

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

Date Issued : 10/29/2008
 SDS No : LS1004
 Date Revised : 10/28/2015
 Revision No : 4

Silver Solder

SECTION 1 : Identification of the substance/preparation and of the company/undertaking

1.1. Product identifier

Product code : 2020
Product name : Silver Solder
Product description : 7162M9CB
Chemical family : Brazing Filler Metal; Silver Solder
Molecular formula : Alloys of silver, copper, nickel, and zinc

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Manufacturer

Ortho Technology, Inc.
 17401 Commerce Park Boulevard
 Tampa, FL 33647

Emergency Phone : 1-800-999-3161
E-Mail : ljohnson@orthotechnology.com

SECTION 2: Hazards identification


2.1. Classification of the substance or mixture

Classification according to Directive 1999/45/EC

2.2. Label elements

Irritating to skin

Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictogram(s) : 
 Exclamation mark

Hazard statement(s) : H315: Causes skin irritation.

2.3. Other hazards

Health hazards : Mild irritant

SECTION 3: Composition / information on ingredients

3.1. Substances

Not Applicable

3.2. Mixtures

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Chemical Name	CAS	EINECS No.	Wt. %
Copper	7440-50-8	231-159-6	~ 19 - 95
Nickel	7440-02-0	231-111-4	~ 0.1 - 24
Silver	7440-22-4	231-131-3	~ 1.5 - 55
Zinc	7440-66-6	231-175-3	~ 2 - 44

SECTION 4: First aid measures

4.1. Description of first aid measures

- Following eyes** : Flush affected areas with water for at least fifteen minutes. Seek medical assistance if necessary.
- Following skin** : Remove contaminated clothing. Wash affected area with large quantities of water for at least five minutes. Seek medical assistance if necessary. Launder or dry-clean clothing before reuse.
- Following ingestion** : If subject is conscious, induce vomiting. If unconscious or convulsive, seek immediate medical assistance.
- Following inhalation** : If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

4.2. Most important symptoms and effects, both acute and delayed

4.3. Indication of any immediate medical attention and special treatment needed

- Notes to physician** : None of the components are acutely toxic by ingestion, nor are they absorbed through the skin. Extensive or prolonged skin contact may cause contact or allergic dermatitis.

SECTION 5: Fire fighting measures

5.1. Extinguishing media

- Extinguishing media** : Use dry chemical. Do not use water.

5.2. Special hazards arising from the substance or mixture

- Fire explosion** : In finely-divided form, these products may ignite when exposed to incompatible materials (See Section #10). If present in a fire or explosion, they will emit fumes of the constituent metals or metal oxides.

5.3. Advice for firefighters

- Fire fighting procedures** : If fighting a fire in which these products are present, wear a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

SECTION 6: Accidental release measures

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6.1. Personal precautions, protective equipment and emergency procedures

General procedures : If a finely-divided form of product is spilled, clean up spillage so as to minimize dispersion of dust. Wet sweeping or vacuuming using HEPA filtration are recommended.

6.2. Environmental precautions

6.3. Methods and material for containment and cleaning up

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling : No Special handling precautions are required.
Storage : Do not store in proximity to incompatible materials (see Section #10)

7.2. Conditions for safe storage, including any incompatibilities

7.3. Specific end use(s)

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

8.2. Exposure controls

Engineering controls : Use appropriate ventilation (e.g., dilution, local exhaust) adequate to maintain concentrations of all components to within their applicable standards.

Eye/face protection : Wear eye protection adequate to prevent eye contact with finely-divided product and eye injury if products are used with a flame. Plastic-frame spectacles with side shields and filter lenses (shade #3 or #4) are recommended.

Skin protection : Wear appropriate protective gloves and clothing to prevent skin injury if these products are used with a flame. Avoid flammable fabrics.

Respiratory protection : If an exposure level exceeds an applicable exposure standard, use a NIOSH-approved respirator having a configuration (type of facepiece, filter media, assigned protection factor, etc.) appropriate to the concentration of the contaminant(s) generated. For guidance on selection and use of respiratory protection, consult American National Standard Z88.2 (ANSI, New York, NY 10036 USA).

Work hygienic practices : To minimize ingestion, wash hands and face before eating, drinking, applying cosmetics or using tobacco.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : White to light yellow metals in form of wire, rod, strip, powder, grain, clad alloys, or preformed shapes.

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Colour	: White to Light Yellow
Odour	: Odorless
pH	: NA = Not Applicable
Melting temperature	: > 660°C (1220°F)
Flash point and method	: NA = Not Applicable
Vapor pressure	: NA = Not Applicable
Vapor density	: NA = Not Applicable
Solubility in water	: Insoluble.
Auto-ignition temperature	: NA = Not Applicable

9.2. Other information

Percent volatile : NA = Not Applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

Chemical stability : Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization : Will not occur

10.4. Conditions to avoid

Conditions to avoid : Silver and Copper can form unstable acetylides if in contact with acetylene gas.

10.5. Incompatible materials

Incompatible materials : Strong oxidizers; ammonia, ammonium nitrate; azides; nitric acid; ethylene imine; chlorine trifluoride; sulfuric acid; inorganic and organic peroxides; peroxyformic acid; oxalic acid; tartaric acid; 1-bromo-2-propyne; permonosulfuric acid; bromates, chlorates, and iodates of alkali and alkali earth metals; halogens; hydrazine; hydrazoic acid; performic acid; phosphorus; selenium; dioxane; sulfur; titanium plus potassium perchlorate; strong acids; inorganic nitrates; carbon disulfide; hydrazine mononitrate; hydroxylamine; selenium; tellurium.

10.6. Hazardous decomposition products

Hazardous decomposition products : Heating to elevated temperatures may liberate metal/metal oxide fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute

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Chemical Name	Oral LD ₅₀	Inhalation LC ₅₀
Copper	No data available	No data available
Silver	> 5 gm/kg (oral/guinea pig)	No data available
Zinc	No data available	No data available

Reproductive effect : Nickel has produced fetotoxic and teratogenic effects in animal studies.

SECTION 12: Ecological information

12.1. Toxicity

12.2. Persistence and degradability

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Additional information : In its intended manner of use, this product should not be released into the environment, and adverse effects on ecosystems are not anticipated under recommended conditions of use, storage, and disposal.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal method : Dispose of unused or unusable product in accordance with applicable Federal, State/Provincial, and local regulations.

SECTION 14: Transport information

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Additional information : These products are not Hazardous Substances or Dangerous Goods per USDOT, TDG (Canada), IATA, or IMO regulations.

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical safety assessment

SECTION 16: Other information

Reason for issue	: New MSDS Format
Approved by	: J.Hutchins Title :QA/RA Director
Prepared by	: T.Swan
Information contact	: 1-800-999-3161
Revision summary	: This MSDS replaces the 10/28/2015 MSDS. Revised: Section 2: .
Manufacturer disclaimer	: Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume 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).