

Railtech Standard Crucible

Railtech International

Chemwatch: 4957-59

Version No: 6.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 31/01/2017

Print Date: 01/02/2017

S.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

| | |
|--------------------------------------|----------------------------|
| Product name | Railtech Standard Crucible |
| Synonyms | Product Code: 82450100 |
| Other means of identification | Not Available |

Relevant identified uses of the substance or mixture and uses advised against

| | |
|---------------------------------|-------------------------------------|
| Relevant identified uses | Used as a crucible in rail welding. |
|---------------------------------|-------------------------------------|

Details of the supplier of the safety data sheet

| | |
|--------------------------------|---|
| Registered company name | Railtech International |
| Address | 52 Lysaght Street Acacia Ridge QLD 4110 Australia |
| Telephone | +61 7 3344 5444 |
| Fax | +61 7 3344 5377 |
| Website | w w w.railtech.com.au |
| Email | sales@railtech.com.au |

Emergency telephone number

| | |
|--|------------------|
| Association / Organisation | Not Available |
| Emergency telephone numbers | +61 0418 781 377 |
| Other emergency telephone numbers | Not Available |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

NON-HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

| | |
|-------------------------|----------------|
| Poisons Schedule | Not Applicable |
| Classification | Not Applicable |

Label elements

| | |
|---------------------------|----------------|
| GHS label elements | Not Applicable |
|---------------------------|----------------|

| | |
|--------------------|-----------------------|
| SIGNAL WORD | NOT APPLICABLE |
|--------------------|-----------------------|

Continued...

Hazard statement(s)

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|------------|-----------|-------------------------|
| | | corundum, as |
| 1344-28-1. | 90-95 | <u>calcined alumina</u> |
| | | marble powder, as |
| 1317-65-3 | 0.5-2 | <u>limestone</u> |

SECTION 4 FIRST AID MEASURES**Description of first aid measures**

| | |
|---------------------|---|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | Brush off dust. |
| Inhalation | <ul style="list-style-type: none"> ▸ If dust is inhaled, remove from contaminated area. ▸ Encourage patient to blow nose to ensure clear passage of breathing. ▸ If irritation or discomfort persists seek medical attention. |
| Ingestion | <p>Overexposure is unlikely in this form and quantity.</p> <ul style="list-style-type: none"> ▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. |

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES**Extinguishing media**

Non combustible

- There is no restriction on the type of extinguisher which may be used.

Special hazards arising from the substrate or mixture

| | |
|-----------------------------|------------|
| Fire Incompatibility | None known |
|-----------------------------|------------|

Continued...

Advice for firefighters

| | |
|------------------------------|--|
| Fire Fighting | Product is not combustible. No special firefighting procedures required. Alert Fire Brigade and tell them location and nature of hazard. Use fire fighting procedures suitable for surrounding area. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▸ Non combustible. ▸ Not considered a significant fire risk, however containers may burn. |
| HAZCHEM | Not Applicable |

SECTION 6 ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|---------------------|---|
| Minor Spills | Clean up all spills immediately. Use dry clean up procedures and avoid generating dust. If exposure to workplace dust is not controlled, respiratory protection is required; wear SAA approved dust respirator. Vacuum up or sweep up. Place in suitable containers for disposal. |
| Major Spills | Minor hazard <ul style="list-style-type: none"> ▸ Clear area of personnel and move upwind. ▸ If inhalation risk of exposure exists, wear SAA approved dust respirator. ▸ Collect recoverable product into labelled containers for recycling. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE**Precautions for safe handling**

| | |
|--------------------------|--|
| Safe handling | <ul style="list-style-type: none"> ▸ Limit all unnecessary personal contact. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ When handling DO NOT eat, drink or smoke. ▸ Always wash hands with soap and water after handling. ▸ Avoid physical damage to containers. ▸ Use good occupational work practice. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. |
| Other information | <ul style="list-style-type: none"> ▸ Store in original containers. ▸ Keep containers securely sealed. ▸ Store in a cool, dry area protected from environmental extremes. ▸ Store away from incompatible materials and foodstuff containers. ▸ Protect containers against physical damage and check regularly for leaks. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. For major quantities: <ul style="list-style-type: none"> ▸ Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams). ▸ Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|---|
| Suitable container | <ul style="list-style-type: none"> ▸ Check that containers are clearly labelled ▸ Packaging as recommended by manufacturer. |
| Storage incompatibility | None known |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA


| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|------------------|-----------------|----------------------|---------------|---------------|---------------|
| Australia Exposure Standards | calcined alumina | Aluminium oxide | 10 mg/m ³ | Not Available | Not Available | Not Available |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|------------------|--|-----------------------|-----------------------|-------------------------|
| calcined alumina | Aluminum oxide; (Alumina) | 5.7 mg/m ³ | 15 mg/m ³ | 25 mg/m ³ |
| limestone | Limestone; (Calcium carbonate; Dolomite) | 45 mg/m ³ | 500 mg/m ³ | 3,000 mg/m ³ |

| Ingredient | Original IDLH | Revised IDLH |
|------------------|---------------|---------------|
| calcined alumina | Not Available | Not Available |
| limestone | Not Available | Not Available |

Exposure controls

| | |
|---|---|
| Appropriate engineering controls | <p>Use in a well-ventilated area</p> <ul style="list-style-type: none"> ▸ If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. |
| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> ▸ Safety glasses with side shields; or as required, ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▸ Wear physical protective gloves, e.g. leather. ▸ Wear safety footwear. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▸ Overalls. ▸ Eyewash unit. |
| Thermal hazards | Not Available |

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|---|-------------------------|---------------|
| Appearance | Odourless standard crucible as a grey refractory brick. | | |
| Physical state | Solid | Relative density | Not Available |

Continued...

| | | | |
|---|----------------|--|----------------|
| | | (Water = 1) | |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Applicable |
| pH (as supplied) | Not Applicable | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Applicable |
| Initial boiling point and boiling range (°C) | Not Applicable | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Applicable |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water (g/L) | Not Available | pH as a solution (1%) | Not Applicable |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Applicable |

SECTION 10 STABILITY AND REACTIVITY

| | |
|---|---|
| Reactivity | See section 7 |
| Chemical stability | Product is considered stable and hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

| | |
|---------------------|--|
| Inhaled | Not normally a hazard due to physical form of product. The dust may be discomforting |
| Ingestion | Considered to be non toxic Not normally a hazard due to physical form of product. |
| Skin Contact | Not normally a hazard due to physical form of product. There is some evidence to suggest that this material can cause eye irritation and damage in some persons. |
| Eye | Not normally a hazard due to physical form of product. The dust may produce eye discomfort and abrasive eye inflammation. |
| Chronic | Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as |

Continued...

| | | |
|-----------------------------------|---|---|
| | a matter of course. | |
| Railtech Standard Crucible | TOXICITY Not Available | IRRITATION Not Available |
| calcined alumina | TOXICITY Oral (rat) LD50: >2000 mg/kg ^[1] | IRRITATION Not Available |
| limestone | TOXICITY Oral (rat) LD50: 6450 mg/kg ^[2] | IRRITATION Skin (rabbit): 500 mg/24h-moderate |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|-------------------------|--|
| CALCINED ALUMINA | No significant acute toxicological data identified in literature search. |
| LIMESTONE | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Eye (rabbit) 0.75: mg/24h - No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects. |

| | | | |
|--|---|---------------------------------|---|
| Acute Toxicity | ☉ | Carcinogenicity | ☉ |
| Skin Irritation/Corrosion | ☉ | Reproductivity | ☉ |
| Serious Eye Damage/Irritation | ☉ | STOT - Single Exposure | ☉ |
| Respiratory or Skin sensitisation | ☉ | STOT - Repeated Exposure | ☉ |
| Mutagenicity | ☉ | Aspiration Hazard | ☉ |

Legend: ✘ – Data available but does not fill the criteria for classification
✔ – Data available to make classification
☉ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| Ingredient | Endpoint | Test Duration (hr) | Species | Value | Source |
|------------------|--|--------------------|-------------------------------|-------------|--------|
| calcined alumina | LC50 | 96 | Fish | 0.0029mg/L | 2 |
| calcined alumina | EC50 | 48 | Crustacea | 0.7364mg/L | 2 |
| calcined alumina | EC50 | 96 | Algae or other aquatic plants | 0.0054mg/L | 2 |
| calcined alumina | EC50 | 168 | Crustacea | 0.0076mg/L | 2 |
| calcined alumina | NOEC | 72 | Algae or other aquatic plants | >=0.004mg/L | 2 |
| Legend: | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | | | | |

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|---------------------------------------|---------------------------------------|
| | No Data available for all ingredients | No Data available for all ingredients |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|---------------------------------------|
| | No Data available for all ingredients |

Mobility in soil

| Ingredient | Mobility |
|------------|---------------------------------------|
| | No Data available for all ingredients |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| Product / Packaging disposal | |
|------------------------------|--|
| | <ul style="list-style-type: none"> ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Management Authority for disposal. ▸ Bury residue in an authorised landfill. |

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|------------------|----------------|
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

CALCINED ALUMINA(1344-28-1.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards

Australia Inventory of Chemical Substances (AICS)

LIMESTONE(1317-65-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

| National Inventory | Status |
|-------------------------------|----------------------|
| Australia - AICS | Y |
| Canada - DSL | N (limestone) |
| Canada - NDSL | N (calcined alumina) |
| China - IECSC | Y |
| Europe - EINEC / ELINCS / NLP | Y |
| Japan - ENCS | N (limestone) |
| Korea - KECI | Y |
| New Zealand - NZIoC | Y |
| Philippines - PICCS | Y |

| | |
|----------------|--|
| USA - TSCA | Y |
| Legend: | <i>Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i> |

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index