

SAFETY DATA SHEET**Brazing Paste**

Date Prepared : 09/30/2015

MSDS No : FAB-1070-XXX_US_GHS

FAB-1070-XXX**1. PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME:** FAB-1070-XXX**GENERAL USE:** Product Type: A braze paste consisting of powdered filler metal and flux suspended in a binder and used for joining metals by heating the parts to be joined and this product to or above the melting temperature of the filler metal.**PRODUCT DESCRIPTION:** See Additional Information for explanation of Product Name.**MANUFACTURER**

Fusion, Incorporated (USA)
 4658 East 355th Street
 Willoughby, OH 44094
Emergency Phone: 01-800-626-9501
Alternate Emergency Phone: 01-440-946-3300
E-Mail: MSDS@fusion-inc.com

24 HR. EMERGENCY TELEPHONE NUMBERS

In case of:	Contact:	Phone:
Chemical Emergency [spill, leak, fire, exposure or accident]	Chemtrec [domestic North America]	800-424-9300 {24 hours}
Chemical Emergency [spill, leak, fire, exposure or accident]	Chemtrec [International]	703-527-3887 {24 hours} [collect calls accepted]
Poisoning	Poison Control Center	800-222-1222 {24 hours}
SDS Inquires	Fusion, Incorporated	440-946-3300 {8AM-5PM Eastern std time [Mon-Fri]}

COMMENTS: Product Identification:

This SDS is applicable to all pastes with product codes conforming to the following system:

First segment [binder] - second segment [alloy] - third segment [% metal code]

See **example** below:**ABC-9999-XXX**

(1) - (2) - (3)

↑ ↑ ↑

(1) The first segment [the binder code] consists of three letters or a number and two letters.

(2) The middle segment [the alloy code] may appear in basic form [no suffix letter], or with one of several suffix letters.

[Special note: some alloys may also have a prefix letter.]

(3) The last segment consists of 3 characters: the first 2 digits denote the %metal of the paste, the last character will be a letter or numeral.

** Note: This SDS applies to pastes containing between 30 and 60% metal.

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATIONS****Health:**

Acute Toxicity (Inhalation), Category 4
 Eye Irritation, Category 2
 Reproductive Toxicity, Lactation
 Target Organ Toxicity (Repeated exposure), Category 1

FAB-1070-XXX**Environmental:**

Chronic Hazards to the Aquatic Environment, Category 3

GHS LABEL

Exclamation
mark



Health hazard

SIGNAL WORD: DANGER**HAZARD STATEMENTS**

H332: Harmful if inhaled.
 H319: Causes serious eye irritation.
 H362: May cause harm to breast-fed children.
 H372: Causes damage to organs through prolonged or repeated exposure.
 H412: Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENT(S)**General:**

P201: Obtain special instructions before use.
 P260: Do not breathe fumes or vapours.
 P263: Avoid contact during pregnancy and while nursing.
 P273: Avoid release to the environment.
 P280: Wear rubber gloves, goggles, and chemical protective clothing.
 P308+P313: IF exposed or concerned: Get medical attention.

Prevention:

P264: Wash exposed 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.

Response:

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Disposal:

P501: Dispose of container in accordance with local, regional and national regulations.

EMERGENCY OVERVIEW**IMMEDIATE CONCERNS:** May be harmful if swallowed or inhaled.

Product contains fluorides: In use above 500°C [930°F] in the presence of water vapor, hydrogen fluoride gas is evolved. Hydrogen fluoride gas can cause irritation to the respiratory tract, and delayed burns to the eyes and skin. It can also cause fluid in the lungs [pulmonary edema]. Avoid contact with skin, eyes, and inhalation of vapors.

Fumes from the soldering/brazing process are irritating to the eyes and respiratory system. Hot metal can cause eye and skin burns. Avoid breathing fumes from the soldering/brazing process. Use only with adequate ventilation.

MEDICAL CONDITIONS AGGRAVATED: May aggravate pre-existing asthma, chronic lung disease, skin rash, kidney disorders, respiratory disorders.

ROUTES OF ENTRY: Potential routes of entry include: eye contact, skin contact, inhalation of metallic fume and decomposition products from heating this material during the soldering/brazing process.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

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Chemical Name	Wt.%	CAS
M065	--	--
C560	--	--
C577	--	--
Aluminum	25 - 60	7429-90-5
Silicon	< 1 - 10	7440-21-3

COMMENTS: The specific chemical identity of the flux/binder formulation ingredients are being withheld as a trade secret. Disclosure will be provided to medical personnel in the event of an emergency. See Section 8 for exposure limits of hazardous ingredients [where applicable].

Note: This SDS is prepared to cover multiple alloys with the same GHS Hazard Classification and may list substances not applicable to the named product. Please see the Specification Sheet for product specific alloy composition and melt point range.

4. FIRST AID MEASURES

EYES: Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get medical attention if irritation persists.

SKIN: Immediately remove contaminated clothing. Do not attempt to remove any material bonded to the skin. Flush area of skin contact immediately with large amounts of water for at least 15 minutes. If irritation persists after flushing, get medical attention promptly. Launder contaminated clothing before reuse.

INGESTION: If swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

INHALATION: Remove victim to fresh air. If not breathing, trained personnel may give artificial respiration. If breathing is difficult, give oxygen by trained personnel. Seek medical attention.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Eye contact may cause: irritation.

SKIN: May cause skin irritation. Hot molten metal may cause burns to the skin.

INGESTION: If swallowed, this product may cause gastrointestinal discomfort, nausea, vomiting.

INHALATION: Inhalation of powder, dust or fumes may be irritating to the respiratory system.

NOTES TO PHYSICIAN: Treat symptomatically. Potassium can reduce blood pressure and cause coma. Fluorides can reduce serum calcium levels resulting in potentially fatal hypocalcemia. Focus medical efforts on combating shock and reducing systemic toxicity of fluoride ion.

5. FIRE FIGHTING MEASURES

GENERAL HAZARD: During the soldering/brazing process, hazardous decomposition products may be released: See section 10.

EXTINGUISHING MEDIA: For fires involving this product, use dry chemical, carbon dioxide, foam, water spray. Do not use water if metal is molten.

EXPLOSION HAZARDS: Not considered a fire hazard.

Emits toxic and corrosive fumes under fire conditions.

FIRE FIGHTING PROCEDURES: Move container from fire area if it can be done without risk. Avoid inhalation of vapors or mists.

FIRE FIGHTING EQUIPMENT: Exposure to decomposition products may be a hazard to health. Do not breathe smoke, gases or vapors generated. Wear goggles if eye protection is not provided. Wash away any material that comes into contact with the body, clothing or equipment. When fighting fires involving this product, wear full protective gear. For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

LARGE SPILL: Recover spilled material. Reclaim this material whenever possible. Collect material into sealed and labeled containers for reclamation or disposal.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Avoid contamination of water bodies during cleanup and disposal. Do not flush to sewer. Advise relevant authorities if material enters sewers, water sources or low-lying areas.

FAB-1070-XXX**LAND SPILL:** No data available**AIR SPILL:** No data available**GENERAL PROCEDURES:** Waste disposal method: Scoop up excess material and wash affected areas with soap and water. Avoid contact with skin and eyes. Collect material into sealed and labeled containers for disposal. Clean contaminated surface thoroughly. Dispose in accordance with federal, state and local regulations.**SPECIAL PROTECTIVE EQUIPMENT:** Avoid inhaling vapor and/or mists. Do not get spilled material on skin, clothing, or in eyes. Wear full protective clothing. See Section 8. Remove all contaminated clothing.**7. HANDLING AND STORAGE****HANDLING:** Keep away from sources of ignition.**STORAGE:** Keep lid tightly closed except when removing product.**STORAGE TEMPERATURE:** 5°C (41°F) Minimum to 25°C (77°F) Maximum**SHELF LIFE:** See specification sheet or container label.**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
M065	LTEL (TWA)	[1]	2.5 [1]	[1]	2.5 [1]
C577	LTEL (TWA)	[2]	15 [2]	[3]	3 [3]
Aluminum	LTEL (TWA)	[4]	15 [4]	[3]	1.0 [3]
Silicon	LTEL (TWA)	[4]	15 [4]	[4]	10 [4]
OSHA TABLE COMMENTS:					
1. [as F]					
2. [total dust]					
3. [respirable fraction]					
4. [dust]					

ENGINEERING CONTROLS: The use of local ventilation is required to maintain the concentration of fumes evolved from the soldering/brazing process to well below the occupational exposure limits, within the operator's breathing zone and the general vicinity. Use of process enclosures, exhaust systems, and other engineering/administrative controls should be designed in accordance with local conditions. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices* [most recent edition], for details.**PERSONAL PROTECTIVE EQUIPMENT****EYES AND FACE:** Wear safety glasses with side shields as a minimum level of protection. Consult ANSI Z87.1 for more information.**SKIN:** Wear chemical resistant gloves. When material is heated, wear thermal-insulated gloves to protect against burns.**RESPIRATORY:** When exposure limits (listed above) are exceeded or ventilation is inadequate, wear a NIOSH or European Standard approved respirator, in accordance with OSHA respirator regulations [29 CFR 1910.134] or European Standards [EN149]. Consult ANSI Z88.2 *American National Standard for Respiratory Protection* for guidance on proper selection, use and care of respirators.**PROTECTIVE CLOTHING:** Avoid skin contact. Wear chemical resistant clothing (long-sleeved shirt buttoned at the wrist) as necessary to prevent contact. For soldering/brazing operations where hot metallic parts are handled and molten metal may be present, wear heat-resistant gloves and clothing to protect from burns.**WORK HYGIENIC PRACTICES:** Minimize exposure in accordance with good hygiene practice. Good general hygienic practices include: Eating, drinking, and smoking should not be permitted in work areas. Wash thoroughly after handling, and before eating, drinking, using tobacco, applying cosmetics, or using the toilet. Keep area clean. Remove contaminated clothing promptly. Launder contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing. Avoid breathing dust, vapor or mist.**OTHER USE PRECAUTIONS:** Educate and train employees in the safe use and handling of this product.**COMMENTS:** See American National Standard ANSI Z49.1, *Safety in Welding, Cutting and Allied Processes*, published by the American

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Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126; OSHA *Safety and Health Standards*, 29 CFR 1910, available from the U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Characteristic odor.

APPEARANCE: Viscous material

COLOR: Gray

pH: Not Applicable

FLASHPOINT AND METHOD: Not Applicable

FLAMMABLE LIMITS: LEL/UEL: Not Determined

AUTOIGNITION TEMPERATURE: Not Determined

VAPOR PRESSURE: <0.1 mm Hg at 68°F/20°C [for C560]

VAPOR DENSITY: ~2.6 [air=1] [for C560]

BOILING POINT: 370°F [188°C] [for C560]

MELTING POINT: Alloy Melting Range: > 538°C (1000°F). See Product Specification Sheet for the specific melt range.

SOLUBILITY IN WATER: Partially Soluble

EVAPORATION RATE: 0.01 [n-butyl acetate=1] [for C560]

SPECIFIC GRAVITY: > 2 (water=1)

COMMENTS: Not Available

10. STABILITY AND REACTIVITY

REACTIVITY: This material is not expected to be reactive at ambient conditions.

HAZARDOUS POLYMERIZATION: Will not occur.

STABILITY: Stable under normal conditions of use.

CONDITIONS TO AVOID: Avoid contact with incompatible materials. Avoid extreme heat. Avoid prolonged exposure to air and moisture.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products may include, but are not limited to: carbon oxides (CO, CO₂), highly corrosive and toxic hydrofluoric acid fumes. Metallic decomposition products may include: metal oxide fumes, silicon oxide fumes.

INCOMPATIBLE MATERIALS: Materials to avoid: strong oxidizers, strong acids, (produces HF gas), strong bases, sulfuric acid, halogens, water, acids, alkalis, ammonium nitrate, moisture, oxidizing agents, bases, interhalogens, alkali metals.

11. TOXICOLOGICAL INFORMATION**ACUTE**

Chemical Name	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)	INHALATION LC ₅₀ (rat)
M065	> 2000 mg/kg [rat]	> 2000 mg/kg [rabbit]	> 5 mg/L/1 hr [rat]
C560	22000 to 31000 mg/kg [rat]	21000 mg/kg [rabbit]	
Silicon	3160 mg/kg [rat]	Not established	Not established

EYES: Flux ingredient(s): Eye contact may cause: irritation, burns.

Alloy: Can cause irritation and abrasion.

SKIN: Flux ingredient(s): Skin contact may cause: drying of the skin, dermatitis.

Alloy: Hot molten metal may cause burns to the skin. Wear protective equipment when working with molten metal.

Aluminum: Skin contact may cause: No adverse effects expected.

Silicon: Skin contact may cause: No adverse effects expected.

SKIN ABSORPTION: Not expected to be absorbed through intact skin.

INGESTION: Flux ingredient(s): Ingestion may cause: cramps, diarrhea, nausea, vomiting.

Aluminum: Ingestion may cause: nausea, vomiting, gastrointestinal irritation.

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Silicon: No toxic effects are expected following ingestion of small amounts of this product.

INHALATION: Flux ingredient(s): If inhaled, may cause: irritation of the respiratory tract, coughing, pulmonary edema.

Aluminum: If inhaled, may cause: irritation of the respiratory tract.

Silicon: If inhaled, may cause: chronic bronchitis, narrowing of airways.

CARCINOGENICITY

Notes: This product was not formulated with any ingredients that are classified as carcinogenic by IARC, NTP, ACGIH, OSHA or the UK HSC.

SENSITIZATION: This material was not made with any components known to be skin or respiratory sensitizers.

REPRODUCTIVE EFFECTS: Studies have shown reproductive effects related to this (or a component of this) material. Specifically with Lactation.

TARGET ORGANS: Affected target organs: teeth, bones (fluorosis), calcification of ligaments and vertebrae, respiratory system, kidneys, GI tract, eyes, skin, mucous membranes.

MUTAGENICITY: This material was not made with components identified as being mutagenic.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: Material - Expected to be toxic to aquatic organisms.

Material - May cause long-term adverse effects in the aquatic environment.

BIOACCUMULATION/ACCUMULATION: No data available

DISTRIBUTION: No data available

AQUATIC TOXICITY (ACUTE): No data available

CHEMICAL FATE INFORMATION: No data available

GENERAL COMMENTS: No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of in accordance with EC, national and local regulations, or sell to refiner.

PRODUCT DISPOSAL: Disposal of waste material from the use of this product may be subject to federal, state and local regulations. Waste characterizations and compliance with applicable laws are the sole responsibility of the waste generator. Reclaimed scrap metal has monetary value. Contact a commercial reclaimer for information on recycling scrap metals. All recovered material should be packaged, labeled, transported and disposed or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices.

EMPTY CONTAINER: Do not reuse empty containers. Dispose of empty container in accordance with EC, national and local regulations.

14. TRANSPORT INFORMATION**DOT (DEPARTMENT OF TRANSPORTATION)**

OTHER SHIPPING INFORMATION: Not restricted for transport

AIR (ICAO/IATA): Not restricted for transport

VESSEL (IMO/IMDG): Not restricted for transport

COMMENTS: This product is classified for transport per US DOT, ADR/RID, ICAO/IATA, and IMO/IMDG.

15. REGULATORY INFORMATION**UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS	Comments
Aluminum	25 - 60	7429-90-5	Material subject to reporting requirements of SARA Section 313. Listed as: Aluminum (as fume or dust)

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

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CERCLA REGULATORY: This product does not contain any chemicals subject to reporting as a CERCLA Hazardous Substance under 40 CFR 302.4.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: The components of this product are included on the TSCA Inventory.

CALIFORNIA PROPOSITION 65: This product does not contain any components that are regulated under California Proposition 65.

16. OTHER INFORMATION

APPROVED BY: Regulatory Affairs

PREPARED BY: Jerishia D. Fouts **Date Prepared:** 09/30/2015

INFORMATION CONTACT: Regulatory Affairs

HMIS RATING

HEALTH	*	2
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		I

HMIS RATINGS NOTES: HMIS III personal protection index: 'I' = safety glasses + gloves + vapor respirator

MANUFACTURER DISCLAIMER: This Material Safety Data Sheet is prepared in accordance with U.S. OSHA, Canadian WHMIS, and European Community Safety Data Sheet directives. This document is offered pursuant to OSHA's Hazard Communication Standard 29 CFR 1910.1200. The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared, and are offered in good faith. However, no warranty, guaranty or representation is expressed or implied as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable EC, national or state laws. Fusion, Incorporated assumes no responsibility for injury to the end user caused by the material even if proper safety procedures are followed. The end user should determine the suitability of the information for their particular usage. The end user assumes the risk in the use of this material. The information in this document may be changed periodically. Contact Fusion to determine if you possess the most current version of the document.