

# Material Safety Data Sheet

According to (EC) No 1907/2006

## High Activity Water Soluble Flux

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### 1. Identification of the Preparation and of the Company

**Trade Names:** 6-419; 6-442; 6-443, SP Series  
**Synonyms:** Water Soluble Solder Paste, Solder Cream, Flux, Solder Paste Flux, FluxPlus™, Water-soluble flux

**Manufacturer:** EFD Inc.  
40 Catamore Boulevard  
East Providence, RI 02914, USA  
Phone: +1-401-431-7000

**Emergency:** Chemtrec (Transportation) +1-800-424-9300  
Outside USA +1-703-527-3887

### 2. Composition/Information on Ingredients

Component	CAS	EINECS	% by Weight	OSHA PEL mg/m <sup>3</sup>	ACGHV TLV mg/m <sup>3</sup>
Polyvinyl pyrrolidone	9003-39-8		0.0-8.0	NE	NE
Polyglycol	Mixture	Mixture	0.0-25.0	NE	NE
Carboxylic acid	Mixture	Mixture	0.0-20.0	NE	NE
Phosphoric acid	766-38-2	231-633-2	0.0-5.5	3.0	3.0
Ammonium chloride	12125-02-9	235-186-4	0.0-5.0	NE	NE
Ethylene glycol	107-21-1	203-473-3	0.0-40.0	NE	NE

NE = Not Established

### 3. Hazard Identification

**GENERAL:** Fumes generated during soldering are irritating to the eyes and may cause headache and respiratory system irritations or damage. Inhalation or ingestion may produce nausea, vomiting, headache or joint and muscle pain. May cause skin or eye irritation.

**EYE CONTACT:** May cause mild eye irritation.

**SKIN CONTACT:** May cause mild skin irritation. Prolonged contact may cause sensitization.

**INHALATION:** Inhalation hazard is low. May cause nausea, vomiting, or headache.

**INGESTION:** Ingestion may cause damage.

### 4. First Aid Measures

**EYES:** Remove contact lenses. Immediately flush with copious amounts of water for at least 15 minutes. Seek medical attention.

**SKIN:** Wash affected area with plenty of warm, soapy water. If irritation develops, seek medical attention. Do not try to remove cooled rosin from skin. Seek medical attention.

**INHALATION:** Remove person to fresh air. If breathing has stopped, perform artificial respiration and seek medical attention.

**INGESTION:** If person is conscious, give large quantity of water to drink. Do not induce vomiting. Seek immediate medical attention. Harmful if swallowed.

### 5. Fire Fighting Measures

**EXTINGUISHING MEDIA:** Dry chemical, foam, CO<sub>2</sub>.

**UNSUITABLE EXTINGUISHING MEDIA:** Water

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Flux may burn if soldering is done with a flame.

**FIRE FIGHTING EQUIPMENT:** If large quantities of solder are on fire, breathing apparatus should be used, as toxic fumes may be emitted.

**PRECAUTIONS:** Keep away from ignition sources. Use with adequate ventilation.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May form carbon monoxide, carbon dioxide or other toxic fumes.

### 6. Accidental Release Measures

**PERSONAL PRECAUTIONS:** Wear appropriate personal protection equipment (refer to Section 8.)

**ENVIRONMENTAL PRECAUTIONS:** Keep out of sewers and waterways.

**METHODS FOR CLEANING:** Collect and place into properly labeled waste container. Dispose of according to applicable government regulations.

### 7. Handling and Storage

**HANDLING:** Avoid inhalation of vapors. Avoid contact with eyes, skin and clothing. Keep away from children. For industrial use only. Wash hands thoroughly after handling before eating, drinking or smoking.

**STORAGE:** Store in a cool, dry place and away from heat or open flame. Keep container closed. Do not store with foodstuffs.

### 8. Exposure Controls/Personal Protection

**ENGINEERING MEASURES:**

Maintain adequate local ventilation. Operators should be protected from soldering fumes.

**PERSONAL PROTECTIVE EQUIPMENT:**

**EYES:** Wear appropriate safety glasses.

**SKIN:** Wear appropriate protective clothing and impervious rubber gloves. Avoid skin contact. Workers should wash hands thoroughly before eating, drinking or smoking.

**INHALATION:** Use with adequate ventilation.

**HYGIENE:** Eating, drinking and smoking should not be permitted in areas where soldering is done. Do not store foodstuffs with solder.

### 9. Chemical and Physical Properties

**APPEARANCE AND ODOR:** White to off-white colored gel or liquid with a mild odor

**FLASH POINT:** >111°C (COC)

**FLAMMABILITY:** Not established

**AUTO IGNITION TEMPERATURE:** Not established

**pH:** Not applicable

**VAPOR PRESSURE:** Not established

**VAPOR DENSITY:** Not established

**MELTING POINT:** Not applicable

**BOILING POINT:** 124° – 215°C

**SOLUBILITY IN WATER:** Soluble

**RELATIVE DENSITY:** >1 (H<sub>2</sub>O = 1)

**EVAPORATION RATE:** Not applicable

EFD, Inc. 40 Catamore Boulevard, East Providence, RI 02914, USA [www.efd-inc.com](http://www.efd-inc.com)

**North and South America:** +1-800-556-3484 +1-401-431-7000  
Fax: +1-401-431-7079  
[solder@efd-inc.com](mailto:solder@efd-inc.com)

**Europe** +44 (0) 1582 666334  
Fax: +44 (0) 1582 664227  
[europe@efd-inc.com](mailto:europe@efd-inc.com)

**Asia** +86 (21) 3866 9006  
Fax: +86 (21) 3866 9095  
[china@efd-inc.com](mailto:china@efd-inc.com)

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#### 10. Stability and Reactivity

**STABILITY:** Stable

**MATERIALS TO AVOID:** Strong oxidizers

**CONDITIONS TO AVOID:** High temperatures, high humidity.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None identified.

**HAZARDOUS POLYMERIZATION:** Will not occur.

#### 11. Toxicological Information

**ACUTE TOXICITY:** Not considered toxic under normal use.

**LOCAL EFFECTS:** None known.

**EXCESSIVE EXPOSURE:**

**SKIN:** Rosin may be a sensitizer. May cause skin irritation or dermatitis.

**EYES:** May be irritating to the eyes.

**INHALATION:** Prolonged inhalation of soldering vapors may produce asthma-like reactions.

#### 12. Ecological Information

Possible ecological hazard. In high concentrations, this product may be dangerous to plants and animals. Keep out of waterways. Flux is biodegradable.

#### 13. Disposal Considerations

Dispose of according to applicable government regulations. Recycle when possible. Do not dump into sewers, on the ground, or into any body of water.

#### 14. Transportation Information

**UN Number:** Not regulated  
**ADR/RID** Not regulated  
**IMO/IMDG** Not regulated  
**CAO/IATA** Not regulated

#### 15. Regulatory Information

**TSCA STATUS:** All chemical constituents used in the manufacture of this product are listed on the TSCA inventory maintained by the U.S. Environmental Protection Agency.

**REGULATED CHEMICALS:**

Chemical Name	CAS#	Regulation
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None regulated

**SARA Title III:** None regulated

California State Proposition 65: No data.

**EUROPEAN REGULATIONS:**

**HAZARD SYMBOL AND HAZARD INFORMATION**

Xn – Harmful



**R-Phrases**

R36/38 Irritation of eyes and skin  
R42/43 May cause sensitization by inhalation and skin contact

**S-Phrases**

S2 Keep out of reach of children  
S24/25 Avoid contact with skin and eyes  
S36/37 Wear safety gloves and glasses

#### 16. Other Information

<b>NFPA Rating:</b>	Health	1	Flammability	1
	Reactivity	0	Special	n/a
<b>HMIS Rating:</b>	Health	1	Flammability	1
	Reactivity	0	Personal Protection	n/a

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Additionally, EFD Inc. assumes no responsibility for injury to the end user proximately caused by the material even if reasonable safety procedures are followed. The end user assumes the risk in his use of this material.

EFD, Inc. 40 Catamore Boulevard, RI 02914, USA [www.efd-inc.com](http://www.efd-inc.com)

**North and South America:** +1-800-556-3484 +1-401-431-7000  
Fax: +1-401-431-7079  
[solder@efd-inc.com](mailto:solder@efd-inc.com)

**Europe** +44 (0) 1582 666334  
Fax: +44 (0) 1582 664227  
[europe@efd-inc.com](mailto:europe@efd-inc.com)

**Asia** +86 (21) 3866 9006  
Fax: +86 (21) 3866 9095  
[china@efd-inc.com](mailto:china@efd-inc.com)