



SAFETY DATA SHEET

Brazing Paste

Date issued : 12/09/2022

Date revised : 12/09/2022

Revision number : 9

Weldtool WTSTL1000-750

1. Identification

Product identifier: Weldtool WTSTL1000-750

Product description: See Additional Information for explanation of Product Name.

Relevant identified uses: 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.

Manufacturer / Supplier

Weldtool Technologies Inc
2440 N Glassell Unit X Orange,
Ca 92865

Emergency Phone:

01-866-936-3354

Alternate Emergency Phone:

01-7146467527

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Emergency telephone number (24 hour)

In case of:	Contact:	Phone Number:
Chemical Emergency (spill, leak, fire, exposure or accident)	Verisk 3E (Access Code 335582): US- Mexico- EU- UK- Asia Pacific- Korea Specific-	+1 760 476 3962 +52 55 41696225 +1 760 476 3961 0 800 680 0425 +1 760 476 3960 +080-880-0455
Poisoning	Poison Control Center	800 222 1222
SDS Inquiries	Weldtool technologies Inc.	714 646-7527 (8AM - 5PM PST)
Company Contact Information	Weldtool Technologies Inc.	866-936-3354 (8AM - 5PM PST)

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-9999Y-XXZ

(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 products containing 60% metal or greater.

WTSTL-1000Y-XXZ**2. Hazard identification****Classification of the substance or mixture****Health hazards:**

Acute Toxicity (Oral), Category 4
 Acute Toxicity (Inhalation), Category 3
 Skin Irritation, Category 2
 Eye Corrosion, Category 1
 Mutagenicity, Category 2
 Carcinogenicity, Category 1B
 Reproductive Toxicity, Category 2
 Target Organ Toxicity (Repeated exposure), Category 1

Environmental hazards:

Acute Hazards to the Aquatic Environment, Category 1
 Chronic Hazards to the Aquatic Environment, Category 1

Label elements

Restricted to professional users



Skull and
crossbones



Health hazard



Environment



Corrosion

Signal word: DANGER

Hazard statement(s)

H302: Harmful if swallowed.
 H331: Toxic if inhaled.
 H315: Causes skin irritation.
 H318: Causes serious eye damage.
 H341: Suspected of causing genetic defects.
 H350: May cause cancer.
 H361: Suspected of damaging fertility or the unborn child.
 H372: Causes damage to organs through prolonged or repeated exposure.
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)**Prevention:**

P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P260: Do not breathe fumes or vapours.
 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.
 P280: Wear protective gloves, clothing, eye protection and face protection.
 P273: Avoid release to the environment.

Response:

P310: Immediately call a POISON CENTER or doctor.
 P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 P330: Rinse mouth.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P391: Collect spillage.

Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.

WTSTL-1000Y-XXZ**Disposal:**

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

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 ingredients

Chemical name	% w/w	CAS No.	Classification according to Regulation (EC) No 1272/2008 [CLP]
Boron Potassium Fluoride Hydroxide Oxide	<35	2787482-26-0	Skin Corr.,Cat. 1C; Eye Corr.,Cat. 1; Acute Tox. (O),Cat. 4; Rep. Tox.,Cat. 2; H314; H318; H302; H361-1
Silver	10 - 50	7440-22-4	Aquatic Acute,Cat. 1; Aquatic Chronic,Cat. 1M10; H400; H410
Copper	5 - 25	7440-50-8	Aquatic Acute,Cat. 1; Aquatic Chronic,Cat. 2; H400; H411
Zinc	10 - 50	7440-66-6	Aquatic Acute,Cat. 1; Aquatic Chronic,Cat. 1; H410
Cadmium	15 - 30	7440-43-9	Acute Tox. (I),Cat. 2; Muta.,Cat. 2; Carc.,Cat. 1B; Rep. Tox.,Cat. 2; STOT RE,Cat. 1; Aquatic Acute,Cat. 1; Aquatic Chronic,Cat. 1M10; H330; H341-1; H350-A; H361-1; H372; H400; H410

Comments: This material does not contain any other substances which are considered hazardous and are included above the appropriate reportable limits.

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

Eye: 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.

Most important symptoms and effects, both acute and delayed

Eye: Eye contact may cause: irritation and/or burning sensation.

Skin: May cause irritation and burns to exposed tissue. 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.

Inhalation of some metals may cause Metal Fume Fever: See section 11.

Indication of immediate medical attention and special treatment needed, if necessary: Treat symptomatically. 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.

Suitable 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: This material is classed as a non-flammable solid. Product will burn under fire conditions. 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

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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.

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

Precautions for safe handling: Keep away from sources of ignition.

Conditions for safe 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 controls**

Control parameters				
Occupational exposure limit values				
Chemical name	Type		ppm	mg/m ³
Silver	OSHA PEL	TWA	[1]	0.01 [1]
	ACGIH TLV	TWA	[1]	0.1 [1]
	NIOSH	TWA		0.01
Copper	OSHA PEL	TWA	[1]	1 [1]
	ACGIH TLV	TWA	[2]	1 [2]
Zinc	OSHA PEL	TWA	[3]	10 [3]
	ACGIH TLV	TWA	[3]	5 [3]
		STEL	[3]	10 [3]
Cadmium	OSHA PEL	TWA	[4]	5 ug/m ³ [4]
		STEL	[5]	2.5 ug/m ³ [5]
	ACGIH TLV	TWA	[6]	0.002 [6]

Footnotes:

- [dust]
- [fume]
- [zinc oxide fume]
- [respirable dust/welding fume]
- [action level]
- [respirable fraction] A2-Suspected human carcinogen

Appropriate 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.

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Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices* [most recent edition], for details.

Individual protection measures, such as personal protective equipment

Eye / face protection: Wear safety glasses with side shields as a minimum level of protection. Consult ANSI Z87.1 for more information.

Skin protection - hand protection: Wear chemical resistant gloves. When material is heated, wear thermal-insulated gloves to protect against burns.

Respiratory protection: 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.

Skin protection - other: 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.

Occupational hygiene 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 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

Appearance: Viscous paste

Color: Tan/light brown

Odor: Characteristic odor.

pH: No data available

Melting point: Alloy Melting Range: > 538°C (1000°F) (See Spec. Sheet for specific alloy melt point)

Initial boiling point and boiling range: No data available

Flash point: No data available

Evaporation rate (n-butyl acetate = 1): No data available

Explosion limit / flammability limit notes: LEL/UEL: Not Determined

Vapor pressure: No data available

Relative vapor density: No data available

Relative density: > 2 (water=1)

Solubility: No data available

Partition coefficient n-octanol/water (logarithmic value): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Comments: Not Available

10. Stability and reactivity

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

Dangerous polymerization: Will not occur.

Chemical 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), smoke & fumes, hydrogen fluoride. Metallic decomposition products may include: metal oxide fumes, copper fume, zinc oxide fumes, highly toxic cadmium oxide fumes.

Incompatible materials: Materials to avoid: strong reducing agents such as metal hydrides or alkali metals (Reaction with these materials may generate hydrogen gas, which could create an explosive hazard), acids, alkalies, oxidizing agents, strong oxidizers, acetylene, ammonia, hydrogen peroxide, bromine azide, chlorine trifluoride, ethyleneimine, oxalic acid, tartaric acid, nitric acid, sulfuric acid, bromates, strong

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bases, magnesium, chlorates, iodates, sodium azide, halogens, halogenated hydrocarbons, moisture, strong oxidizing agents..

Comments:

Hazardous decomposition by-products during the brazing/soldering process is difficult to classify. The type and quantity of fumes depends on many factors including base metal, flux or fluxless systems, filler metal, and/or the brazing/soldering process conditions. Additional concerns include prior residues present on the base metal due to cleaning agents, paint, plating etc. Plant conditions can also influence the exposure for personnel based on the amount of ventilation, brazing/soldering position relative to employees, and the presence of other fumes or gases in the atmosphere. When brazing/soldering, the fumes and off-gases may differ from those ingredients listed in Section 3 of the SDS. Based on normal operating procedures, it can be expected that the components of the original paste product will be volatilized, reacted, or oxidized forming fume constituents. Based on historical industry and company knowledge, some of the above decomposition products are possible.

11. Toxicological information**Acute toxicity**

Chemical name	LD ₅₀ (oral) mg/kg(rat)	LD ₅₀ (dermal) mg/kg(rabbit)	LC ₅₀ (inhalation) mg/l
Boron Potassium Fluoride Hydroxide Oxide	500 ATE (Acute Toxicity Estimate)	Not established	Not established
Cadmium	2330 mg/kg [rat]	Not established	25 mg/m ³ /30 min [rat]

Acute dermal toxicity LD₅₀: Not Classified.

The calculation method was used for this evaluation.

Acute oral toxicity LD₅₀: Classified as Acute Toxicity (Oral), Category 4

The calculation method was used for this evaluation.

Acute inhalation toxicity LC₅₀: Classified as Acute Toxicity (Inhalation), Category 3

The calculation method was used for this evaluation.

Notes: Cadmium is much more dangerous by inhalation than by ingestion. Severe exposure may occur before symptoms appear. Early symptoms may include mild irritation of the upper respiratory tract, a sensation of constriction of the throat, a metallic taste and/or a cough. A period of 1-10 hours may precede the onset of rapidly progressing shortness of breath, chest pain, and flu-like symptoms with weakness, fever, headache, chills, sweating and muscular pain. Acute pulmonary edema usually develops within 24 hours and reaches a maximum by three days. If death from asphyxia does not occur, symptoms may resolve within a week.

If excessive quantities of copper fume or zinc oxide fume are inhaled, it can result in the condition called metal fume fever. The symptoms of metal fume fever will occur within 3 to 10 hours, and include immediate dryness and irritation of the throat, tightness of the chest, and coughing which may later be followed by flu-like symptoms of fever, malaise, perspiration, frontal headache, muscle cramps, low back pain, occasionally blurred vision, nausea, and vomiting. There are no recognized complications, after effects, or chronic effects that result from this condition.

Inhalation exposure is most likely to occur during the brazing/soldering process.

Skin corrosion / irritation: Classified as Skin irritation, Category 2

The classification is based on testing this material or a similar material.

Serious eye damage / irritation: Classified as Eye Corrosion, Category 1.

The calculation method was used for this evaluation.

Respiratory or skin sensitization: Not Classified.

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

Germ cell mutagenicity: Classified as Mutigenicity, Category 2. The calculation method was used for this evaluation.

Carcinogenicity

Notes: Classified as Carcinogenicity Category 1B

Reproductive toxicity: Classified as Reproductive toxicity Category 2

The calculation method was used for this evaluation.

Cadmium: Cadmium is known to cause birth defects and/or other reproductive toxicity.

Specific Target Organ Toxicity - single exposure: Not Classified.

The calculation method was used for this evaluation.

Specific Target Organ Toxicity - repeated exposure: Cadmium: Classified as Target Organ Toxicity (Repeated exposure), Category 1.

The calculation method was used for this evaluation.

Aspiration hazard: Not Applicable

12. Ecological information

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Ecotoxicological information: Material - Expected to be very toxic with long-term adverse effects in the aquatic environment.

Aquatic toxicity, both acute and chronic: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

General comments: No data available

13. Disposal considerations

Disposal methods: 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**USA Department of Transport Regulations (DOT)**

UN proper shipping name: Environmentally hazardous substances, solid, n.o.s. [Cadmium metal powder,Silver metal powder]

Transport hazard class(es): 9 Environmentally Hazardous Substance

UN number: 3077

Packing group, if applicable: III

Bulk freight class: Per 49CFR 171.4: For ground, rail or air shipments, Marine pollutants are regulated as a hazardous material in bulk quantities only. Non-bulk shipments are not regulated for shipping.

Environmental hazards - marine pollutant: Cadmium metal powder

Marine pollutant #2: Silver metal powder

ICAO / IATA - air

UN proper shipping name: Environmentally hazardous substances, solid, n.o.s. [Cadmium metal powder,Silver metal powder]

UN number: 3077

Transport hazard class(es): 9 Environmentally Hazardous Substance

Packing group, if applicable: III

Special provisions: A197: May be shipped as "Not restricted" provided that the net quantity in any receptacle does not exceed 5 kg or 5 L.

IMO / IMDG - International

UN proper shipping name: Environmentally hazardous substances, solid, n.o.s. [Cadmium metal powder,Silver metal powder]

UN number: 3077

Transport hazard class(es): 9 Environmentally Hazardous Substance

Packing group, if applicable: III

Environmental hazards - marine pollutant: Cadmium metal powder

Marine pollutant #2: Silver metal powder

Special provisions: Marine Pollutants having a net quantity of 5 L or less for liquids or a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provision of the Code relevant to marine pollutants.

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

15. Regulatory information**UNITED STATES**

SARA Section 311/312 Hazard Categories

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Chemical name	% w/w	CAS No.	Comments
Silver	10 - 50	7440-22-4	Material subject to reporting requirements of SARA Section 313. Listed as: Silver Compounds
Copper	5 - 25	7440-50-8	Material subject to reporting requirements of SARA Section 313. Listed as: Copper Compounds
Zinc	10 - 50	7440-66-6	Material subject to reporting requirements of SARA Section 313. Listed as: Zinc Compounds, Zinc (as fume or dust)
Cadmium	15 - 30	7440-43-9	Material subject to reporting requirements of SARA Section 313. Listed as: Cadmium Compounds

CERCLA Hazardous Substances and Reportable Quantities (RQ)

Chemical name	% w/w	CERCLA rq
Silver	10 - 50	1000 lbs.
Copper	5 - 25	5000 lbs.
Zinc	10 - 50	1000 lbs.
Cadmium	15 - 30	10 lbs.

TSCA (The Toxic Substances Control Act)

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

California Proposition 65:  **WARNING:** This product can expose you to chemicals including [see table below], which is [are] known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Chemical name	% w/w	Listed
Cadmium	15 - 30	<ul style="list-style-type: none"> ● Cancer ● Developmental Toxicity ● Male Reproductive

SVHC (Substances of Very High Concern)

Chemical name	CAS No.
Cadmium	7440-43-9

16. Other information

Approved by: Regulatory Affairs

Prepared by: K Spence

Date revised: 07/19/2022

Information contact: Regulatory Affairs

Revision summary: This SDS replaces the 12/10/2021 SDS. Revised: **Section 2:** Classification of the substance or mixture, Label elements, Precautionary statement(s). **Section 9:** Auto-ignition temperature, Initial boiling point and boiling range, Evaporation rate (n-butyl acetate = 1), Flash point, pH, Solubility.

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.