

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name ZINC
Synonyms 0001 TO 0450 - PRODUCT CODE • SPECIAL HIGH GRADE (SHG) ZINC • SPELTER • ZN

1.2 Uses and uses advised against

Uses ZINC PRODUCTION

IU01: Zinc metal production RLE (GESZn 0)
IU03: Storage of ingots-slabs in warehouses (GESZn 1)
IU04: Production of chemicals (pyro) (GESZn 3)
IU07: Melting, alloying and casting (GESZn 1)
IU08: Cathodic protection - sacrificial anodes (GESZn 1)
IU09: Downstream use of zinc-based sacrificial anodes (GESZn 8)
IU10: Extraction of PM (Parkes process) (GESZn 5)
IU11: Zinc casting / granules, pellets, prills, ... (GESZn 1, GESZn 6)
IU12: Zinc sheet casting and rolling (GESZn 1, GESZn 6)
IU13: Wire and rods manufacturing (GESZn 1, GESZn 6)
IU14: Downstream use of Zn based wire for metal spraying (GESZn 8)
IU15: Component for soldering/brazing/welding products (GESZn 1, GESZn 6)
IU16: Downstream use of Zinc based brazing/soldering products (GESZn 8)
IU17: Strips and coins manufacturing (GESZn 1, GESZn 6)
IU18: Batteries ballots, cans manufacturing (GESZn 1, GESZn 6)
IU19: Zinc (pure or alloyed) powder manufacturing (GESZn 2)
IU20: Passivated zinc powder manufacturing (pure or alloyed) (GESZn 2)
IU30: Brass manufacturing (GESZn 1)
IU31: Use of brass casts for transformation into semi-products (GESZn 6)
IU32: Use of brass containing products (ESZn 8)
IU33: Die-casting alloys manufacturing (GESZn 1)
IU34: Use of die-casting ingots (GESZn 6)
IU35: Manufacturing of Zinc containing Al-alloys (GESZn 1)
IU36: Use of zinc containing Al alloys (GESZn 6)
IU37: General hot dip galvanizing (GESZn 5)
IU38: Continuous hot dip galvanizing (GESZn 5)
IU39: Electrogalvanizing (GESZn 5)
IU40: Electroplating (GESZn 5)
IU41: Production of "targets by (EB) PVD or other sputtering techniques (GESZn 5)
IU42: Use of galvanized goods Generic consumer/environment

1.3 Details of the supplier of the product

Supplier name NYRSTAR HOBART
Address Risdon Road, Lutana, Tasmania, 7001, AUSTRALIA
Telephone (03) 6278 4444
Fax (03) 6278 4608
Website <http://www.nyrstar.com>

1.4 Emergency telephone numbers

Emergency (03) 6278 4554

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
ZINC	7440-66-6	231-175-3	>99.995%
LEAD	7439-92-1	231-100-4	<0.003%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye Exposure is considered unlikely unless solid is cut or damaged and dusts generated. Hold eyelids apart and flush the eye continuously with running water for at least 15 minutes.

Inhalation Exposure is considered unlikely. If inhaled (solid is cut or damaged and dusts generated) remove from contaminated area.

Skin Exposure is considered unlikely unless solid is cut or damaged and dusts generated. Gently flush affected areas with water. Seek medical attention if irritation develops.

Ingestion For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

First aid facilities None allocated.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve zinc oxides when heated to decomposition.

5.3 Advice for firefighters

No fire or explosion hazard exists.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

If spilt, collect and reuse where possible.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

PRODUCT NAME ZINC**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**8.1 Control parameters****Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Lead, inorganic dusts & fumes (as Pb)	SWA (AUS)	--	0.15	--	--

Biological limits

Ingredient	Determinant	Sampling Time	BEI
LEAD	Lead in blood	Not critical	200 µg/L
	Lead in blood (women of child bearing potential)	Not critical	10 µg/100ml
	Lead in blood	Not critical	30 µg/L
	Lead in blood (women of child bearing potential)	Not critical	10 µg/L

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas.

PPE

Eye / Face	Wear dust-proof goggles.
Hands	Wear PVC or rubber gloves.
Body	Not required under normal conditions of use.
Respiratory	At high dust levels, wear a Class P1 (Particulate) respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance	BLUE/WHITE TO GREY METALLIC SOLID (25 KG SLABS)
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	907°C
Melting point	419°C
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Specific gravity	7.13
Solubility (water)	INSOLUBLE
Vapour pressure	1 mm Hg @ 487°C
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT

9.1 Information on basic physical and chemical properties

Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization will not occur.

10.4 Conditions to avoid

Avoid contact with incompatible substances.

10.5 Incompatible materials

Incompatible with acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide) and halogenated hydrocarbons. Contact with moist air may result in the formation of a white coating (zinc oxide) on the metal surface.

10.6 Hazardous decomposition products

May evolve zinc oxides when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
LEAD	50 - 600 mg/kg (calf)	--	--

Skin	Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation due to mechanical action.
Eye	Not classified as an eye irritant. Due to the product form, the potential for exposure is reduced, unless cut or heated and dust or fumes generated.
Sensitisation	Not classified as causing skin or respiratory sensitisation.
Mutagenicity	Not classified as a mutagen.
Carcinogenicity	Not classified as a carcinogen.
Reproductive	Not classified as a reproductive toxin.
STOT - single exposure	Not classified as causing organ damage from single exposure. If heated, over exposure to fumes may result in irritation of the nose and throat, nausea and headache. Freshly formed metal fumes may result in metal fume fever, a flu-like illness with symptoms including; metallic or sweet taste, dry throat, coughing and tight chest.
STOT - repeated exposure	Not classified as causing organ damage from repeated exposure. Dust inhalation is not expected due to product form. However, if dust is created, chronic exposure to high dust levels occurs may result in pneumoconiosis. Lead is a cumulative poison but due to the low concentration present in this product adverse health effects are not anticipated.
Aspiration	Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No information provided.

12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

All living organisms have homeostasis mechanisms that actively regulate zinc uptake and absorption/excretion from the body; due to this regulation, zinc and zinc compounds do not bioaccumulate or biomagnify.

12.4 Mobility in soil

No information provided.

12.5 Other adverse effects

No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal Collect and place in sealable containers. Contact the manufacturer/supplier for additional information (if required).

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None allocated.	None allocated.	None allocated.
14.2 Proper Shipping Name	None allocated.	None allocated.	None allocated.
14.3 Transport hazard class	None allocated.	None allocated.	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code None allocated.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule 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).

Classifications Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard codes None allocated.

Risk phrases None allocated.

Safety phrases None allocated.

Inventory listings **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT 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, RMT accepts no liability for any 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 this SDS.

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