

**Safety Data Sheet
Casweld Silver Solder**

SECTION 1: Identification

1.1 Product identifier

Product name	Casweld Silver Solder
Product number	CWS
Brand	Caswell

1.4 Supplier's details

Name	Caswell Inc
Address	7696 Route 31 Lyons, NY 14489 USA
Telephone	315 946 1213
Fax	315 946 4456
email	sales@caswellplating.com

1.5 Emergency phone number(s)

Office Hours (9-4ET): 315 946 1213
24 Hour: CHEMTEL US# 1-800-255-3924 Int# +01-813-248-0585

SECTION 2: Hazard identification

General hazard statement

Not considered a hazard in its solid form. Hazards are from fumes during use and heat.

2.1 Classification of the substance or mixture

GHS classification in accordance with: (EC) No 1272/2008 (CLP)

- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2A
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1

2.2 GHS label elements, including precautionary statements

Pictogram



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Signal word

Warning

Hazard statement(s)

H315

H319

H400

Causes skin irritation

Causes serious eye irritation

Very toxic to aquatic life

Precautionary statement(s)

P264

P280

P302+P352

P321

P332+P313

P362+P364

P305+P351+P338

P337+P313

P273

P391

P501

Wash ... thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: Wash with plenty of water/...

Specific treatment (see ... on this label).

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Avoid release to the environment.

Collect spillage.

Dispose of contents/container to ...

SECTION 3: Composition/information on ingredients

3.1 Substances

Hazardous components

1. TIN

Concentration

1 - 11 %

CAS no.

7440-31-5

2. Silver

Concentration

12 - 35 %

CAS no.

7440-22-4

3. Copper (Foil, Rod, Slug)

Concentration

13 - 24 %

CAS no.

7440-50-8

4. Zinc oxide

Concentration

6 - 13 %

EC no.

215-222-5

CAS no.

1314-13-2

Index no.

030-013-00-7

5. Potassium carbonate

Concentration

1 - 11 %

CAS no.

584-08-7

6. Potassium fluoborate

Concentration

15 - 25 %

CAS no.

14075-53-7

7. Potassium tetraborate Tetrahydrate

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Concentration 1 - 11 %
CAS no. 12045-78-2

8. BORIC ACID

Concentration 1 - 11 %
EC no. 233-139-2
CAS no. 10043-35-3

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash off with soap and plenty of water. Get medical attention if symptoms occur.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Personal protective equipment for first-aid responders	See section 8

4.2 Most important symptoms/effects, acute and delayed

not established

4.3 Indication of immediate medical attention and special treatment needed, if necessary

not established

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use water spray, alcohol resistant foam, dry chemical or carbon dioxide. Welding sparks can ignite combustible and flammable materials. Use media recommended for burning material.

5.2 Specific hazards arising from the chemical

Boric Acid Fumes

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

See section 8

6.2 Environmental precautions

See section 13

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6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Tin, inorganic compounds (except oxides) (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 2 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

2. Tin, inorganic compounds (except oxides) (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 2 mg/m³; also tin oxide; except SnH₄ (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

3. Tin, inorganic compounds (except oxides) (as Sn) (CAS: 7440-31-5)

REL (Inhalation): 2 mg/m³; except tin oxides (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

4. Tin, organic compounds (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 0.1 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

5. Tin, organic compounds (as Sn) (CAS: 7440-31-5)

PEL (Inhalation): 0.1 mg/m³, (ST) 0.2 mg/m³ (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

6. Tin, organic compounds (as Sn) (CAS: 7440-31-5)

REL (Inhalation): 0.1 mg/m³ except Cyhexatin (NIOSH)

OSHA Annotated Table Z-1, www.osha.gov

7. SILVER (CAS: 7440-22-4 EC: 231-131-3)

PEL-TWA (Inhalation): 0.01 mg/m³ (OSHA)

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

8. SILVER (CAS: 7440-22-4 EC: 231-131-4)

PEL-TWA (Inhalation): 0.1 mg/m³ (ACGIH)

USA. ACGIH Threshold Limit Values

(TLV)

9. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

PEL (Inhalation): 0.01 mg/m³ (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

10. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

PEL (Inhalation): 0.01 mg/m³ (Cal/OSHA)

OSHA Annotated Table Z-1, www.osha.gov

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11. Silver, metal and soluble compounds (as Ag) (CAS: 7440-22-4)

REL (Inhalation): 0.01 mg/m³ (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

12. Zinc oxide fume (CAS: 1314-13-2)

PEL (Inhalation): 5 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

13. Zinc oxide fume (CAS: 1314-13-2)

PEL (Inhalation): 5 mg/m³, (ST) 10 mg/m³ (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

14. Zinc oxide fume (CAS: 1314-13-2)

REL (Inhalation): 5 mg/m³, (ST) 10 mg/m³ (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

15. Zinc oxide (CAS: 1314-13-2)

PEL (Inhalation): See PNOR (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

16. Zinc oxide, Total dust (CAS: 1314-13-2)

PEL (Inhalation): 15 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

17. Zinc oxide, Total dust (CAS: 1314-13-2)

PEL (Inhalation): 10 mg/m³ (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

18. Zinc oxide, Total dust (CAS: 1314-13-2)

REL (Inhalation): 5 mg/m³, (C) 15 mg/m³ (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

19. Zinc oxide, Respirable fraction (CAS: 1314-13-2)

PEL (Inhalation): 5 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

20. Zinc oxide, Respirable fraction (CAS: 1314-13-2)

PEL (Inhalation): 5 mg/m³ (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Welder's helmet or face shield with color absorbing lenses. Shield and filter to provide protection from UV radiation, infrared and molten metal approved to standard EN379. Filter shade to be a minimum of shade 9.

Skin protection

Heat resistant protective clothing. Safety boots, apron, arm and shoulder protection.

Body protection

Type A or B gloves. Type B recommended when high dexterity is required.

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Respiratory protection

Use an air purifying dust respirator when welding or brazing in a confined space, or when local exhaust or ventilation is not sufficient to keep exposure values within safe limits.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Solid
Odor	None
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	1560+2000 deg F
Initial boiling point and boiling range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Upper/lower flammability limits	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	6-9 g/cm ³
Solubility(ies)	Insoluble
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Available
Oxidizing properties	Not Available

SECTION 10: Stability and reactivity

10.1 Reactivity

Contact with chemical substances like acids or strong bases cause generation of gas.

10.2 Chemical stability

Stable

10.5 Incompatible materials

Reacts with acid

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Overexposure to brazing and soldering fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Tin: May cause skin irritation. May cause eye irritation due to mechanical action. Inhalation of tin dust may cause respiratory tract and mucous membrane tract irritation due to mechanical action. It is poorly absorbed from the digestive tract. It can cause gastrointestinal tract disturbance which may be irritant or astringent on the stomach. Silver may cause argyria (a slate-grey or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver). Symptoms of systematic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis and coma. Signs and

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symptoms of zinc exposure are central nervous system depression, cough, chest pain and difficulty breathing. Exposure to high airborne concentrations can cause anaesthetic effects. Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, and erythematous lesions on the skin and mucous membranes. Other symptoms include: circulatory collapse, tachycardia, cyanosis, delirium, convulsions and coma. Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams.

LD/LC50 Values that are relevant for classification Silver 7440-22-4 Oral LD50 >5000 mg/kg (rat)

LD/LC50 Values that are relevant for classification Copper 7440-50-8 Oral LD50 >2000 mg/kg (rat) Dermal LD50 >2000 mg/kg (rat) Inhalation LC50 >5.11 mg/L/4 hr (rat) Intraperitoneal LD50 3.5 mg/kg (mouse)

LD/LC50 Values that are relevant for classification Zinc 7440-66-6 Oral LD50 630 mg/kg (rat)

LD/LC50 Values that are relevant for classification Potassium Carbonate 584-08-7 Oral LD50 1870 mg/kg (rat) LC50 <510 mg/l (96h) (fathead minnow)

LD/LC50 Values that are relevant for classification Boric Acid 10043-35-3 Oral LD50 2660 mg/kg (rat) LC50 53.2 mg/l (21d) (water flea)

Serious eye damage/irritation

Copper deposition in the cornea as exemplified by humans with Wilson's disease.

Respiratory or skin sensitization

Overexposure to welding fumes may affect pulmonary function.

Germ cell mutagenicity

Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defect.

Summary of evaluation of the CMR properties

It has also been reported that copper poisoning has led to haemolytic anemia and accelerates arteriosclerosis, damage to the lungs, vomiting, diarrhoea, abdominal pain and blood disorders. Excessive inhalation of zinc oxide fumes may produce symptoms known as "Zinc Shakes" which are flu-like and usually cease when the individual is removed from the source. Prolonged or repeated exposure can cause vomiting, diarrhoea, lung irritation.

STOT-repeated exposure

Overexposure to welding fumes may affect pulmonary function.

SECTION 12: Ecological information

Toxicity

Welding rods contain metals which are considered to be very toxic towards aquatic organisms. Finely divided welding rods are therefore considered harmful to aquatic organisms

SECTION 13: Disposal considerations

Disposal of the product

Consult appropriate federal and local regulations for disposal. Empty containers are subject to the same regulations.

Disposal of contaminated packaging

Consult appropriate federal and local regulations for disposal. Empty containers are subject to the same regulations.

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SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

New Jersey Right To Know Components

Common name: TIN

CAS number: 7440-31-5

Pennsylvania Right To Know Components

Chemical name: Tin

CAS number: 7440-31-5

Massachusetts Right To Know Components

Chemical name: Silver

CAS number: 7440-22-4

New Jersey Right To Know Components

Common name: SILVER

CAS number: 7440-22-4

Pennsylvania Right To Know Components

Chemical name: Silver

CAS number: 7440-22-4

Massachusetts Right To Know Components

Chemical name: Copper

CAS number: 7440-50-8

New Jersey Right To Know Components

Common name: COPPER

CAS number: 7440-50-8

Pennsylvania Right To Know Components

Chemical name: Copper

CAS number: 7440-50-8

Massachusetts Right To Know Components

Chemical name: Zinc oxide

CAS number: 1314-13-2

New Jersey Right To Know Components

Common name: ZINC OXIDE

CAS number: 1314-13-2

Pennsylvania Right To Know Components

Chemical name: Zinc oxide

CAS number: 1314-13-2

HMIS Rating

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Casweld Silver Solder	
HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	D

NFPA Rating



SECTION 16: Other information

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Caswell Inc be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Caswell Inc has been advised of the possibility of such damages.