

Product Name	Bossweld 56% Silver Brazing Alloy Flux Coated
Part Number	300209, 300209H
SDS Document Number	SDS_Bossweld Silver Brazing Alloy 56%_V1-1_200720
Issue Date	20/07/20

1 Product identifier & identity for the chemical

1.1 Product Identifier

Product Name: Bossweld 56% Silver Brazing Alloy Flux Coated

Part Numbers: 300209, 300209H

1.2 Other means of identification

56% flux coated silver brazing alloy

1.3 Recommended use of the chemical and restrictions on use

Joining of ferrous, nonferrous and dissimilar metals. Used in brazing processes..

1.4 Suppliers name, address and phone number

Supplier Name: Dynaweld Industrial Supplies Pty Ltd

Address: Building 2, 10 Jessica Place, Prestons NSW 2214, Australia

Phone: +61 2 8761 6500

Email: sales@dynaweld.com.au

Web Site: <https://www.dynaweld.com.au>

1.5 Emergency phone number

Emergency Phone: +61 2 8761 6500 (Australia)

2 Hazard Identification

2.1 Classification of the hazardous chemical

This product is classified as Hazardous Chemical – Non-Dangerous Goods according to Globally Harmonized System of classification and labelling of chemicals (GHS).

2.2 Label elements, including precautionary statements

Signal Word: WARNING

Symbols:



Hazard Statements:

H410	Very toxic to aquatic life with long lasting effects
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Precautionary Statements Prevention:

P273	Avoid release to the environment
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Precautionary Statements Response

P391	Collect spillage
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Precautionary Statements Storage

Not Applicable

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Precautionary Statements Disposal

P501	Dispose of contents/container in accordance with local regulations
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2.3 Other hazards which do not result in classification

No other information provided.

3 Composition/information on ingredients

3.1 Identity of chemical ingredients

Chemical Name	CAS No.	Concentration Range (%)
Silver	7440-22-4	50-70
Zinc	7440-66-6	25-50
Tin	7440-31-5	9-11
Copper	7440-50-8	0-2
In use, product produces		
Copper fumes	7440-50-8	
Zinc Oxide fumes	1314-13-2	

3.2 CAS number and other unique identifiers

Note: See section 3.1

3.3 Concentration of ingredients

Note: See section 3.1

4 First Aid Measures

4.1 Description of necessary first aid measures

General:	If exposed or concerned get medical advice / attention. Get medical advice/attention if you feel unwell.
Inhalation:	Exposure to zinc and copper oxide fumes can result in shortness of breath, cough and general respiratory complaints, in addition to nausea and vomiting and aching muscles. General symptoms are similar to influenza – hence 'metal fume fever'. Symptoms of metal fume fever are often delayed for 3-10 hours and usually disappear after 24 hours rest. Ulceration of the respiratory tract and perforation of the nasal septum can occur. If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Do not give mouth-to-mouth resuscitation. To protect rescuer, use air-viva, oxy-viva or one-way mask. Resuscitate in a well-ventilated area. If symptoms develop seek medical attention
Skin contact:	Zinc oxide is moderately irritating to the skin. Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms persist seek medical attention If skin or hair contact occurs: Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation. In case of burns: Quickly immerse affected area in cold running water for 10 to 15 minutes. Bandage lightly with a sterile dressing. Treat for shock if required. Lay patient down. Keep warm and rested. Transport to hospital or doctor.
Eye contact:	Moderate local irritation may occur due to the zinc oxide component. If contact with the eye(s) occurs, wash with copious amount of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention. DO NOT attempt to remove particles attached to or embedded in eye. Lay victim down, on stretcher if available and pad BOTH eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye. Seek urgent medical assistance, or transport to hospital.

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Ingestion: Not considered a normal route of entry. If poisoning occurs, contact a doctor or Poisons Information Centre 13 11 26 (Australia).

4.2 Symptoms caused by exposure

Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema).

Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung), central nervous system effects, bronchitis and other pulmonary effects.

Note: Refer to Section 11 for further information.

4.3 Medical Attention and Special Treatment

Treat symptomatically.

5 Fire Fighting Measures

As shipped, this product is non-flammable. However, welding arc and sparks can ignite combustibles and flammable products. Read and understand *WTIA Technical Note No. 7 Health and Safety in Welding* before using this product.

5.1 Suitable extinguishing media

As shipped, the product will not burn. In case of fire in the surroundings, use CO₂, powder or water fog / spray. There is no unsuitable extinguishing media known.

5.2 Specific hazards arising from the chemical

None known.

5.3 Special protective equipment and precautions for fire fighters

Special protective equipment: Follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special precautions: Use firefighting procedures suitable for surrounding area. If safe to do so, remove containers from path of fire and prevent spillage from entering drains or water courses. May produce toxic fumes of metal oxides, poisonous fumes and corrosive fumes.

6 Accidental release measures

Unlikely due to form of product, however fumes may be released when the product is used.

6.1 Personal precautions, protective equipment and emergency procedures

If airborne dust and/or fumes are present use adequate engineering controls, and, if needed, personal protection to prevent overexposure.

Note: Refer to recommendations in Section 8.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and materials for containment and cleaning up

Avoid generating dust. On land, sweep or shovel into suitable containers. Prevent product from entering any drains, sewers or water sources. During containment / clean up observe precautions with regard to the use of personal protective equipment.

Note/s: For further information see Section 8. Refer to Section 13 for proper disposal.

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7 Handling and Storage

7.1 Precautions for safe handling

Wear gloves when handling welding consumables to avoid contaminating hands with product dust. Handle with care to avoid stings and cuts

Reduction of fumes and dust: Keep formation of airborne dust and fumes to a minimum. Provide appropriate exhaust ventilation at places where dust and fumes are formed. Wear appropriate PPE. See WTIA Technical Note No. 7 Health and Safety in Welding.

Prevention of fire & explosion: Remove flammable and combustible materials and liquids.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up.

Store in dry protected location to prevent any moisture contact.

Keep welding consumables away from chemical substances like acids, which could cause chemical reactions.

Store in accordance with local/regional/national regulations.

8 Exposure controls/personal protection

8.1 Control parameters – exposure standards, biological monitoring

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed the applicable national exposure limits.

Chemical Name	CAS No.	TWA mg / m ³
Silver	7440-22-4	0.1 mg/m ³
Zinc oxide fume	1314-13-2	5 mg/m ³
Tin	7440-31-5	2.0 mg/m ³
Copper fume	7440-50-8	0.2 mg/m ³
Antimony		0.5 mg/m ³
Phosphorous		1.0 mg/m ³

Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) are values published by the American Conference of Government Industrial Hygienists (ACGIH). ACGIH Statement of Positions regarding the TLVs and BEIs states that the TLV-TWA should be used as a guide in the control of health hazards and should not be used to indicate a fine line between safe and dangerous exposures.

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8.2 Appropriate engineering controls

Ventilation: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the exposure limits in the worker's breathing zone, and the general area. Keep exposure as low as possible.

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits.

Note: See WTI Technical Note 7 – Health and Safety in Welding for further information / guidance.

8.3 Personal protective equipment (PPE)

Eye Protection		Wear safety glasses with side shields or chemical goggles. Soft contact lenses may absorb and concentrate irritants. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. Provide protective screens and flash goggles, if necessary, to shield others.
Hand protection:		Wear protective gloves. Suitable gloves can be recommended by the glove supplier.
Protective Clothing		Wear hand, head, and body protection that will help to prevent injury from using this product. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Wear dry gloves free of holes or split seams.
Respiratory protection:		Keep your head out of fumes. Use enough ventilation and local exhaust to keep fumes and gases from your breathing zone and the general area. Use respirable fume respirator, or air-supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below exposure limits.
Hygiene measures:		Do not eat, drink or smoke when using the product. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Note: See WTI Technical Note 7 – Health and Safety in Welding for further information / guidance.

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9 Physical and chemical properties

	Property	Product description
9.1	Appearance	Rod; insoluble in water
9.2	Odour	No further relevant information available
9.3	Odour threshold	No further relevant information available
9.4	pH	No further relevant information available
9.5	Melting point/freezing point	605-650 °C. Freezing point not available.
9.6	Boiling point and boiling range	No further relevant information available
9.7	Flash point	Not applicable
9.8	Evaporation rate	Not applicable
9.9	Flammability	No further relevant information available
9.10	Upper/lower flammability or explosive limits	Not applicable
9.11	Vapour pressure	Not applicable
9.12	Vapour density	Not applicable
9.13	Relative density	9.5 g/cm ³
9.14	Solubility(ies)	Immiscible
9.15	Partition coefficient: (n-octanol/water)	No further relevant information available
9.16	Auto-ignition temperature	No further relevant information available
9.17	Decomposition temperature	No further relevant information available
9.18	Viscosity	Not applicable
9.19	Specific heat value	No further relevant information available
9.20	Particle size	No further relevant information available
9.21	Volatile organic compounds content	No further relevant information available
9.22	% volatile	No further relevant information available
9.23	Saturated vapour concentration	No further relevant information available
9.24	Release of invisible flammable vapours and gases	No further relevant information available
	Additional parameters	
9.25	Shape and aspect ratio	No further relevant information available
9.26	Crystallinity	No further relevant information available
9.27	Dustiness	No further relevant information available
9.28	Surface area	No further relevant information available
9.29	Degree of aggregation or agglomeration	No further relevant information available
9.30	Ionisation (redox potential)	No further relevant information available
9.31	Biodurability or biopersistence	No further relevant information available

10 Stability and Reactivity

10.1 Reactivity

The product is non-reactive under normal conditions of storage and transport.

10.2 Chemical stability

Stable under normal conditions of storage and transport.

10.3 Conditions to avoid

Avoid heat or contamination of acids, alkalis and oxidising agents.

10.4 Incompatible materials and possible hazardous reactions

Contact with acids, alkalis and oxidising agents could cause reaction and generation of gas.

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10.5 Hazardous decomposition products

Dangerous fumes are formed during use. May produce toxic fumes of metal oxides, poisonous fumes and corrosive fumes.

Note: For further information refer to WTIA Technical Note No. 7 Health and Safety in Welding.

11 Toxicological information

Inhalation of welding fumes and gases can be dangerous to your health. The composition and quantity of both are dependent upon the material being worked, the process, procedures, and consumables used. Note: Refer to Section 10 for further information.

Emissions during the use of this product may also induce an allergic or sensitisation reaction and thereby aggravate existing systemic disease.

11.1 Information on routes of exposure

- Inhaled:** Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual. The inhalation of small particles of metal oxide results in sudden thirst, a sweet, metallic foul taste, throat irritation, cough, dry mucous membranes, tiredness and general unwellness. Headache, nausea and vomiting, fever or chills, restlessness, sweating, diarrhoea, excessive urination and prostration may also occur. Copper poisoning following exposure to copper dusts and fume may result in headache, cold sweat and weak pulse. Capillary, kidney, liver and brain damage are the longer term manifestations of such poisoning. Inhalation of freshly formed metal oxide particles sized below 1.5 microns and generally between 0.02 to 0.05 microns may result in "metal fume fever". Symptoms may be delayed for up to 12 hours and begin with the sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalised feeling of malaise. Mild to severe headache, nausea, occasional vomiting, fever or chills, exaggerated mental activity, profuse sweating, diarrhoea, excessive urination and prostration may also occur. Tolerance to the fumes develops rapidly, but is quickly lost
- Ingestion:** Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments
- Skin Contact:** Skin contact does not normally present a hazard, though it is always possible that occasionally individuals may be found who react to substances usually regarded as inert. Molten material is capable of causing burns.
- Eye:** Fumes from welding/brazing operations may be irritating to the eyes..
- Chronic:** Principal routes of exposure include accidental contact with the molten metal and inhalation of fume arising as a consequence of the action of the flame on the rod / wire. Although fume generation rates are generally low, excessive heating of the material, well above its quoted melting point, may result in over-exposure. Metallic dusts generated by the industrial process give rise to a number of potential health problems. The larger particles, above 5 micron, are nose and throat irritants.
 For copper and its compounds (typically copper chloride):
 Acute toxicity: There are no reliable acute oral toxicity results available. Animal testing shows that skin in exposure to copper may lead to hardness of the skin, scar formation, exudation and reddish changes. Inflammation, irritation and injury of the skin were noted.
 Repeat dose toxicity: Animal testing shows that very high levels of copper monochloride may cause anaemia.
 Genetic toxicity: Copper monochloride does not appear to cause mutations in vivo, although chromosomal aberrations were seen at very high concentrations in vitro.
 Cancer-causing potential: There was insufficient information to evaluate the cancer-causing activity of copper monochloride.
 Welding or flame cutting of metals with zinc or zinc dust coatings may result in inhalation of zinc oxide fume; high concentrations of zinc oxide fume may result in "metal fume fever"; also known as "brass chills", an industrial disease of short duration. [I.L.O] Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in enclosed or poorly ventilated areas.

11.2 Symptoms related to exposure

Note: See Section 11.1

11.3 Numerical measures of toxicity

No further information available

11.4 Immediate, delayed and chronic health effects from exposure

Note: See Section 11.1

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11.5 Exposure Levels

Note: See Section 11.1

11.6 Interactive effects

Note: See Section 11.1

11.7 Data limitations

No further information available.

12 Ecological information

Welding consumables and materials could degrade / weather into components originating from the consumables or from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

12.1 Ecotoxicity

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Other adverse effects

No further information available.

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13 Disposal considerations

13.1 Safe handling and disposal methods

The generation of waste should be avoided or minimised whenever possible. When practical, recycle in an environmentally acceptable, regulatory compliant manner.

Use recycling procedures if available.

13.2 Disposal of any contaminated packaging

Dispose of non-recyclable products in accordance with all applicable National, State, and Local requirements.

13.3 Environmental regulations

Discharge, treatment, or disposal may be subject to National, State, or Local requirements.

14 Transport information

No international regulations or restrictions are applicable.

14.1 UN number

No further relevant information available

14.2 Proper shipping name

No further relevant information available

14.3 Transport hazard class(es)

No further relevant information available

14.4 Packing group

No further relevant information available

14.5 Environmental hazards



14.6 Special precautions during transport

No further relevant information available

14.7 Hazchem Code

Hazchem code not relevant to this product

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15 Regulatory information

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

Regulations of each country are applied to substances / mixtures.

15.2 Poisons Schedule number

A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

16 Other information

Training advice: Ensure that user is aware of the potential hazards and knows what to do in the event of an accident or an emergency.

16.1 Date of preparation or review

26th October, 2018

16.2 Key abbreviations or acronyms used

BEI - Biological Exposure Indices

GHS - Globally Harmonized System of classification and labelling of chemicals.

IARC - International Agency for Research on Cancer

NTP - National Toxicology Program

PPE - Personal Protection Equipment

SUSMP - Standard for the Uniform Scheduling of Medicines and Poisons

TLVs - Threshold Limit Value

WTIA – Welding Technology Institute of Australia

Dynaweld Industrial Supplies Pty Ltd requires that all customers read this safety data sheet carefully so as to be informed about the risks implied in the use of the product, and provide any person involved with a copy of the same and/or adequate training on the use of the product.

Whilst Dynaweld Industrial Supplies Pty Ltd has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Dynaweld Industrial Supplies accepts no liability for loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in the SDS,

END OF SAFETY DATA SHEET