

2,2'-Azobis(2-methylpropionamidine) Dihydrochloride

Novachem Pty Ltd

Version No: 3.3

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 01/08/2018

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S.GHS.AUS.EN

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

Product Identifier

Product name	2,2'-Azobis(2-methylpropionamidine) Dihydrochloride
Chemical Name	2,2'-azobis(2-methylpropionamidine) dihydrochloride
Synonyms	017-21332, 011-21335
Proper shipping name	SELF-HEATING SOLID, ORGANIC, N.O.S. (contains 2,2'-azobis(2-methylpropionamidine) dihydrochloride)
Chemical formula	C ₈ H ₁₈ N ₆ .2ClH
Other means of identification	Not Available
CAS number	2997-92-4*

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

Relevant identified uses	Use according to manufacturer's directions.
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Details of the supplier of the safety data sheet

Registered company name	Novachem Pty Ltd
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia
Telephone	+61384151255
Fax	+61386250088
Website	www.novachem.com.au
Email	novachem@novachem.com.au

Emergency telephone number

Association / Organisation	Victorian Poisons Information Centre
Emergency telephone numbers	13 11 26
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification ^[1]	Flammable Solid Category 1, Self-Heating Material Category 1, Acute Toxicity (Oral) Category 4, Skin Sensitizer Category 1, Chronic Aquatic Hazard Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
SIGNAL WORD	DANGER

Hazard statement(s)

H228	Flammable solid.
H251	Self-heating: may catch fire.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.

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H411	Toxic to aquatic life with long lasting effects.
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Precautionary statement(s) Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P235+P410	Keep cool. Protect from sunlight.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P240	Ground/bond container and receiving equipment.

Precautionary statement(s) Response

P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use water jets for extinction.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

Precautionary statement(s) Storage

P407	Maintain air gap between stacks/pallets.
P413	Store bulk masses greater than ... kg/...lbs at temperatures not exceeding ...°C/...°F.
P420	Store away from other materials.

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS No	%[weight]	Name
2997-92-4	97	2,2'-azobis(2-methylpropionamidine) dihydrochloride

Mixtures

See section above for composition of Substances

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<ul style="list-style-type: none"> ▶ If in eyes, hold eyelids apart and flush the eye continuously with running water. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ 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. <p>For THERMAL burns:</p> <ul style="list-style-type: none"> ▶ Do NOT remove contact lens ▶ Lay victim down, on stretcher if available and pad BOTH eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye. ▶ Seek urgent medical assistance, or transport to hospital.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▶ Transport to hospital, or doctor. <p>In case of burns:</p> <ul style="list-style-type: none"> ▶ Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth. ▶ DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury. ▶ DO NOT break blister or remove solidified material. ▶ Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain. ▶ For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth. ▶ DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances. ▶ Water may be given in small quantities if the person is conscious. ▶ Alcohol is not to be given under any circumstances. ▶ Reassure. ▶ Treat for shock by keeping the person warm and in a lying position. ▶ Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.
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	<ul style="list-style-type: none"> ▶ IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. ▶ For advice, contact a Poisons Information Centre or a doctor. ▶ Urgent hospital treatment is likely to be needed. ▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. ▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.

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2,2'-Azobis(2-methylpropionamidine) Dihydrochloride

- ▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

- ▶ **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

NOTE: Wear a protective glove when inducing vomiting by mechanical means.

Indication of any immediate medical attention and special treatment needed

for corrosives:

BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.
- ▶ Where eyes have been exposed, flush immediately with water and continue to irrigate with normal saline during transport to hospital.
- ▶ **DO NOT use emetics**. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- ▶ Skin burns should be covered with dry, sterile bandages, following decontamination.
- ▶ **DO NOT attempt neutralisation as exothermic reaction may occur.**

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime.
- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Consider endoscopy to evaluate oral injury.
- ▶ Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. *EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994*

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

For **SMALL FIRES**:

- ▶ Dry chemical, CO₂, water spray or foam.

For **LARGE FIRES**:

- ▶ Foam, fog or water spray
- ▶ **DO NOT use water jets.**

Special hazards arising from the substrate or mixture

Fire Incompatibility

- ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters

Fire Fighting

- ▶ Wear SCBA and fully-encapsulating, gas-tight suits when handling these substances.
- ▶ Always wear thermal protective clothing when handling molten substances.
- ▶ Structural fire fighter's uniform will only provide limited protection.
- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear full body protective clothing with breathing apparatus.
- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Consider evacuation (or protect in place).

Fire/Explosion Hazard

- ▶ May ignite on contact with air leading to spontaneous combustion
- ▶ May decompose explosively when heated or involved in fire.
- ▶ May **REIGNITE** after fire is extinguished.
- ▶ Gases generated in fire may be poisonous, corrosive or irritating.
- ▶ Containers may explode on heating.

Combustion products include:
Combustible. Will burn if ignited.

carbon monoxide (CO)

carbon dioxide (CO₂)

hydrogen chloride

phosgene

nitrogen oxides (NO_x)

other pyrolysis products typical of burning organic material.

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2,2'-Azobis(2-methylpropionamide) Dihydrochloride

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	<ul style="list-style-type: none">Eliminate all ignition sources.Cover with WET earth, sand or other non-combustible material.Use clean, non-sparking tools to collect absorbed materialWear gloves and safety glasses as appropriate.
Major Spills	<ul style="list-style-type: none">Clear area of personnel and move upwind.Alert Fire Brigade and tell them location and nature of hazard.Eliminate all ignition sources (no smoking, flares, sparks or flames)Stop leak if safe to do so; prevent entry into waterways, drains or confined spaces.May be violently or explosively reactive.

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">For large scale or continuous use, spark-free, earthed ventilation system venting directly to the outside and separate from usual ventilation systemsProvide dust collectors with explosion vents.Avoid all personal contact, including inhalation.Wear protective clothing when risk of overexposure occurs.Use in a well-ventilated area.
Other information	<ul style="list-style-type: none">Store under an inert gas, e.g. argon or nitrogen. FOR MINOR QUANTITIES: <ul style="list-style-type: none">Store in an indoor fireproof cabinet or in a room of noncombustible construction.Provide adequate portable fire-extinguishers in or near the storage area. FOR PACKAGE STORAGE: <ul style="list-style-type: none">Store in original containers in approved flame-proof area.No smoking, naked lights, heat or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container	For low viscosity materials and solids: Drums and jerricans must be of the non-removable head type. Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C): <ul style="list-style-type: none">Removable head packaging andcans with friction closures may be used.
Storage incompatibility	<ul style="list-style-type: none">Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS






Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
2,2'-Azobis(2-methylpropionamide) Dihydrochloride	Not Available	Not Available	Not Available	Not Available
Ingredient	Original IDLH	Revised IDLH		
2,2'-azobis(2-methylpropionamide) dihydrochloride	Not Available	Not Available		

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
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2,2'-Azobis(2-methylpropionamidine) Dihydrochloride

Personal protection	    
Eye and face protection	<ul style="list-style-type: none"> Safety glasses with side shields. 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.
Skin protection	See Hand protection below
Hands/feet protection	NOTE: <ul style="list-style-type: none"> The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. Fire resistant/ heat resistant gloves where practical, otherwise Heavy-duty chemically resistant gloves capable of providing short-term protection against spontaneous ignition.
Body protection	See Other protection below
Other protection	<p>Wear protective clothing appropriate for the work situation.</p> <p>For large scale or continuous use, when handling dry powder, wear :</p> <ul style="list-style-type: none"> tight-weave, non-static, noncombustible or flameproof clothing without cuffs, metallic fasteners, pockets, or laps in which powder may collect. non-sparking safety or conductive footwear. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1	-	PAPR-P1
up to 50 x ES	Air-line*	-	-
up to 100 x ES	Air-line**	P2	PAPR-P2
	-	P3	-
	-	Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Not Available		
Physical state	Divided Solid	Relative density (Water = 1)	1.2133-1.2137
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	110
Melting point / freezing point (°C)	160-169	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	269.05
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	125mg/L (dust explosion)	Volatile Component (%vol)	Negligible
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	>1	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> May heat spontaneously Identify and remove sources of ignition and heating. Incompatible material, especially oxidisers, and/or other sources of oxygen may produce unstable product(s). Hazardous polymerization will not occur.
Possibility of hazardous reactions	See section 7

2,2'-Azobis(2-methylpropionamidine) Dihydrochloride

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	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
Skin Contact	Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Solution of material in moisture on the skin, or perspiration, may markedly increase skin corrosion and accelerate tissue destruction Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

2,2'-Azobis(2-methylpropionamidine) Dihydrochloride	TOXICITY	IRRITATION
	dermal (rat) LD50: >5900 mg/kg ^[2]	Not Available
	Oral (rat) LD50: 410 mg/kg ^[2]	
2,2'-azobis(2-methylpropionamidine) dihydrochloride	TOXICITY	IRRITATION
	dermal (rat) LD50: >5900 mg/kg ^[2]	Skin (rabbit): 500 mg - mild
	Oral (rat) LD50: 410 mg/kg ^[2]	
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	

2,2'-AZOBIS(2-METHYLPROPIONAMIDINE) DIHYDROCHLORIDE	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.
2,2'-Azobis(2-methylpropionamidine) Dihydrochloride & 2,2'-AZOBIS(2-METHYLPROPIONAMIDINE) DIHYDROCHLORIDE	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

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

2,2'-Azobis(2-methylpropionamidine) Dihydrochloride	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
2,2'-azobis(2-methylpropionamidine) dihydrochloride	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12

Continued...

2,2'-Azobis(2-methylpropionamide) Dihydrochloride

(QSAR) - 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

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

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	<ul style="list-style-type: none"> Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	
HAZCHEM	1Y

Land transport (ADG)

UN number	3088				
UN proper shipping name	SELF-HEATING SOLID, ORGANIC, N.O.S. (contains 2,2'-azobis(2-methylpropionamide) dihydrochloride)				
Transport hazard class(es)	<table> <tr> <td>Class</td><td>4.2</td></tr> <tr> <td>Subrisk</td><td>Not Applicable</td></tr> </table>	Class	4.2	Subrisk	Not Applicable
Class	4.2				
Subrisk	Not Applicable				
Packing group	II				
Environmental hazard	Environmentally hazardous				
Special precautions for user	<table> <tr> <td>Special provisions</td><td>274</td></tr> <tr> <td>Limited quantity</td><td>0</td></tr> </table>	Special provisions	274	Limited quantity	0
Special provisions	274				
Limited quantity	0				

Air transport (ICAO-IATA / DGR)

UN number	3088
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2,2'-Azobis(2-methylpropionamidine) Dihydrochloride

UN proper shipping name	Self-heating solid, organic, n.o.s. * (contains 2,2'-azobis(2-methylpropionamidine) dihydrochloride)		
Transport hazard class(es)	ICAO/IATA Class	4.2	
	ICAO / IATA Subrisk	Not Applicable	
	ERG Code	4L	
Packing group	II		
Environmental hazard	Environmentally hazardous		
Special precautions for user	Special provisions	A3	
	Cargo Only Packing Instructions	470	
	Cargo Only Maximum Qty / Pack	50 kg	
	Passenger and Cargo Packing Instructions	467	
	Passenger and Cargo Maximum Qty / Pack	15 kg	
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden	
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden	

Sea transport (IMDG-Code / GGVSee)

UN number	3088		
UN proper shipping name	SELF-HEATING SOLID, ORGANIC, N.O.S. (contains 2,2'-azobis(2-methylpropionamidine) dihydrochloride)		
Transport hazard class(es)	IMDG Class	4.2	
	IMDG Subrisk	Not Applicable	
Packing group	II		
Environmental hazard	Marine Pollutant		
Special precautions for user	EMS Number	F-A , S-J	
	Special provisions	274	
	Limited Quantities	0	

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

2,2'-AZOBIS(2-METHYLPROPIONAMIDINE) DIHYDROCHLORIDE(2997-92-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Inventory of Chemical Substances (AICS)

National Inventory Status

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (2,2'-azobis(2-methylpropionamidine) dihydrochloride)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	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)

SECTION 16 OTHER INFORMATION

Revision Date	01/08/2018
Initial Date	01/08/2018

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.

Continued...

2,2'-Azobis(2-methylpropionamidine) Dihydrochloride**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

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