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**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

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**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, TAS, 7001, AUSTRALIA  
**Telephone** (03) 6278 4444  
**Fax** (03) 6278 4608  
**Email** [info@nyrstar.com](mailto:info@nyrstar.com)  
**Website** <http://www.nyrstar.com>

**1.4 Emergency telephone numbers**

**Emergency** (03) 6278 4554

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**2. HAZARDS IDENTIFICATION**

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**2.1 Classification of the substance or mixture**

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**2.2 GHS Label elements**

**PRODUCT NAME ZINC**

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

**2.3 Other hazards**

No information provided.

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**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

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**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%

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**4. FIRST AID MEASURES**

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**4.1 Description of first aid measures**

<b>Eye</b>	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.
<b>Inhalation</b>	Exposure is considered unlikely. If inhaled (solid is cut or damaged and dusts generated) remove from contaminated area.
<b>Skin</b>	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.
<b>Ingestion</b>	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.
<b>First aid facilities</b>	Normal washroom facilities should be available.

**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.

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**5. FIRE FIGHTING MEASURES**

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**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.

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**6. ACCIDENTAL RELEASE MEASURES**

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**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

### 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 <sup>3</sup>	ppm	mg/m <sup>3</sup>
Lead, inorganic dusts & fumes (as Pb)	SWA [AUS]	--	0.05	--	--

#### Biological limits

Ingredient	Reference	Determinant	Sampling Time	BEI
LEAD	ACGIH BEI	Lead in blood	Not critical	200 µg/L
	ACGIH BEI	Lead in blood (women of child bearing potential)	Not critical	10 µg/100ml
	SWA [AUS]	Lead in blood	Not critical	30 µg/dL
	SWA [AUS]	Lead in blood (women of child bearing potential)	Not critical	10 µg/dL

### 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

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

**9.1 Information on basic physical and chemical properties**

<b>Upper explosion limit</b>	
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	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 mg/kg to 600 mg/kg (calf)	--	--

<b>Skin</b>	Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation due to mechanical action.
<b>Eye</b>	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.
<b>Sensitisation</b>	Not classified as causing skin or respiratory sensitisation.
<b>Mutagenicity</b>	Not classified as a mutagen.
<b>Carcinogenicity</b>	Not classified as a carcinogen.
<b>Reproductive</b>	Not classified as a reproductive toxin.
<b>STOT - single exposure</b>	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.
<b>STOT - repeated exposure</b>	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.
<b>Aspiration</b>	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** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIC (Australian Inventory of Industrial Chemicals)**  
All components are listed on AIC, 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 <sup>3</sup>	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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