

# SAFETY DATA SHEET BELZONA® 1111 (SUPER METAL) SOLIDIFIER

SECTION 1: Identification: Product identifier and chemical identity

**Product identifier** 

Product name BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Product No. SN2598

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

**Application** Engineering grade repair system for repairing and rebuilding machinery and equipment. For

industrial use only.

appropriate Instructions For Use (IFU) leaflet.

Details of the supplier of the safety data sheet

SupplierRezitech ServicesReptech Corporation Ltd

9 Southfork Drive 503 Great South Road Kilsyth 3137, Victoria Penrose, Auckland 1061

AUSTRALIA NEW ZEALAND

+61 3 8720 8600 0800 (REPTECH) 737832

Manufacturer Belzona Polymerics Limited

Claro Road, Harrogate

HG1 4DS United Kingdom +44 1423 567641 sds@belzona.com

**Emergency telephone number** 

Emergency telephone Australia: Steven Hunt +61 404 843 835

New Zealand: National Poisons Centre 0800 764 766

SECTION 2: Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Environmental hazards Aquatic Acute 2 - H401 Aquatic Chronic 2 - H411

**Reference** The full text for all hazard statements is displayed in Section 16.

Label elements

Hazard pictograms







Signal word DANGER

## BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Hazard statements H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements** P260 Do not breathe vapours.

P273 Avoid release to the environment.

P280 Wear protective clothing, gloves, eye and face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical attention.

Contains DIETHYLENETRIAMINE, 1,3-BENZENEDIMETHANAMINE, 2,4,6-

TRIS(DIMETHYLAMINOMETHYL)PHENOL, TRIMETHYLHEXANE-1,6-DIAMINE

### Other hazards

HSNO classification: 6.5B 8.2C 8.3A 9.1B

## SECTION 3: Composition and information on ingredients

### **Mixtures**

DIETHYLENETRIAMINE	10-30%
CAS number: 111-40-0	
Classification	
Acute Tox. 4 - H302	
Acute Tox. 4 - H312	
Acute Tox. 2 - H330	
Skin Corr. 1B - H314	
Eye Dam. 1 - H318	
Skin Sens. 1 - H317	
STOT SE 3 - H335	

BENZYL ALCOHOL	5-15%
CAS number: 100-51-6	
Classification Acute Tox. 4 - H302	

FORMALDEHYDE POLYMER WITH 1,3-	5-10%
BENZENEDIMETHANAMINE AND PHENOL	
CAS number: 57214-10-5	

M factor (Acute) = 1 M factor (Chronic) = 1

Classification

Acute Tox. 4 - H332 Eye Irrit. 2A - H319

Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

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## 1,3-BENZENEDIMETHANAMINE

1-5%

CAS number: 1477-55-0

Classification

Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Aquatic Chronic 3 - H412

## 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

1-5%

CAS number: 90-72-2

Classification

Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412

### TRIMETHYLHEXANE-1,6-DIAMINE

1-5%

CAS number: 25620-58-0

Ingredient notes

Diethylenetriamine is toxic by inhalation when aerosolised or sprayed, however the chemical vapours show no signs of toxicity. If the product is not aerosolised or sprayed, inhalation toxicity does not apply when the toxicity of the finished product is calculated.

## SECTION 4: First aid measures

## Description of first aid measures

General information In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything

by mouth to an unconscious person.

**Inhalation** Remove to fresh air. Keep the patient warm and at rest. Give nothing by mouth.

**Ingestion** If accidentally swallowed obtain immediate medical attention. Keep at rest. Rinse mouth with

plenty of water. Do NOT induce vomiting.

**Skin Contact** Remove contaminated clothing. Wash skin thoroughly with soap and water or use a

proprietary skin cleaner. Do NOT use solvents or thinners. If irritation or inflammation

persists, seek medical attention.

Eye contact Contact lenses should be removed. Irrigate copiously with clean, fresh water for at least 15

minutes, holding the eyelids apart, and seek medical advice.

## Most important symptoms and effects, both acute and delayed

**Inhalation** Exposure to vapours may result in irritation of the mucous membrane and the respiratory

system; in severe cases burns may occur.

**Ingestion** May cause chemical burns in mouth, oesophagus and stomach.

Skin contact Skin contact causes chemical burns. Symptoms may include pain, severe local redness and

tissue damage. May cause allergic skin reaction.

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Eye contact Contact with eyes may cause severe irritation with corneal injury, which may result in

permanent impairment of vision.

Indication of any immediate medical attention and special treatment needed

Notes for the doctor None.

### SECTION 5: Firefighting measures

### **Extinguishing media**

Suitable extinguishing media Use: sand, alcohol resistant foam, carbon dioxide, chemical powder, or water fog for larger

fires

Do NOT use water jet.

## Special hazards arising from the substance or mixture

Hazardous combustion

products

In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon

dioxide, oxides of nitrogen and ammonia may be produced.

### Advice for firefighters

Protective actions during

firefighting

Fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health. Appropriate self-contained breathing apparatus may be required. Cool closed containers exposed to fire with water spray. Do not

allow run-off from fire fighting to enter drains or watercourses.

### SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal precautions Exclude non-essential personnel. Keep up-wind of spill to avoid breathing vapours. Do not get

on skin or in eyes.

**Environmental precautions** 

**Environmental precautions** Prevent spills from entering drains or sewers. If the product enters drains or sewers in large

quantities, the local Water Company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the appropriate National regulating agency.

## Methods and material for containment and cleaning up

Methods for cleaning up Scrape the majority of the product into a suitable labelled container. Cover the spill area with

sand or other suitable inert material and sweep up into the container. Clean surfaces down with a water and detergent mixture. Do not allow spilled product or the associated washings to

enter surface water drains or watercourses.

Reference to other sections

**Reference to other sections** For personal protection, see Section 8. For waste disposal, see section 13. .

## SECTION 7: Handling and storage, including how the chemical may be safely used

## Precautions for safe handling

## **BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

### Usage precautions

Keep the container tightly closed when not in use. Vapours may collect in the container headspace during transit or prolonged storage. Avoid the inhalation of vapour when opening the container. Where possible open containers and mix components in a well ventilated place away from the application area. Exclude non-essential personnel. Minimise the number of employees exposed and the duration of their exposure. Do not get on skin or in eyes. Smoking, eating and drinking should be prohibited in areas of storage and use. For personal protection see Section 8. Always keep in containers made of the same material as the supply container. Ensure emergency equipment (for fires, spills, leaks, etc.) is readily available. Good housekeeping methods and regular safe removal of waste materials should be observed. FIRE/EXPLOSION This product is combustible. Exclude sources of heat, sparks and open flame

## Advice on general occupational hygiene

Wash at the end of each work shift and before eating, smoking and using the toilet. Ensure eye wash facilities (fountain, bottle, vials, etc.) are readily available. Do not put contaminated articles or equipment e.g. spatulas, applicators, brushes, cloths etc., into pockets. Where necessary, contaminated work clothing and shoes should be removed to prevent cross contamination of surfaces and the risk of inadvertent skin contact and ingestion.

### Conditions for safe storage, including any incompatibilities

### Storage precautions

Observe the label precautions. Store between 5 °C and 30 °C unless otherwise stated in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorised access. Store separately from oxidising agents and strongly acidic materials. ENVIRONMENTAL STORAGE PRECAUTIONS Spillage, incorrect storage of chemicals or waste materials or unsuitable disposal activities can result in pollutants seeping through the soil, causing serious harm to groundwater- which is a vital source of drinking water. All wastes, especially liquid wastes, must be securely stored on site in designated areas that are isolated from surface drains and bunded to contain any spillages.

### Specific end use(s)

## Specific end use(s)

Application by plastic applicator or spatula provided. Mix with Base component before use. Please refer to the relevant Belzona® Instructions For Use for further information.

### SECTION 8: Exposure controls and personal protection

### Control parameters

## Occupational exposure limits

### DIETHYLENETRIAMINE

Long-term exposure limit (8-hour TWA): 1 ppm 4.2 mg/m³ Sk. Sen

### 1,3-BENZENEDIMETHANAMINE

Ceiling value: 0.1 mg/m³

Sk

Sk = Absorption through the skin may be a significant source of exposure.

Sen = Respiratory and/or skin sensitiser.

## Ingredient comments

During standard, non-spray applications, the risk of exposure by inhalation to hazardous concentrations of diethylenetriamine under normal working conditions in a well ventilated area is minimal.

## Exposure controls

## Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of vapours below the relevant occupational exposure limits, suitable respiratory protective equipment should be worn (see 'Respiratory protection' below).

## **BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

### Eye/face protection

It is recommended that eye protection, for example safety spectacles or goggles are worn at all times during the handling and use of this material. Eye protection should be selected in accordance with EN 166 Personal eye protection. During subsequent machining, grinding, abrasion or removal of this product appropriate eye protection should be selected according to the type of tools or equipment used.

#### Hand protection

Hand protection should be selected in accordance with EN 374 Protective gloves against chemicals. The breakthrough time of the gloves selected should exceed the expected use period. Where this is not possible gloves should be changed in good time, and in any case before the breakthrough time is exceeded. If any doubt exists, advice should be sought from glove suppliers on appropriate types. Barrier creams may help to protect exposed areas of skin but are not substitutes for full physical protection. They should not be applied once exposure has occurred. SPECIFIC RECOMMENDATIONS Wear protective gloves made of the following material: Neoprene. Nitrile rubber. STANDARD APPLICATIONS Medium-heavy weight gauntlet type gloves that provide wrist protection are suitable. EMERGENCY REPAIRS OR APPLICATION OF SINGLE UNITS Light weight disposable gloves are normally suitable.

## Other skin and body protection

STANDARD APPLICATIONS Synthetic polyethylene coveralls such as the Tyvek PRO-TECH® or equivalent coveralls manufactured to EN 13034 Type 6, Protective clothing against liquid chemicals. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleaner. EMERGENCY REPAIRS OR APPLICATION OF SINGLE UNITS Cotton overalls are normally suitable.

## Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. Respiratory protection is not normally required, but the hazards of the Base component should be considered for mixing and application purposes. Respiratory protection is not normally required but it may be required when this product is used in confined spaces or where adequate ventilation cannot be achieved. It is essential that the concentration of the contaminant(s) in the application environment does not exceed the applicable Occupational Exposure Limit(s) (OELs) multiplied by the Assigned Protection Factor (APF) quoted for the respiratory protective equipment selected. Where necessary, it is recommended that respiratory protective equipment that complies with EN 136 (full face mask) or EN 140 (half face mask) should be worn in combination with an organic/inorganic vapours, acid gases and ammonia cartridge (ABEK1). Where the application environment is likely to be contaminated by significant concentrations of dust then the appropriate particulate prefilter (N-, R- or, P-series) should be worn in combination with the above. It is essential that the facepiece is correctly fitted and the filter is changed in accordance with the manufacturer's instructions.

## SECTION 9: Physical and chemical properties

## Information on basic physical and chemical properties

Appearance Paste.

Colour Light grey.

Odour Amine.

Odour threshold Not applicable.

**pH** Alkaline.

Melting point Not available.

Initial boiling point and range >100°C/>212°F @ 760 mm Hg
Flash point >100°C/>212°F Closed cup.

## **BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Flammability Limit - Lower(%) Not applicable.

Vapour pressure Low.
Vapour density > 1

**Relative density** 1.62 - 1.72 @ 20°C/68°F

Solubility(ies) Immiscible with water.

Partition coefficient Not available.

**Auto-ignition temperature** Not available.

**Decomposition Temperature** Not available.

Viscosity Not available.

**Explosive properties** Not applicable.

Oxidising properties Not applicable.

Other information This section contains typical values for Health, Safety and Environmental guidance only and is

not intended to represent a technical specification for the product.

## SECTION 10: Stability and reactivity

**Reactivity** There are no known reactivity hazards associated with this product.

Stability Stable under recommended storage and handling conditions (see Section 7).

Possibility of hazardous

reactions

No hazardous reactions expected when stored and handled as recommended.

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

Materials to avoid Keep away from oxidising agents and strongly acidic materials to prevent the possibility of

exothermic reaction.

Hazardous decomposition

products

Does not decompose when used and stored as recommended.

## SECTION 11: Toxicological information

## Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅o) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD<sub>50</sub>) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC<sub>50</sub>) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Corrosive to skin.

## Serious eye damage/irritation

## **BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

Serious eye damage/irritation Skin corrosive; corrosivity to eyes is assumed. No testing is needed.

Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

Skin sensitisation

**Skin sensitisation** May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity

**Genotoxicity - in vitro**Based on available data the classification criteria are not met.

**Genotoxicity - in vivo**Based on available data the classification criteria are not met.

Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

IARC carcinogenicity Not listed.

NTP carcinogenicity Not listed.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity -

Based on available data the classification criteria are not met.

development

Specific target organ toxicity - single exposure

**STOT - single exposure** Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Based on available data the classification criteria are not met.

Aspiration hazard

**Aspiration hazard** Based on available data the classification criteria are not met.

Route of exposure Skin and/or eye contact Skin absorption

Medical considerations Skin contact constitutes a pronounced hazard. Persons with a history of skin sensitisation

problems should only be employed in processes in which this product is used under

appropriate medical supervision.

Toxicological information on ingredients.

**DIETHYLENETRIAMINE** 

Toxicological effects May be absorbed through the skin. During standard, non-spray applications, the

risk of exposure by inhalation to hazardous concentrations of diethylenetriamine

under normal working conditions in a well ventilated area is minimal.

Acute toxicity - oral

Acute toxicity oral (LD50

1,553.0

mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 1,045.0

mg/kg)

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Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation 0.07

(LC<sub>50</sub> dust/mist mg/l)

**Species** Rat

Notes (inhalation LC50) NOAEL

**BENZYL ALCOHOL** 

**Toxicological effects** May be absorbed through the skin.

Acute toxicity - inhalation

Acute toxicity inhalation 4.178

(LC<sub>50</sub> dust/mist mg/l)

1,3-BENZENEDIMETHANAMINE

Toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD50

mg/kg)

930.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 3,100.0

mg/kg)

**Species** Rat

Acute toxicity - inhalation

Acute toxicity inhalation

(LC<sub>50</sub> dust/mist mg/l)

**Species** Rat

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

Acute toxicity - oral

Acute toxicity oral (LD₅o

mg/kg)

2,169.0

1.34

**Species** Rat

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 2,000.0

mg/kg)

Species Rat

SECTION 12: Ecological information

**Ecotoxicity**There is no data on the product itself. The following information is provided on the basis of the individual component data available.

## **BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

**Toxicity** Based on the individual component data, the product is expected to have experimental

LC50/EC50/IC50 values between 1 and 10 mg/l in most sensitive species.

Persistence and degradability

Persistence and degradability Based on the individual component data, the product is not expected to be rapidly

biodegradable according to OECD/EC guidelines.

Bioaccumulative potential

Bioaccumulative Potential Based on the individual component data, the product is expected to bioaccumulate.

Partition coefficient Not available.

Mobility in soil

**Mobility** There is no data available on the product itself.

Other adverse effects

Other adverse effects None known.

### SECTION 13: Disposal considerations

### Waste treatment methods

Disposal methods

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Controlled wastes include non-hazardous industrial and hazardous chemical wastes. All controlled wastes should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act. In addition, hazardous chemical wastes should be disposed of in accordance with the Hazardous Waste Regulations. When in doubt, using information provided in this safety data sheet, advice should be obtained from the National regulating agency whether the Hazardous Waste Regulations apply. Refer to information sources listed in Section 16. COMPONENT DISPOSAL TRANSIT PACKAGING: shrink or stretch wrap, boxes and fittings that have not been contaminated with product should be re-used or recycled. UNREACTED PRODUCT and empty uncleaned containers should be disposed of as hazardous chemical waste. REACTED PRODUCT, contaminated mixing boards, spatulas, applicators, brushes, nominally empty containers and mixing bowls- once fully cured- should be disposed of as non-hazardous waste.

Waste class

. \*Hazardous waste pursuant to Directive 91/689/EEC. The LoW code quoted in this section is a general entry. LoW codes should be assigned based on the end use of the product. Where a more specific code is available it should be used in preference to the code given above. Where in doubt refer to the List of Wastes, your local licensed waste contractor or the National regulating agency. Refer to information sources listed in Section 16.

## SECTION 14: Transport information

General Labelling and packaging requirements may vary with pack and load size. Please refer to the

current transport regulations. Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know

what to do in the event of accident or spillage.

**UN** number

UN No. (ADG) 3259

**UN No. (IMDG)** 3259

UN No. (ICAO) 3259

UN proper shipping name

## **BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

Proper shipping name (ADG) Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric

copolymer mixture)

Proper shipping name

(IMDG)

Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric

copolymer mixture)

Proper shipping name (ICAO) Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric

copolymer mixture)

Transport hazard class(es)

ADG class 8

IMDG class 8

ICAO class/division 8

Packing group

ADG packing group III

IMDG packing group III

ICAO packing group

## **Environmental hazards**

### Environmentally hazardous substance/marine pollutant

Yes. Labelling requirements will vary with hazardous net quantity. Please refer to the current transport regulations.

## Special precautions for user

Not applicable.

Transport in bulk according to Not carried in bulk.

Annex II of MARPOL 73/78

and the IBC Code

### SECTION 15: Regulatory information

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

National regulations GROUP STANDARD: Surface coatings and colourants (Corrosive)

HSNO APPROVAL NUMBER: HSR002658

## Inventories

### Australia - AICS

All the ingredients are listed or exempt.

### New Zealand - NZIOC

All the ingredients are listed or exempt.

## SECTION 16: Any other relevant information

### General information

The information contained within this safety data sheet does not constitute the users own assessment of workplace risks as required by other health and safety legislation. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant National legislation are complied with. The information contained within this safety data sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

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## **BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

Key literature references and

sources for data

Training advice

For further information please contact your supplier, Belzona consultant or Belzona direct.

Revision comments REVISION. This safety data sheet has been revised in the following Section(s): 3, Please

observe the REVISION DATE. Should you be reading a safety data sheet that is more than 24 months old or have concerns over its validity, please contact your local Belzona consultant or Belzona direct (sds@belzona.com) and the most current information will be sent to you.

Revision date 17/07/2020

Revision 4.1

**SDS No.** 11266

SDS status English. Approved.

Hazard statements in full H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage. H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life. H401 Toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.