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# Safety Data Sheet

**Issue Date:** 01-Mar-2013
**Revision Date:** 01-Jun-2016
**Version** 1.2

## 1. IDENTIFICATION

**Product Identifier**

**Product Name** **SpeedFlux Liquid**

**Other means of identification**

**SDS #** Aufhauser Speed Flux 201606

**UN/ID No** UN1993

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Liquid gas flux for brazing

**Details of the supplier of the safety data sheet**

Aufhauser Corporation
39 West Mall
Plainview NY 11803 USA www.brazing.com

**Emergency Telephone Number**

**Company Phone Number** 212-246-0205 (8am - 4:30pm EST M-F)
**Emergency Telephone (24 hr)** **INFOTRAC 1-352-323-3500 (International)** **1-800-535-5053 (North America)**

## 2. HAZARDS IDENTIFICATION

**Important!** This section covers the materials from which the product is manufactured. Reasonably expected fumes and gases during the brazing process are covered in Section 8 – Exposure Controls / Personal Protection (when brazing).

**Appearance** Clear, colorless liquid **Physical State** Liquid **Odor** Characteristic

**Classification**

| | |
|---|---|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Dermal | Category 4 |
| Acute toxicity - Inhalation (Vapors) | Category 4 |
| Serious eye damage/eye irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Flammable Liquids | Category 2 |

**Signal Word:** Danger

**Hazard Statements:** Harmful if swallowed Harmful in contact with skin Harmful if inhaled. Causes serious eye irritation Causes damage to organs. Highly flammable liquid and vapor.

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Keep away from heat/ sparks/ open flames/ hot surfaces. — No smoking. Keep container tightly closed. Ground/ bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing, Get medical attention. Wash contaminated clothing before reuse. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a poison center or doctor/physician if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IN CASE OF FIRE: Use CO2, dry chemical, or foam for extinction.

**Precautionary Statements - Storage**

Store locked up. Store in a well-ventilated place. Keep cool.

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant.

**Other Hazards**

Harmful to aquatic life with long lasting effects.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|---|---|---|
| Trimethyl borate | 121-43-7 | 55 |
| Acetone | 67-64-1 | 25 |
| Methanol | 67-56-1 | 20 |

## 4. FIRST-AID MEASURES

**General Advice** Provide this SDS to medical personnel for treatment. Always contact physician or poison control center in case of medical emergency. Treatment may vary with condition of victim and specifics of the incident.

**Eye Contact** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Seek medical attention

**Skin Contact** Copiously flush skin with plenty of water for several minutes. Get medical attention if symptoms occur.

**Inhalation** Remove victim to fresh air. Administer oxygen or artificial respiration only on physician's recommendation. Seek medical attention.

**Ingestion** If swallowed, do not induce vomiting, immediately give several glasses of warm water. Do not give liquids if victim is unconscious or very drowsy. Seek medical attention immediately.

**Most important symptoms and effects when handling (see Section 8 for symptoms and effects while brazing)**

**Symptoms** Inhalation: High vapor concentrations may cause irritation of eyes, nose and throat. Prolonged inhalation may cause headaches, nausea and drowsiness.

Eye contact: Contact may cause irritation to the eyes and mucus membranes.

Skin contact: Prolonged contact causes dryness and irritation.

Ingestion: Ingestion may cause headache, fatigue, nausea, circulatory and/or respiratory failure and death.
Chronic: Repeated and/or prolonged exposure by inhalation/absorption may cause systematic poisoning.

**Indication of any immediate medical attention and special treatment needed if ingested**

**Notes to Physician** Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ethanol and fomepizole are effective antidotes for methanol poisoning, although fomepizole is preferred. Target organs for methanol: Kidneys, heart, central nervous system, liver, eyes.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Dry Chemical, $CO_2$, Water Spray or Foam

**Unsuitable Extinguishing Media** Not determined

**Specific Hazards Arising from the Chemical**

This product burns with a clear flame which is virtually invisible in daylight. Evacuate nonessential personnel from the fire area. Prevent human exposure to fire, smoke, fumes or products of combustion. Keep containers, which are exposed, to heat or fire cool with water spray to prevent rupture or build-up of pressure. Do not use welding or cutting torch on or near any shipping/storage container of this material, full or empty.

**Sensitivity to Static Discharge** Take precautionary measures against static discharge.

**Protective Equipment and Precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equal) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions** Extinguish all sources of ignition within 35 feet (11m) of spill or vapor release. Provide adequate ventilation. If spill is of significant or unknown quantity, use self-contained breathing apparatus during clean-up. Always wear proper protective clothing to prevent skin or eye contact.

**Methods and material for containment and cleaning up**

**Methods for Containment** Absorb and contain small spills with sand or fullers earth.

**Methods for Clean-Up** Use clean non-sparking tools to collect absorbed material. Sweep up absorbed material and shovel into suitable containers for disposal.

Large spills should be diluted and pumped into approved containers for disposal in accordance with all local, state, and federal laws and regulations.

**Prevention of Secondary Hazards** Released product which has evaporated forms smooth, slippery surface on floors, posing an accident risk.

# 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on Safe Handling**

Always wear proper protective clothing when handling. Do not breath vapors. Avoid eye, skin and clothing contact when transferring from container. Flammable liquid - keep away from heat, sparks and flame. Never transfer liquid within 35 feet (11m) of an open flame. To reduce potential of sudden release of pressure, loosen closures slowly and cautiously before opening. To reduce potential of static discharge, effectively bond and ground containers when transferring material. Protect containers from physical damage or punctures resulting in leakage. Keep containers tightly closed when not in use. Do not reuse shipping containers. Empty containers retain vapors and must be treated as having the same hazards as containers full of liquid. Many plastics are attacked by this product. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only with adequate ventilation. Use spark-proof tools and explosion-proof equipment.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Store in accordance with 29 CFR §1910.106 Flammable and Combustible Liquids, BOCA National Fire Prevention Code, NFPA 30 Flammable and Combustible Liquids Code and all local codes and regulations. Store in a cool, well-ventilated area at least 35 feet (11m) from open flames or other sources of ignition. Always store product in the original shipping container. Tightly close storage containers after transfer. Vapors can travel to a source of ignition and flash back. Moisture, in any form will contaminate this product, rendering it unusable. Retain all original labels. Store away from foodstuffs or animal feed. Prevent container damage. Store locked up.

**Incompatible Materials**

Avoid strong oxidizing agents, such as peroxides, nitrates and hypochlorites; aluminum and zinc. Deteriorates many plastics. Will hydrolyze in the presence of water, liberating boric acid.

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| Acetone<br>67-64-1 | STEL: 750 ppm<br>TWA: 500 ppm | TWA: 1000 ppm<br>TWA: 2400 mg/m$^3$ (vacated)<br>TWA: 750 ppm (vacated)<br>TWA: 1800 mg/m$^3$<br>(vacated) STEL: 2400 mg/m$^3$ The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated)<br>STEL: 1000 ppm | IDLH: 2500 ppm<br>TWA: 250 ppm<br>TWA: 590 mg/m$^3$ |
| Methanol<br>67-56-1 | STEL: 250 ppm<br>TWA: 200 ppm<br>S* | TWA: 200 ppm<br>TWA: 260 mg/m$^3$ (vacated)<br>TWA: 200 ppm (vacated) TWA: 260 mg/m$^3$ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m$^3$ (vacated) S* | IDLH: 6000 ppm<br>TWA: 200 ppm<br>TWA: 260 mg/m$^3$<br>STEL: 250 ppm<br>STEL: 325 mg/m$^3$ |

**Other Information**

When Brazing: Use enough ventilation and local exhaust at the flame site to keep the fumes and gases below the TLV-TWA (Threshold Limit Value - Time Weighted Average) for welding fumes in the brazer's breathing zone and in the general air. Use an approved air-purifying or air supplied respirator when brazing in a confined space or where local exhaust or ventilation does not keep exposure below the TLV-TWA. Refer to the current American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents for the most updated exposure limits.

As outlined by the ANSI/AWS A5.31-92 (A4.1), Specifications For Fluxes For Brazing And Braze Welding, there are five predominant variables, which contribute to the quality and quantity of fumes in the affected area which brazing operators and bystanders are exposed to during the brazing process. These include (but are not limited to):

1) Dimension of the brazing area - with attention to ceiling height.
2) The total number of brazers working in the given space.
3) Depending on the material and process utilized, the rate of formation of fumes, gases or dusts from the process.
4) The location of the brazer in relation to the fumes in the affected area.
5) Exhaust and/or ventilation available in the brazing area.

Important! Read and understand the manufacturer's instructions and precautionary labels on the product. The installation, operation, and maintenance of welding equipment should conform to ANSI Standard Z49.1 Safety in Welding and Cutting, ANSI Standard Z87.1 Occupational and Educational Eye and Face Protection, and OSHA Standard, 29 CFR 1910.

**Appropriate engineering controls**

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits.

**Individual protection measures, such as personal protective equipment when handling**

**Eye/Face Protection** When Transferring / Handling: Due to the possibility of eye contact during material transfer, chemical safety goggles, full face shield, or safety glasses with side shields should be worn

When Brazing: Always wear protective glasses, goggles or full face shield with shade 4 or 5 lenses when brazing. Protective eyewear and eye safety programs should comply with ANSI Standard Z87.1 Occupational and Educational Eye and Face Protection.

**Skin and Body Protection** To prevent contact with skin, wear impervious clothing such as gloves, apron, boots, or full-body suits made from neoprene, as appropriate.

**Respiratory Protection** When Transferring / Handling: Ventilation may be required when handling or using this product to keep exposure to airborne contaminants below permissible exposure limits. If adequate ventilation is not available during handling or transfer of this product, use NIOSH approved organic vapor respirators with dust, mist and fume filters to reduce the potential of inhalation exposure. Protection provided by air-purifying respirators is limited. Use a positive pressure, air supplied respirator if there is any potential for uncontrolled release, unknown exposure levels, or any other circumstances where air-purifying respirators may not provide adequate protection. Respiratory protection programs must follow OSHA's 29 CFR 1910.134 And ANSI Z88.2 requirements where there may be the potential for airborne exposure.

**General Hygiene Considerations** Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | | | |
|---|---|---|---|
| **Physical State** | Liquid | | |
| **Appearance** | Clear, colorless liquid | **Odor** | Characteristic |
| **Color** | Colorless | **Odor Threshold** | Not determined |

| Property | The physical data listed above are typical values and should not be read as a product specification | Remarks • Method |
|---|---|---|
| **pH** | Not determined | |
| **Melting Point/Freezing Point** | -32 °C / -26 °F | |
| **Boiling Point/Boiling Range** | 58 °C / 137 °F | |
| **Flash Point** | -7.7 °C / 18 °F | COC |
| **Evaporation Rate** | 16 | (butyl acetate = 1) |
| **Flammability (Solid, Gas)** | Not determined | |
| **Upper Flammability Limits** | 6.0% | |
| **Lower Flammability Limit** | 36.5% | |
| **Vapor Pressure** | 161 mm Hg | |
| **Vapor Density** | 1.6 | (Air=1) |
| **Specific Gravity** | 0.850-0.865 | |
| **Water Solubility** | Decomposes @ 10% | |
| **Solubility in other solvents** | Not determined | |
| **Partition Coefficient** | Not determined | |
| **Auto-ignition Temperature** | Not determined | |
| **Decomposition Temperature** | Not determined | |

| | | |
|---|---|---|
| **Kinematic Viscosity** | Not determined | |
| **Dynamic Viscosity** | Not determined | |
| **Explosive Properties** | Not determined | |
| **Oxidizing Properties** | Not determined | |

## 10. STABILITY AND REACTIVITY

**Reactivity** Not reactive under normal conditions.

**Chemical Stability** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions** None under normal processing.

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Conditions to Avoid**
Water, moist air or aqueous liquids will liberate borates from the mixture, rendering it unusable. Keep containers tightly closed when not in use. This product is not sensitive to physical impact.

**Incompatible Materials**
Avoid strong oxidizing agents, such as peroxides, nitrates and hypochlorites; aluminum and zinc. Deteriorates many plastics. Will hydrolyze in the presence of water.

**Hazardous Decomposition Products**
Hazardous Decomposition By-products (During Brazing)
Brazing fumes and gases cannot be classified simply. The composition and quantity of the fumes and gases are dependent upon the base metal, the flux and filler metal being used. Coatings or residue on the base metal such as cleaning or degreasing agents, paint, galvanizing or plating will produce fumes as well. Other conditions which influence the composition and quality of the fumes and gases to which workers maybe exposed are: the number of operators relative to the volume of the work area, the quality and amount of ventilation, the position of the brazer's head in respect to the fume plume, as well as the presence of contaminants in the atmosphere such as halogenated hydrocarbon vapors from cleaning and degreasing activities. When brazing, the composition of the fumes and gases are usually different from the composition of the ingredients mentioned in Section 2 - Composition Information on Ingredients. Fume ingredients of normal operation include those originating from volatilization, reaction, or oxidation of the materials noted in the above paragraph. Reasonably expected fume constituents include oxides of boron (OSHA PEL of 10 $mg/m^3$ and ACGIH (TLV) of 2 $mg/m^3$) and oxides of carbon.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Eye Contact** Causes serious eye irritation.

**Skin Contact** Harmful in contact with skin.

**Inhalation** Harmful if inhaled.

**Ingestion** Harmful if swallowed. May cause blindness if swallowed.

**Component Information**

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Trimethylborate<br>121-43-7 | = 6140 mg/kg ( Rat ) | = 1980 µL/kg ( Rabbit ) | - |
| Acetone<br>67-64-1 | = 5800 mg/kg ( Rat ) | - | - |
| Methanol<br>67-56-1 | = 5628 mg/kg ( Rat ) | = 15800 mg/kg ( Rabbit ) | = 83.2 mg/L ( Rat ) 4 h = 64000 ppm ( Rat ) 4 h |

**Information on physical, chemical and toxicological effects**

**Symptoms** Please see section 4 of this SDS for symptoms.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Carcinogenicity** This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

**STOT - single exposure** Causes damage to organs.

**Chronic toxicity** Repeated and/or prolonged exposure by inhalation / absorption may cause systemic poisoning, blindness and death.

**Numerical measures of toxicity** **Not determined**

# 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Harmful to aquatic life with long lasting effects.

**Component Information**

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Acetone<br>67-64-1 | | 4.74 - 6.33: 96 h Oncorhynchus mykiss mL/L LC50 6210 - 8120: 96 h Pimephales promelas mg/L LC50 static 8300: 96 h Lepomis macrochirus mg/L LC50 | EC50 = 14500 mg/L 15 min | 10294 - 17704: 48 h Daphnia magna mg/L EC50 Static 12600 - 12700: 48 h Daphnia magna mg/L EC50 |
| Methanol<br>67-56-1 | | 28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through | | |

**Persistence/Degradability** Not determined.

**Bioaccumulation** Not determined.

**Mobility**

| Chemical Name | Partition Coefficient |
|---|---|
| Acetone<br>67-64-1 | -0.24 |
| Methanol<br>67-56-1 | -0.77 |

**Other Adverse Effects** Not determined

# 13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods**

**Disposal of Wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**US EPA Waste Number**

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---|---|---|---|---|
| Acetone<br>67-64-1 | | Included in waste stream: F039 | | U002 |
| Methanol<br>67-56-1 | | Included in waste stream: F039 | | U154 |

**California Hazardous Waste Status**

| Chemical Name | California Hazardous Waste Status |
|---|---|
| Acetone<br>67-64-1 | Ignitable |
| Methanol<br>67-56-1 | Toxic<br>Ignitable |

## 14. TRANSPORT INFORMATION

**Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**

| | |
|---|---|
| **UN/ID No** | UN1993 |
| **Proper Shipping Name** | Flammable liquids, n.o.s. (Contains Trimethylborate, Acetone and Methanol) |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **Reportable Quantity (RQ)** | 5000 lbs for Methanol and Acetone |

**IATA**

| | |
|---|---|
| **UN/ID No** | UN1993 |
| **Proper Shipping Name** | Flammable liquids, n.o.s. (Contains Trimethylborate, Acetone and Methanol) |
| **Hazard Class** | 3 |
| **Packing Group** | II |

**IMDG**

| | |
|---|---|
| **UN/ID No** | UN1993 |
| **Proper Shipping Name** | Flammable liquids, n.o.s. (Contains Trimethylborate, Acetone and Methanol) |
| **Hazard Class** | 3 |
| **Packing Group** | II |
| **Marine Pollutant** | This material may meet the definition of a marine pollutant |

## 15. REGULATORY INFORMATION

**International Inventories** Not determined

**US Federal Regulations**

**CERCLA**

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---|---|---|---|
| Acetone<br>67-64-1 | 5000 lb | | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |
| Methanol<br>67-56-1 | 5000 lb | | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |

**SARA 311/312 Hazard Categories**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire Hazard** | Yes |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

**SARA 313**

| Chemical Name | CAS No | Weight-% | SARA 313 - Threshold Values % |
|---|---|---|---|
| Methanol - 67-56-1 | 67-56-1 | 20 | 1.0 |

**US State Regulations**

**California Proposition 65** This product contains the following Proposition 65 chemicals.

| Chemical Name | California Proposition 65 |
|---|---|
| Methanol - 67-56-1 | Developmental |

**U.S. State Right-to-Know Regulations**

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|
| Trimethylborate<br>121-43-7 | X | X | X |
| Acetone<br>67-64-1 | X | X | X |
| Methanol<br>67-56-1 | X | X | X |

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health Hazards** | **Flammability** | **Instability** | **Special Hazards** Not |
| | 1 | 3 | 0 | determined **Personal** |
| **HMIS** | **Health Hazards** | **Flammability** | **Physical Hazards** | **Protection** Not |
| | 1 | 3 | 0 | determined |

| | |
|---|---|
| **Issue Date:** | 01-Mar-2013 |
| **Revision Date:** | 01-Jun-2016 |
| **Revision Note:** | QR code |

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Aufhauser Corporation extends no warranties and makes no representations as to the accuracy or completeness of the information contained herein, and assumes no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).**

**End of Safety Data Sheet**