapor density (Air = 1)</b>	No data available
<b>Relative density (Water = 1)</b>	No data available
<b>Solubility(ies)</b>	Miscible in water
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	No data available
<b>Viscosity</b>	No data available

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## SECTION 10 - STABILITY AND REACTIVITY

**Reactivity:** No data available

**Stability:** Product is stable under recommended storage and handling conditions

**Possibility of hazardous reactions:** Hazardous polymerization will not occur

**Conditions to Avoid:** Extreme heat

**Incompatibility:** Strong oxidizers, metals, rubber

**(Hazardous) Decomposition Products** Under fire conditions: Carbon oxides (CO, CO<sub>2</sub>),  
Nitrogen oxides (NO<sub>x</sub>)

*In the event of fire: See Section 5*

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## SECTION 11 - TOXICOLOGICAL INFORMATION

**Likely Route(s) of Exposure:** Inhalation, ingestion, skin and eye contact

**Acute Toxicity:** No data available

**Skin Corrosion/Irritation:** No data available

**Serious Eye Damage/Irritation:** No data available

**Respiratory or Skin Sensitization:** No data available **Germ Cell Mutagenicity:** Not classified  
**Carcinogenicity:**

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** No data available

**Specific Target Organ Toxicity (Repeated Exposure):** No data available

**Aspiration Hazard:** Not classified

**Additional information:** burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## 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

**Results of PBT and vPvB assessment** PBT/vPvB assesment not available as chemical safety assessment not required/not conducted

**Other adverse effects** Toxic to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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## SECTION 13 - DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Product** Offer surplus and non-recyclable solutions to a licensed disposal company.  
Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging** Dispose of as unused product.

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## SECTION 14- TRANSPORTATION

### D.O.T. (US)

**Proper Shipping Name:** Corrosive Liquid, NOS (Contains Hydroxyacetic Acid, Hydrochloric Acid)

**Identification Number:** UN1760

**Hazard Class:** 8

**Packing Group:** III

**DOT Label Required Info:** Corrosive

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## SECTION 15 - REGULATORY INFORMATION

**SARA 302 Components** No chemicals in this material are subject to the reporting requirements 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 311/312 Hazards** Fire hazard, Acute health hazard, Chronic health hazard

### Massachusetts Right to Know Components

<u>Component(s)</u>	<u>CAS No.</u>	<u>Revision Date</u>
Ethanolamine	141-43-5	2007-03-01

### Pennsylvania Right to Know Components

<u>Component(s)</u>	<u>CAS No.</u>	<u>Revision Date</u>
Ethanolamine	141-43-5	2007-03-01

### New Jersey Right to Know Components

<u>Component(s)</u>	<u>CAS No.</u>	<u>Revision Date</u>
Ethanolamine	141-43-5	2007-03-01

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

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## 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. 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.*

### Reference(s):

Sigma Aldrich SDS – Monoethanolamine formatting

### Preparation information

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

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