

MATERIAL SAFETY DATA SHEET

PRODUCT INFORMATION

Date of Issue: 14th October 2004

TIN-BASED ALLOYS CONTAINING TIN, ANTIMONY AND COPPER.

(Classified as Hazardous according to criteria of NOHSC)

Identification

Product Names:

Pewter 93/6/1

Pewter 94/6

Pewter HT

Pewter AD

Bearing metal A1 (also called Crusher A)

Bearing metal A (also called Babbitt metal A)

UN Number: None Allocated
Dangerous Goods and Subsidiary Risk: None
Hazchem Code: None Allocated
Poisons Schedule Number: None Allocated

Use: Bearing metals and casting alloys.

Physical Description/Properties

Appearance: Silver white alloys

Boiling Point: Not applicable

Vapour Pressure: <1 mmHg at 25°C

Alloy	Composition (% w/w)			Melting Range		Specific Gravity
	Tin	Antimony	Copper	Liquidus	Solidus	
93/6/1	93	6	1	236	235	7.4
94/6	94	6		235	235	7.4
AD	92.5	7.5	.5	236	235	7.4
A1	83.33	8.33	8.33	369	238	7.3
A	89	7.5	3.5	296	238	7.3
HT	97.75			236	235	7.4

Flashpoint: Not applicable

Explosive Limits: Not applicable

Solubility in water: Insoluble

Other Properties

Reactivity:

When these alloys are treated with acid they may evolve the toxic gas stibine (antimony hydride). This gas has an odour similar to hydrogen sulphide (rotten eggs). Stibine has been assigned an occupational exposure limit (see below).

If the molten metal alloy comes into contact with moisture an explosion of steam will result which could cause a violent eruption of molten metal.

Ingredients

For alloy composition, see above. The figures quoted are nominal concentrations. Refer to the appropriate specifications for the permitted levels of impurities.

Health Hazard Information

Health Effects

Acute

It is not expected that these products will give any adverse effects.

Chronic

No chronic effects are known

First Aid

Swallowing:

If the casualty is unconscious but breathing, place on one side in the recovery position. If breathing has stopped, apply artificial resuscitation by the mouth to mouth or mouth to nose method. If the casualty is conscious, then encourage them to wash their mouths out with water several times, but do not induce vomiting nor give anything to drink if the casualty finds it difficult to swallow. Obtain medical attention.

Eye:

Flush *immediately* with plenty of water, ensure that the eyeball and the inside of the eyelids are properly bathed by gently prising open the eyelids. Also make sure that the contaminated water runs off the face away from the eyes. Obtain urgent medical attention.

Skin:

Wash the affected parts of the body with plenty of cold or lukewarm running water. Continue washing for at least 20 minutes. Remove contaminated clothing, wash before re-use. Obtain medical attention if blistering occurs or redness persists.

Inhalation:

Rescuers should ensure they are properly protected before entering the area to remove the casualty. If the casualty is unconscious but breathing, place on one side in the recovery position. If breathing has stopped, apply artificial resuscitation by the mouth to mouth or mouth to nose method. Obtain medical attention.

Advice to Doctors:

No information available

Precautions for Use

Whilst these products do not contain lead, as a matter of good practice eating, drinking and smoking should not be allowed in the area where these metals are handled. The hands should be washed with soap and warm water after handling these alloys, particularly before eating drinking or smoking. Melt the products only in a well ventilated area with suitable extraction. Ensure that any cuts or abrasions are protected.

Exposure Standards (Australian)

Substance	TWA		STEL		Carcinogen Category	Notices
	ppm	Mg/m ³	ppm	Mg/m ³		
Antimony		0.5				
Stibine	0.1	0.51				

Information on monitoring strategies and methods can be found in the following publications.

NOHSC: 1003, Exposure Standards for Atmospheric Contaminants in the Occupational Environment. National Occupational Health and Safety Commission, Australia.

Australian Standard, AS 2986, Workplace Atmospheres – Organic Vapours – sampling by Solid Absorption Techniques, Standards Australia.

EH42, Monitoring Strategies for Toxic Substances, UK Health and Safety Executive.

Engineering Controls

The engineering control methods must reduce hazardous exposure. Suitable methods include segregation of the casting process from personnel, enclosure of the process, or local exhaust ventilation.

Personal Protection

Respirator:

If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against fume. Reference should be made to:

Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices, and AS/NZS 1716, Respiratory *Protective Devices*.

Eye Protection:

It is recommended that eye protection, safety glasses or goggles to Australian Standard AS/NZS 1337, *Eye Protectors for Industrial Applications*, should be worn whenever molten metal is present.

Clothing:

Suitable workwear should be worn to protect personal clothing, eg, cotton overalls buttoned at neck and wrist. Reference should be made to Australian Standard, AS 3765, *Clothing for Protection against Hazardous Chemicals*.

Flammability

This product will not burn when exposed to fire.

Safe Handling Information

Storage

These products should be stored in a cool, dry area out of reach of children and away from food, drink and animal feedstuffs.

Transport

These products are not classified as hazardous for transportation.

Spills

Spills of molten metal: Avoid breathing dust and fume, wear suitable respirator and protective clothing. Allow spill to solidify and cool. Take care not to introduce water under molten metal. If necessary dam the spill area to prevent entry of molten metal to drains. Return spilled metal to manufacturer for recycling or hold for re-use.

Disposal

Product Disposal:

Waste material should be disposed of in accordance with the relevant government regulations for special waste. The recommended method of disposal is as scrap metal. Re-use or re-cycling is recommended.

Fire/Explosion Hazard

Extinguishers:

Use foam, water fog, dry powder or carbon dioxide. Do NOT use water jet.

Special Fire Fighting Procedures:

Firefighters should wear full protective clothing and self contained breathing apparatus operated in positive pressure mode.

Combustion Products:

High temperatures may produce metal dust, fumes and/or vapours.

Other Information

Ecotoxicity Data

The alloys are not degradable and will persist in the environment. The alloys are generally of low toxicity, but should be recovered for recycling if possible.

The information presented in this safety data sheet is accurate to the best knowledge and belief of Northern Smelters. As we cannot anticipate all conditions under which this information and our products or the products of other manufacturers in combination with our products this safety data sheet cannot constitute the users assessment of workplace risk. Users are advised to make their own tests to determine the safety and suitability of each product or product combination for their own purposes.

Contact Point

Northern Smelters Pty Ltd
PO Box 34
Woodridge QLD 4114
(07) 3208 2724