MATERIAL SAFETY DATA SHEET

Pro Silver 2 Brazing Alloys

Material Safety Data Sheet 6008
Rev 1 Issued 03/11/2005

COMPANY DETAILS

Company:	BOC Limited ABN 95 000 029 729
Address:	Riverside Corporate Park, 10 Julius Avenue, NORTH RYDE NSW 2113
Telephone Number:	131 262 (Business Hours), (02) 8874 4400
Emergency Telephone Number:	1800 653 572

IDENTIFICATION

Product Name:	Pro Silver 2
UN Number:	None allocated
Dangerous Goods:	None allocated
HAZCHEM Code:	2R
Poisons schedule:	None allocated
Manufacturer's Code:	25718 series
Use:	Brazing Alloy

Part No.	Description	Pack	Dimensions
LTAP0242	Pro Silver 2 Advance Pack	5.0kg	2.5x750
LTAP0243	Pro Silver 2 Advance Pack	5.0kg	3.0x750
LTAP0212	Pro Silver 2 Standard Pack	1.0kg	2.5x750
LTAP0213	Pro Silver 2 Standard Pack	1.0kg	3.0x750
LTAP0282	Pro Silver 2 Handi Pak	15 rods	2.5x750
LTAP0296	Pro Silver 2 Dispenser Pack	20 rods	2.5x750
LTAP0298	Pro Silver 2 Dispenser Pack	20 rods	3.0x750

Physical Description

Appearance:	Rod
Melting Point:	Solidus 644°C, Liquidus 740°C
Australian Standard Colour Code:	Yellow
Flammability Limits:	Not applicable
Solubility in Water:	Insoluble
Other Properties:	Not applicable

Composition

Entity	CAS Number	Proportion
Silver	7440-22-4	2%
Copper	7440-50-8	High content
Phosphorus	7723-14-0	Low content

HEALTH HAZARD INFORMATION

Health Effects: Brazing alloys in general are not dangerous in the form in which they are supplied to the market. However, they are

dangerous preparations in that health hazards do occur during use, especially if the alloy is subjected to overheating, resulting in evolution of metal and oxide fume. The absence of effective ventilation magnifies the exposure risk. For Silbralloy, this applies particularly to the copper and phosphorus components.

Inhalation: Exposure to fumes of phosphorus pentoxide can result in severe local irritation as it is corrosive to mucous membranes. Copper oxide fume results in shortness of breath, cough and aching muscles with general symptoms similar to those of influenza - hence "metal fume fever". Symptoms of metal fume fever are often delayed for 3 hours and usually disappear after 24 hours rest. Ulceration of the respiratory tract and perforation of the nasal septum can occur.

Skin: Prolonged exposure to copper may cause skin irritation or discolouration of the skin or hair.

Eye: Severe local irritation due to the phosphorus pentoxide components can occur.

Chronic Exposure: Chronic absorption of silver can cause argyria, a bluish discolouration of various tissues, but this is unlikely to occur when handling silver alloys.

First Aid

Inhalation:
- • Remove casualty from exposure.
- Sit in half upright position and allow to rest.
- Seek medical attention.

Eyes:
- Irrigate thoroughly with water.
- Seek medical attention.

Skin:
- Wash off contamination with soap and water.

Advice to Doctor:
- Contact a Poisons Information Centre.

PRECAUTIONS FOR USE

Exposure Limits: Threshold Limit Values (TLV's) American Conference of Governmental Industrial Hygienists (ACGIH), Health and Safety Executive (HSE)

Silver	0.1mg/m^3 Time Weighted Average (TWA)
Copper	0.2mg/m^3 as fume, TWA and Long Term Exposure Limit (LTEL)
Phosphorus	1mg/m^3 as phosphoric acid, TWA

Ventilation: Adequate air flows and respiratory protection are required to

ensure fume concentrations do not exceed TLV values. In outdoor or open work space conditions, this could consist of mechanical dilution ventilation. However, under high work loads or in limited work spaces, ventilation by a local exhaust system will be required. The latter should be supplemented by personal respiratory protection when working in confined spaces.

Refer to the Australian Welding Research Association and Australian Welding Institute Technical Note 7 for further details.

Personal Protection: Tests to determine whether or not TLV's are being exceeded can be performed using lapel samplers, with sample filters analysed for copper. Appropriate ventilation should be used but additional operator protection can be achieved using an approved half-face cartridge respirator suitable for metal oxide fume.

Wear protective clothing when brazing, including heat resistant gloves and chemical goggles. Do not eat, drink or smoke in the working area.

PERSONAL PROTECTION

Tests to determine whether or not TLV's are being exceeded can be performed using lapel samplers, with sample filters analysed for copper. Appropriate ventilation should be used but additional operator protection can be achieved using an approved half-face cartridge respirator suitable for metal oxide fume.

Wear protective clothing when brazing, including heat resistant gloves and chemical goggles. Do not eat, drink or smoke in the working area.

SAFE HANDLING GUIDELINES

Storage and Transport: Copper and some copper alloys can form explosive acetylides when exposed to acetylene. As with many metals and alloys, contact with mineral acids liberates hydrogen, a flammable and explosive gas.

Store away from acids and acetylene.

Spills and Disposal: Disposal should comply with local and national waste disposal procedures.

Fire/Explosion Hazard: The alloy is not pyrophoric. However, if involved in a fire generated by other means, resulting in temperatures in excess of 600^{O}C, toxic fumes of copper and phosphorus pentoxide will be evolved. Fire extinguisher selection should be governed by the source of the fire and other materials involved. Subject to the presence of electrical shock risks, use of water fog is preferred.

CONTACT POINT

Technical Support: (02) 131 262 (B/Hrs)
(02) 132 437 (Fax)

Further information may be obtained from any BOC Gas & Gear centre throughout Australia and New Zealand.