

## Safety Data Sheet

According to 1907-2006/EC, Article 31

Revised 01/06/2018

### 1. PRODUCT AND COMPANY IDENTIFICATION




**Product Trade Name:** CANFIELD COPPER-MATE FLUX  
**Product Use:** Soldering flux for copper, brass, galvanized iron, lead, zinc, tin, nickel, silver, mild steel,terne plate and malleable iron.

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

This Safety Data Sheet has been updated in accordance with the Globally Harmonized System (GHS).

**Manufacturer Name:** Canfield Technologies/BOW Electronic Solders  
**Address:** 1 Crossman Road, Sayreville, NJ 08872  
**General Phone Number:** 732-316-2100  
**INFOTRAC** 24 Hour Emergency Telephone Number: 1-800-535-5053  
**SDS Creation Date** 6-Jan-15  
**SDS Revision Date:** 1/6/201

### 2. HAZARDS IDENTIFICATION

Protective Clothing	NFPA Rating (USA)	EU Classification	WHMIS (Canada)	Transportation
		Not classified as dangerous		Not Regulated

**Emergency Overview:** Exposure to hazardous substance is not expected when handling this product for its intended use.  
 Appearance, Color and Odor: Tan paste, faint odor  
 USA: This material is not considered hazardous by the OSHA hazard Communication Standard (29 CFR 1910.1200).  
 Canada: This is not a controlled under WHMIS.  
 European Union (EU): This product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Potential Health Effects** ACUTE (short term): see Section 8 for exposure controls

**Relevant Route(s) of Exposure:** Skin contact, Inhalation.

**Inhalation:** Inhalation of vapors is not expected with normal use. Over exposure to high vapor concentrations may cause nasal and respiratory irritation, sore throat coughing and difficulty breathing. High concentrations may also cause dizziness, headache, nausea, vomiting or in extreme cases, unconsciousness or asphyxiation.

**Ingestion:** Not an expected route of occupational exposure. Low oral toxicity. Swallowing large quantities may cause abdominal and chest pain, nausea, vomiting diarrhea or dizziness. Aspiration into the lungs may occur during swallowing or from vomiting, resulting in lung injury.

**Skin:** This product has been tested and found to be non-irritating to skin.

**Eye:** This product has been tested and found to be non-irritating to eyes.

Solids may cause temporary irritation as a object in the eye.

**CHRONIC (LONG TERM):** SEE Section 11 for additional toxicological data

Chronic effects are not expected with normal use. Prolonged or repeated over exposure to high vapor concentrations may cause damage to the respiratory tract or lungs.

**Medical Conditions Aggravated by Exposure:**

Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver, or kidneys may have increased susceptibility to excessive exposure.

Interactions With Other  
Chemicals: Not available.

### 3. COMPOSITION OF MIXTURE

#### Hazardous Ingredients

Chemical Name:	CAS No.	Wt. %	EINECS/ELINCS	Symbol	Risk Phrases
Ammonium Chloride	12125-02-9	5-25%	235-186-4	Xn, Xi	R22, R36
Zinc Chloride	7646-85-7	5-25%	231-592-0	Xn, Xi	R22, R36
Petrolatum	800-03-8	30-70%	232-373-2	None	None

Note: See Section 16 for the full text of the R-phrases above.

### 4. FIRST AID MEASURES

#### Description of first aid measures

**After inhalation:** Move victim to fresh air and get medical attention.

**After skin contact:** Quickly and gently, blot or brush away excess paste. Remove contaminated clothing and shoes. Immediately wash with warm water and soap and rinse thoroughly. If irritation develops, seek medical attention.

**After eye contact:** Rinse opened eye for several minutes under running water. Seek medical attention.

**After swallowing:** Call a physician or Poison Control Center at once.

Induce vomiting, if person is conscious. Seek medical help. Only induce vomiting at the instruction of a physician.

**Information for doctor:** Most important symptoms and effects, both acute and delayed.

Indication of any immediate medical attention and special treatment needed.

### 5. FIREFIGHTER MEASURES

**Flammable Properties:** Product will burn if involved in a fire but does not ignite readily.

**Suitable extinguishing Media:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Explosion Data:** No sensitivity to mechanical impact or static discharge.

**Unsuitable extinguishing Media:** Not applicable.

**Special hazards arising from the substance or mixture:** In case of fire, the following can be released: Carbon dioxide, Carbon monoxide, ammonia hydrogen chloride. Smoke and Irritating toxic fumes may be formed.

**Protective equipment:** Wear self-contained respiratory and protective clothing should be worn. Remove unprotected personnel.

NFPA	Health:	0
	Flammability:	0
	Instability:	0

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Ensure adequate ventilation

**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

**Methods for containment:** Stop the spill if it is safe to do so. Contain spilled flux with sand or absorbent material which does not react with spilled material.

**Methods for clean up:** Scrape or scoop up the spilled product and collect for proper disposal, as described in Section 13 of this SDS.

**Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See section 13 for disposal information.

### 7. HANDLING AND STORAGE

#### Handling:

**Precautions for safe handling:** Avoid contact with eyes and skin, do not breath fumes. Do not ingest.

Keep out of reach of children, use this material with adequate ventilation. Keep container closed when not in use.

Wash thoroughly with detergent and water after handling, before eating, drinking, smoking or using the toilet.

**Information about protection against explosions and fires:** No special measures required.

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

**Storage:** Store in a cool location. Information about storage in one common storage facility: Not required.

**Further information about storage conditions:** Keep receptacle tightly sealed. Store in dry conditions.

**Specific end use (s)** No further relevant information available.

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Additional information about design of technical systems:** No further data; see item 7.

### Control parameters

**Components with limit values that require monitoring at the workplace:**

Ingredient	ACGIH TLV (8-HR. TWA)	U.S. OSHA PEL (8-HR. TWA)	Ontario (Canada) TWAEV	UK OEL (8-HR. TWA)
Ammonium Chloride	10mg/m <sup>3</sup> (FUME) 20mg/m <sup>3</sup> (STEL)	10mg/m <sup>3</sup> (FUME) 20mg/m <sup>3</sup> (STEL)	10mg/m <sup>3</sup> 20mg/m <sup>3</sup> STEV	10mg/m <sup>3</sup> (FUME) 20mg/m <sup>3</sup> (STEL)
Zinc Chloride	1mg/m <sup>3</sup> (FUME) 2mg/m <sup>3</sup> (STEL)	1mg/m <sup>3</sup> (FUME) 2mg/m <sup>3</sup> (STEL)	1mg/m <sup>3</sup> (FUME) 2mg/m <sup>3</sup> (STEL)	1mg/m <sup>3</sup> (FUME) 2mg/m <sup>3</sup> (STEL)

STEV = Short term Exposure Value.

STEL = Short Term Exposure Limit.

### Exposure controls

**Personal protective equipment:** Workers must comply with PPE requirements of the workplace in which this product is handled.

Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.

### Breathing equipment:

**Exposure controls:** Use appropriate engineering control such as process enclosures', local exhaust ventilation to control airborne levels below recommended exposure limits.

When ventilation is not sufficient to remove airborne levels from the breathing zone, a NIOSH safety approved respirator or self-contained breathing apparatus should be worn. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

### Protection of hands:



**Protective gloves**

### Material of gloves:

Nitrile rubber, NBR

Natural rubber, NR

### Eye protection:



**Face shield, safety glasses**

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### General Information:

Physical State:	Paste
Appearance :	Tan
pH-value:	Not measurable
Relative Density (water=1)	1.1
Boiling point/boiling range:	Not applicable
Freezing Point:	Not applicable
Viscosity:	Not applicable
Oxidizing Properties:	Not applicable
Flash point :	>204°C (400°F) TOC
Flammability (solid, gaseous):	Not determined.
Vapor pressure (mm Hg @ 25°C	<0.01 @ 68°F (20°C)
Vapor Density (Air=1):	Not applicable
Volatile Organic Compounds (VOC) Content:	0% or (0 g/L)
Solubility in Water:	Insoluble
Odor Type:	Low odor
Odor Threshold:	Not applicable
Evaporation Rate (n-Butyl Acetate=1):	Not applicable
Auto Ignition Temperature(°C):	Not applicable
Flammability Limits (%):	Not established

## 10. STABILITY AND REACTIVITY

### Reactivity

<b>Chemical stability:</b>	Stable at normal room temperature.
<b>Possibility of hazardous reactions:</b>	No dangerous reactions known
<b>Conditions to avoid</b>	None known.
<b>Incompatible materials:</b>	None known.
<b>Hazardous decompositions products:</b>	Toxic fumes of zinc, chloride and HCL may evolve during soldering.
<b>Possibility of hazardous reactions :</b>	Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Toxicity Data:

<b>Zinc Chloride:</b>	Oral- Rat LD 50: >350 mg/kg (rat) Inhalation Rat LCLO Oral: 1960mg/m <sup>3</sup> / 10M
<b>Ammonium Chloride:</b>	Oral- Rat LD 50: >1650 mg/kg (rat) Inhalation Rat LC50 Oral: N/D
<b>Petrolatum:</b>	Oral-Rat LD50 N/D Inhalation Rat LC50 Oral: N/D
<b>Chronic Toxicity Data:</b>	Normal use of this product will not result in exposure to any component that is considered a human carcinogen by IARC ( International Agency for Research on Cancer), ACGIH ( American Conference of Governmental Industrial Hygienists, OSHA or NTP ( National Toxicology Program).

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	Zinc Chloride- 7.32 ppm/96hr/medium bluegill/TLm Ammonium Chloride- 6 ppm/96hr/sunfish/TLm
<b>Persistence/Degradability:</b>	None Known
<b>Bioaccumulation/ Accumulation:</b>	Product is not readily biodegradable.
<b>Mobility:</b>	Not applicable.

## 13. DISPOSAL CONSIDERATIONS

### Waste disposal methods

**Recommendation:** Disposal must be disposed of in accordance to official regulations.  
**Uncleaned packaging:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
**Recommendations:** Disposal must be disposed of in accordance to official regulations.

## 14. TRANSPORT INFORMATION

<b>U.S. Hazardous Materials Regulation (DOT 49CFR):</b>	Not regulated
<b>Canadian Transportation of Dangerous Goods (TDG):</b>	Not regulated
<b>ADR/RID:</b>	Not regulated
<b>IMDG:</b>	Not regulated
<b>Marine Pollutants:</b>	Not applicable.
<b>ICAO/IATA</b>	Not regulated

## 15. REGULATORY INFORMATION

<b>USA TSCA Status:</b>	All ingredients in the product are listed on the TSCA inventory.
<b>SARA Title III Sec. 302/304</b>	None
<b>Sec. 311/312:</b>	Not applicable.
<b>Sec. 313:</b>	Not applicable.
<b>CERCLA RQ:</b>	Not applicable.
<b>California Proposition 65:</b>	This product is not known to contain chemicals known to the State of California to cause cancer or reproductive harm.

**Canada** This product has been classified in accordance with the hazard criteria of Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations .

**WHMIS Classification:** Not controlled.

**DSL:** All component substances are listed on Canada's Domestic Substances List (DSL).

**EU Classification for the Substances/Preparation**

**Symbol:** This product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Safety Phrases:** S1/2: Keep locked up and out of the reach of children.

#### 16. OTHER INFORMATION

**Full Text of R-phrases:** R22: Harmful if swallowed

**Appearing in Section 3:** R36: Irritating to eyes.

The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Bow/Canfield Technologies extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. This Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process all chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Safety Data Sheet as a source for hazard information.