

# Material Safety Data Sheet 1100/105

MSDB 1-2:

## Silver Brazing for Special Applications



*Metalli as*

*Materiale Safety Data Sheet (MSDB)*

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This data is made i.h.t Commission Directives 91/155/EEC, 93/112/EEC & S.I. 1993 No. 1746

## 1.1 IDENTIFICATION OF SUBSTANCE

This Product Safety Data Sheet gives specific information on silver brazing alloys for special applications.

### Silver Brazing for Special Applications

## 1.2 SUPPLIER

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## 2. COMPOSITION

Alloy	Composition							Melting Range C	ISO 17672
	Ag	Cu	Zn	Cd	Ni	Mn	Si		
Ag85/Mn15	85					15		951 960	AG 485
Ag/Cu Eutectic	72	28						778	AG 272

### Cadmium Free Brazing Alloys – Metallibraze Range

Alloy	Composition						Melting Range C	ISO 17672
	Ag	Cu	Zn	Mn	Ni	Other		
METALLIBRAZE 56	56	27	-	-	2,5	14,5 In	600 - 711	
METALLIBRAZE 49H	49	16	23	7,5	4,5	-	680 - 705	AG 449
MB 49LM Tri-foil*	49	27,5	20,5	2,5	0,5	-	610 - 710	-

\*Alloy contains central copper core

## 3. HAZARD IDENTIFICATION

The only potential health hazards involved with this product arise from its use. On heating, metal end metal oxide fumes may be evolved but are unlikely to exceed the above stated OES's under normal conditions. However, severe overheating could lead to the emission of fumes in harmful concentrations. Metal fume fever can be caused by exposure to excessive fumes of copper and zinc oxide. Symptoms are similar to those of influenza and often appear after a latent period of up to 10 hours. They normally disappear after

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24 hours with rest. Overheating of the cadmium, bearing alloys can give harmful fumes. The limits of these can be seen in section 8.

COSHH Regulations list the exposure limits for cadmium oxide as a MAXMUM EXPOSURE LIMIT (MEL) Which must never be exceeded. Short exposures to high levels of cadmium oxide can lead to pulmonary oedema and may be fatal. Prolonged or repeated over exposure to cadmium oxide fume is reported as causing renal damage. There is a symptomless latent period and any person thought to have been over exposed to cadmium oxide fume should be kept under observation for 48 hours.

Cadmium Oxide fume is reported as being carcinogenic and may cause cancer by inhalation.

## 4. FIRST AID MEASURES

Metal oxide fume can be irritating to the upper respiratory tract, nose and throat. In powder form, metal dust will irritate the eyes and is harmful if ingested.

- |            |  |
|------------|--|
| Inhalation | Fume may be evolved at brazing temperatures, which will irritate nose, throat and respiratory organs. Remove patient to fresh air. In acute cases, apply artificial respiration. Summon medical aid if necessary's |
| Ingestion  | Not applicable. However, if the alloy in powder form is ingested, rinse mouth with water and Give patient water or milk to drink. Do not induce vomiting. Summon medical aid.                                      |
| Eyes       | Not applicable. However, if the alloy is in powder form and dust gets into the eyes, irrigate with water or isotonic saline for up to 20 minutes. Seek medical attention if there is any hint of eye damage.       |
| Skin       | Wash hands with soap and water after handling brazing alloy. If ay skin irritation develops, seek medical advice.  |

## 5. FIRE FIGHTING MEASURES

Non-flammable. Use extinguishing medium suitable for surrounding fire but exercise care with water if molten metal is present. Use full personal protection with breathing apparatus in a fire as harmful fumes may be evolved from the molten alloy.

## 6. ACCIDENTAL RELEASE MEASURES

Material may be collected for re-use or scrap as required. If alloy is in powder, form avoid getting dust in the eyes or breathing metal dust.

## 7. HANDLING AND STORAGE

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**Handling:** Use in a well ventilated area or with local extraction systems. Do not inhale any fumes evolved during use. Wash hands thoroughly with soap and water after handling the brazing alloy, particularly before eating or smoking.

**Storage:** No special requirements – store in cool, dry conditions. Keep powder containers closed.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

	Element	Long Term 8-hour TWA* value	Short Term 15 minute value
**	Silver	0.1 mg/m <sup>3</sup>	-
	Copper Fume (as Copper)	0.2 mg/m <sup>3</sup>	-
	Zinc Oxide Fume	5.0 mg/m <sup>3</sup>	10.0mg/m <sup>3</sup>
***	Cadmium Oxide Fume (as Cadmium)	0.025 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>
	Manganese Fume (as Manganese)	1.0 mg/m <sup>3</sup>	3.0 mg/m <sup>3</sup>
***	Nickel	0.5 mg/m <sup>3</sup>	-
	Indium	0.1 mg/m <sup>3</sup>	-
	Cobalt	0.1 mg/m <sup>3</sup>	

\*Time weighted Average

\*\* Under review

\*\*\*Maximum Exposure Level

Local extraction should always be used when brazing with cadmium bearing alloys. Consideration should be given to monitoring of the atmosphere in the workplace where brazing is carried out and to the use of personal air sampling devices for individual operators. If a risk of inhalation exists, personal respiratory protection should be worn. Safety glasses should be worn as well as gloves if required. Wash hands after using this material. The use of protective clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Silver/copper/Brass colored metal depending on composition.
Odour	None.
pH	Not applicable.
Melting point	As shown in Section 2.
Flash point	Not applicable.
Flammability	Non flammable.

## 10. STABILITY AND REACTIVITY

No reaction with air or water. Avoid contact with acids.

## 11. TOXICOLOGICAL DATA

Material not classified as toxic. No other data available.

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## 12. ECOLOGICAL INFORMATION

As far as is known, no threat is posed to the environment by this material.

## 13. DISPOSAL CONSIDERATIONS

According to local and national regulations. Recommended method: as scrap for refining.

## 14. TRANSPORT INFORMATION

Not classified for land, sea or air transport. No UN No/s have been issued for these alloys.

## 15. REGULATORY INFORMATION

Material classification	Harmful	
Risk Phrases	R20	Harmful by inhalation
Safety Phrases	S20/21	When using do not eat, drink or smoke.
	S23	Do not breathe fumes
	S36/37/39	Wear suitable protective clothing, gloves and eye/face Protection.
	S38	In case of insufficient ventilation wear suitable respiratory Equipment.

On label alloy is stated to "Contain Cadmium". Users are warned that dangerous fumes are formed during use, not to smoke during use and to use only with local extraction.

## 16. OTHER INFORMATION

Metalli Data sheet 1100:105 "Health and Safety in Brazing".

Guidance Note EH54 "Assessment of Exposure to fume welding and allied processes" HSE 1990

Guidance Note EH55 "The control of exposure to fume from welding, brazing and similar processes" HSE 1990.

Guidance Note EH60 "Nickel and inorganic compounds: health and safety precautions HSE 1991.