

Thermit® Welding Igniters

Goldschmidt Australia

Chemwatch Hazard Alert Code: 2

Chemwatch: 5214-24

Version No: 6.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: 17/02/2022

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L.GHS.AUS/NZ.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	Thermit® Welding Igniters
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	IGNITERS†
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Igniter.
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	Goldschmidt Australia	Goldschmidt NZ Limited
Address	170 Somersby Falls Road Somersby NSW 2250 Australia	25-27 Kelvin Grove Road, Unit 4 via Service Lane Kelvin Grove, Palmerston North 4414 New Zealand
Telephone	+61 2 4340 4988	+64 21 596 164
Fax	Not Available	Not Available
Website	www.goldschmidt.com	www.goldschmidt.com
Email	gau@goldschmidt.com	gnz@goldschmidt.com

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available


SECTION 2 Hazards identification

Classification of the substance or mixture

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

Poisons Schedule	Not Applicable
Classification [1]	Explosives Division 1.4, Pyrophoric Solids Category 1, Substances and Mixtures which in Contact with Water Emit Flammable Gases Category 2, Acute Toxicity (Oral) Category 4
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
Signal word	Danger

Hazard statement(s)

AUH044	Risk of explosion if heated under confinement.
H204	Fire or projection hazard.
H250	Catches fire spontaneously if exposed to air.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.

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Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P231+P232	Handle and store contents under inert gas. Protect from moisture.
P233	Keep container tightly closed.
P234	Keep only in original packaging.
P250	Do not subject to grinding/shock/sources of friction.
P280	Wear protective gloves, protective clothing, eye protection, face protection and hearing protection.
P240	Ground and bond container and receiving equipment.
P264	Wash all exposed external body areas thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P222	Do not allow contact with air.
P223	Do not allow contact with water.

Precautionary statement(s) Response

P302+P334	IF ON SKIN: Immerse in cool water or wrap in wet bandages.
P302+P335+P334	IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].
P370+P372+P380+P373	In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.
P370+P378	In case of fire: Use ... to extinguish.
P370+P380+P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.
P330	Rinse mouth.

Precautionary statement(s) Storage

P401	Store in accordance with local/regional/national/international regulations.
P402+P404	Store in a dry place. Store in a closed container.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
P503	Refer to manufacturer or supplier for information on disposal/recovery/recycling.

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.

Classification [1]	Explosives Division 1.4, Pyrophoric Solids Category 1, Substances and Mixtures which in Contact with Water Emit Flammable Gases Category 2, Acute Toxicity (Oral) Category 4, Specific Target Organ Toxicity - Single Exposure Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	1.4B, 1.4C, 1.4D, 1.4E, 1.4F, 1.4G, 1.4S, 4.2A, 4.3B, 6.1D (oral), 6.9B

Label elements

Hazard pictogram(s)	
Signal word	Danger

Hazard statement(s)

H204	Fire or projection hazard.
H250	Catches fire spontaneously if exposed to air.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P231+P232	Handle and store contents under inert gas. Protect from moisture.
P233	Keep container tightly closed.
P234	Keep only in original packaging.
P250	Do not subject to grinding/shock/sources of friction.
P260	Do not breathe dust/fume.

P280	Wear protective gloves, protective clothing, eye protection, face protection and hearing protection.
P240	Ground and bond container and receiving equipment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash all exposed external body areas thoroughly after handling.
P222	Do not allow contact with air.
P223	Do not allow contact with water.

Precautionary statement(s) Response

P302+P334	IF ON SKIN: Immerse in cool water or wrap in wet bandages.
P302+P335+P334	IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].
P370+P372+P380+P373	In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.
P370+P378	In case of fire: Use ... to extinguish.
P370+P380+P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/physician/first aider.
P314	Get medical advice/attention if you feel unwell.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.
P330	Rinse mouth.

Precautionary statement(s) Storage

P405	Store locked up.
P401	Store in accordance with local/regional/national/international regulations.
P402+P404	Store in a dry place. Store in a closed container.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
P503	Refer to manufacturer or supplier for information on disposal/recovery/recycling.

SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
10022-31-8	50	<u>barium nitrate</u>
7429-90-5	10	<u>aluminium powder uncoated</u>
Not Available	40	Ingredients determined not to be hazardous

Legend: 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available

SECTION 4 First aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with water. ▶ If irritation continues, seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation. <p>In case of burns:</p> <ul style="list-style-type: none"> ▶ Quickly immerse affected area in cold running water for 10 to 15 minutes. ▶ Bandage lightly with a sterile dressing. Treat for shock if required. ▶ Lay patient down. Keep warm and rested. ▶ Transport to hospital, or doctor.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▶ Not considered a normal route of entry.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures**Extinguishing media**

Use dry sand or Class D Fire Extinguishers. Do not use water or carbon dioxide.

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Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Advice for firefighters

Fire Fighting	<p>WARNING: EXPLOSIVE MATERIALS / ARTICLES PRESENT!</p> <ul style="list-style-type: none"> ▶ Evacuate all personnel and move upwind. ▶ Prevent re-entry. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May detonate and burning material may be propelled from fire. ▶ Wear full-body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage and fire effluent from entering drains and water courses. ▶ Fight fire from safe distances and from protected locations. ▶ Use flooding quantities of water. ▶ DO NOT approach containers or packages suspected to be hot. ▶ Cool any exposed containers not involved in fire from a protected location. ▶ Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	<p>Combustible. Will burn if ignited. May generate sufficient heat to ignite combustible materials. Decomposition may produce toxic fumes of: nitrogen oxides (NOx) carbon monoxide (CO) metal oxides</p>

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	<p>WARNING: Incendiary/pyrotechnic materials Handle gently. Clean up all spills immediately. Wear impervious gloves and safety glasses. Remove all ignition sources. Use spark free tools when handling. Sweep into non-sparking containers or barrels and moisten with water. Place spilled material in clean, sealable, labelled container for disposal. Flush area with large amount of water.</p>
Major Spills	<p>WARNING: EXPLOSIVE.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear full body protective clothing with breathing apparatus. ▶ Consider evacuation (or protect in place). ▶ In case of transport accident notify Police, Emergency Authority, Competent Explosives Authority or Manufacturer. ▶ No smoking, naked lights, heat or ignition sources. ▶ Increase ventilation. ▶ Use extreme caution to prevent physical shock. ▶ Use only spark-free shovels and explosion-proof equipment. ▶ Collect recoverable material and segregate from spilled material. ▶ Wash spill area with large quantities of water.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<p>Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Avoid all personal contact, including inhalation Wear protective clothing when risk of exposure occurs. ▶ Avoid smoking, naked lights, heat or ignition sources Must not be struck by metal implements. Avoid shock and friction. Avoid thermal shock. Use in a well-ventilated area Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately.</p>
Other information	<p>Store in original containers. Keep containers securely sealed. No smoking, naked light, heat or ignition source. Store cases in a well-ventilated magazine licenced for IMCO Class 1.4S Explosives. Store in a cool, dry place. Keep dry. Store in a isolated area away from other materials. Keep storage area free of debris, waste and combustibles. Protect containers against physical damage. Check regularly for spills and leaks.</p> <ul style="list-style-type: none"> ▶ Store cases in a well ventilated magazine licenced for the appropriate Class, Division and Compatibility Group. ▶ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Store in a cool place in original containers. ▶ Keep containers securely sealed. ▶ No smoking, naked lights, heat or ignition sources. ▶ Store in an isolated area away from other materials. ▶ Keep storage area free of debris, waste and combustibles. ▶ Protect containers against physical damage. ▶ Check regularly for spills and leaks <p>NOTE: If explosives need to be destroyed contact the Competent Authority.</p>

Conditions for safe storage, including any incompatibilities

Suitable container	No smoking, naked lights, heat or ignition source within 10 meters of storage location. Store in a cool dry place, do not store at temperatures above 65.5 deg C (150 deg F). Protect PCF Safety Charge Packaging against physical damage. Store in original containers.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. ▶ Avoid strong bases.

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	barium nitrate	Barium, soluble compounds (as Ba)	0.5 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	barium nitrate	Barium, soluble compounds, as Ba	0.5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium powder uncoated	Aluminium, pyro powders (as Al)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium powder uncoated	Aluminium (metal dust)	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium powder uncoated	Aluminium (welding fumes) (as Al)	5 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	aluminium powder uncoated	Aluminium, Welding fumes (as Al)	5 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	aluminium powder uncoated	Aluminium, Metal dust (as Al)	10 mg/m3	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
barium nitrate	2.9 mg/m3	350 mg/m3	2,100 mg/m3

Ingredient	Original IDLH	Revised IDLH
barium nitrate	50 mg/m3	Not Available
aluminium powder uncoated	Not Available	Not Available

MATERIAL DATA**Exposure controls**

Appropriate engineering controls	Use in a well ventilated area, preferably outdoors
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▶ Welding mask, goggles, hand shield. ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Full face shield may be required for supplementary but never for primary protection of eyes ▶ 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] ▶ Goggles or other suitable eye protection shall be used during all gas welding or oxygen cutting operations. Spectacles without side shields, with suitable filter lenses are permitted for use during gas welding operations on light work, for torch brazing or for inspection. ▶ For most open welding/brazing operations, goggles, even with appropriate filters, will not afford sufficient facial protection for operators. Where possible use welding helmets or handshields corresponding to EN 175, ANSI Z49:12005, AS 1336 and AS 1338 which provide the maximum possible facial protection from flying particles and fragments. [WRIA-WTIA Technical Note 7] ▶ An approved face shield or welding helmet can also have filters for optical radiation protection, and offer additional protection against debris and sparks. ▶ UV blocking protective spectacles with side shields or welding goggles are considered primary protection, with the face shield or welding helmet considered secondary protection. ▶ The optical filter in welding goggles, face mask or helmet must be a type which is suitable for the sort of work being done. A filter suitable for gas welding, for instance, should not be used for arc welding. ▶ Face masks which are self dimming are available for arc welding, MIG, TIG and plasma cutting, and allow better vision before the arc is struck and after it is extinguished.
Skin protection	See Hand protection below
Hands/feet protection	Fire resistant/ heat resistant gloves. <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. Aprons, sleeves, shoulder covers, leggings or spats of pliable flame resistant leather or other suitable materials may also be required in positions

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where these areas of the body will encounter hot metal.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Solid material.		
Physical state	Manufactured	Relative density (Water = 1)	Not Applicable
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	~300
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	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 Applicable	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 Applicable
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Immiscible	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	Smoke produced may be irritating to the respiratory system. Not normally a hazard due to physical form of product.
Ingestion	Not normally a hazard due to physical form of product.
Skin Contact	Not normally a hazard due to physical form of product.
Eye	Smoke produced may be irritating to the eyes. Not normally a hazard due to physical form of product.
Chronic	Short term exposure by all routes is considered to be practically non-harmful apart from the incendiary nature of product. Over exposure to combustion fumes from welding in poorly ventilated areas may result in systemic effects.

	TOXICITY	IRRITATION
Thermit® Welding Igniters	Not Available	Not Available
barium nitrate	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 100 mg/24h - moderate
	Oral (Rat) LD50: >50<300 mg/kg ^[1]	Skin (rabbit): 500 mg/24h - mild
aluminium powder uncoated	Inhalation(Rat) LC50: >2.3 mg/14h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]

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

BARIUM NITRATE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
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	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.		
ALUMINIUM POWDER UNCOATED	No significant acute toxicological data identified in literature search.		
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 either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

Thermit® Welding Igniters	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
barium nitrate	LC50	96h	Fish	>3.5mg/l	2
	EC50	72h	Algae or other aquatic plants	>1.15mg/l	2
	EC50	48h	Crustacea	>=16<=18mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	>=1.15mg/l	2
aluminium powder uncoated	NOEC(ECx)	48h	Crustacea	>100mg/l	1
	EC50	96h	Algae or other aquatic plants	0.0054mg/l	2
	EC50	72h	Algae or other aquatic plants	0.0169mg/l	2
	LC50	96h	Fish	0.078-0.108mg/l	2
	EC50	48h	Crustacea	0.7364mg/l	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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				

DO NOT discharge into sewer or waterways.

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	Disposal methods
	<ul style="list-style-type: none"> Explosives must not be thrown away, buried, discarded or placed with garbage. Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified. This material may be disposed of by burning or detonation but the operation may only be performed under the control of a person trained in the safe destruction of explosives.

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled.

"The hazardous substance must be inactivated prior to disposal.

Continued...

Only persons with the applicable permits and certificates are allowed to burn, detonate or defragrate the hazardous substance."
DO NOT deposit the hazardous substance into or onto a landfill or a sewage facility.

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO
HAZCHEM	1YE

Land transport (ADG)

UN number or ID number	0454	
UN proper shipping name	IGNITERS	
Transport hazard class(es)	Class	1.4S
	Subsidiary risk	Not Applicable
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	Not Applicable
	Limited quantity	0

Land transport (UN)

UN number or ID number	0454	
UN proper shipping name	IGNITERS†	
Transport hazard class(es)	Class	1.4S
	Subsidiary risk	Not Applicable
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	Not Applicable
	Limited quantity	0

Air transport (ICAO-IATA / DGR)

UN number	0454	
UN proper shipping name	Igniters	
Transport hazard class(es)	ICAO/IATA Class	1.4S
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	3L
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	A802
	Cargo Only Packing Instructions	142
	Cargo Only Maximum Qty / Pack	100 kg
	Passenger and Cargo Packing Instructions	142
	Passenger and Cargo Maximum Qty / Pack	25 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	0454	
UN proper shipping name	IGNITERS	
Transport hazard class(es)	IMDG Class	1.4S
	IMDG Subrisk	Not Applicable
Packing group	Not Applicable	

Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-B, S-X
	Special provisions	Not Applicable
	Limited Quantities	0

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

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
barium nitrate	Not Available
aluminium powder uncoated	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
barium nitrate	Not Available
aluminium powder uncoated	Not Available

SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture**

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002612	Metal Industry Products Subsidiary Hazard Group Standard 2020

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

barium nitrate is found on the following regulatory lists

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

aluminium powder uncoated is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)	Quantity (Class 1 Hazardous Substance Location)
1.1B or 1.2B or 1.4B			1 kg
1.4S			200 kg
4.2A	1 kg	1 kg	
4.3B	25 kg	25 kg	

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
All Class 1 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6) except as provided in 'Health and Safety at Work (Hazardous Substances) Regulations 2017, Part 9, Regulation 9.3 (2)-(6) and Schedule 7, Table 2	Any quantity

Refer Group Standards for further information

Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
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Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
Class 1	prohibited	prohibited	prohibited	
3.1A, 4.1.2A, 4.1.3A, 4.1.3B, 4.1.3C, 4.2A, 4.3A, 5.1.1A, 5.2A	prohibited	prohibited	prohibited	
4.3B				0.5 kg

Tracking Requirements

Subject to tracking according to the Health and Safety at Work (Hazardous Substances) Regulations 2017
 - Refer to the regulation for more information

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (barium nitrate; aluminium powder uncoated)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (aluminium powder uncoated)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	17/02/2022
Initial Date	20/06/2016

SDS Version Summary

Version	Date of Update	Sections Updated
5.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification
6.1	17/02/2022	Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Use, Name

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
 ES: Exposure Standard
 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
 AIIC: Australian Inventory of Industrial Chemicals
 DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
 IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European Inventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
 NLP: No-Longer Polymers
 ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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