

SAFETY DATA SHEET BELZONA® 1111 (SUPER METAL) SOLIDIFIER

1. Identification

Product identifier

Product name BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Product number SN2598

Recommended use of the chemical and restrictions on use

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

Supplier Belzona Inc. Belzona Canada Inc.

2000 N.W. 88 Court 51-588 Edward Avenue

Miami Richmond Hill
FL 33172 Ontario, L4C 9Y6

 UNITED STATES
 CANADA

 1-305-594-4994
 1-905-737-2225

 sds@belzona.com
 sds@belzona.com

Manufacturer Belzona Polymerics Limited

Claro Road, Harrogate

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

Emergency telephone number

Emergency telephone ChemTel: 1-800-255-3924 (North America)

ChemTel: +1 813-248-0585 (International)

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.

Physical hazards Not Classified

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

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

Label elements

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Hazard symbols





Signal word Danger

Hazard statements H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

Precautionary statements P260 Do not breathe vapors.

P264 Wash contaminated skin thoroughly after handling.

P272 Contaminated work clothing must not be allowed out of the workplace.

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

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

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

Rinse skin with water.

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing. P310 Immediately call a poison center or doctor.

P333+P313 If skin irritation or rash occurs: Get medical attention. P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with all Federal, State/Provincial and local

regulations.

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

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

Other hazards

Not applicable.

Hazards not otherwise classified (HNOC)

Not applicable.

3. Composition/information on ingredients

Mixtures

DIETHYLENETRIAMINE 10-30%

CAS number: 111-40-0

BENZYL ALCOHOL 5-15%

CAS number: 100-51-6

1,3-BENZENEDIMETHANAMINE

CAS number: 1477-55-0

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

CAS number: 90-72-2

1-5%

1-5%

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

TRIMETHYLHEXANE-1,6-DIAMINE

1-5%

CAS number: 25620-58-0

Ingredient notes Diethylenetriamine is toxic by inhalation when aerosolized or sprayed, however the chemical

vapors show no signs of toxicity. If the product is not aerosolized or sprayed, inhalation

toxicity does not apply when the toxicity of the finished product is calculated.

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 and shoes. 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 vapors 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, esophagus and stomach.

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

tissue damage. May cause allergic skin reaction.

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

permanent impairment of vision.

Indication of immediate medical attention and special treatment needed

Notes for the doctor None.

5. Fire-fighting 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

Flammability Class 3.2 Combustible Liquid IIIB

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

dioxide, oxides of nitrogen and ammonia may be produced.

Advice for firefighters

products

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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 positive-pressure self-contained breathing apparatus (SCBA) and full fire fighting turn-out gear (Bunker gear) should be worn. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains, sewers, ditches or waterways.

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 vapors. Do not get

on skin or in eyes.

Environmental precautions

Environmental precautions Prevent spills from entering drains or sewers. In the event of a spill or accidental release,

notify relevant authorities in accordance with all applicable regulations.

Methods and material for containment and cleaning up

Methods for cleaning up

Scrape the majority of the product into a suitable labeled 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

For personal protection, see Section 8. For waste disposal, see section 13. .

7. Handling and storage

Precautions for safe handling

Usage precautions

Keep the container tightly closed when not in use. Vapors may collect in the container headspace during transit or prolonged storage. Avoid breathing vapor 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 in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorised access. Store separately from oxidizing 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, should be securely stored on site in designated areas that are isolated from waterways and groundwater and diked to contain any spillages.

Specific end uses(s)

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

DIETHYLENETRIAMINE

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

BENZYL ALCOHOL

Long-term exposure limit (8-hour TWA): AIHA 10 ppm Short-term exposure limit (15-minute): AIHA

1,3-BENZENEDIMETHANAMINE

Ceiling exposure limit: ACGIH 0.1 mg/m³

Sk

ACGIH = American Conference of Governmental Industrial Hygienists.

Sk = Danger of cutaneous absorption.

Ingredient comments

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 vapors below the relevant occupational exposure limits, suitable respirators should be worn (see 'Respiratory protection' below).

Eye/face protection

It is recommended that eye protection, for example safety glasses with side shields or goggles are worn at all times during the handling and use of this material. 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

. 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. Where doubt exists, advice should be sought from manufacturers or vendors of protective gloves in order to determine appropriate types for the particular circumstances. 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 / EMERGENCY SITUATIONS 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 provide protection against liquid chemicals should be worn. 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.

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Respiratory protection

Respirators are not normally required, but 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) multiplied by the Assigned Protection Factor (APF) quoted for the respiratory protective equipment selected. Where necessary, it is recommended that an OSHA/NIOSH approved air-purifying full facepiece or half-face respirator equipped with appropriate vapor cartridge(s) should be worn. 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.

Immediate danger to life and health

Where entry into unknown or Immediately Dangerous To Life or Health (IDLH) atmospheres is required, an OSHA/NIOSH approved pressure-demand self-contained breathing apparatus (SCBA) with a full facepiece or a pressure-demand supplied-air respirator (SAR) with a full facepiece in combination with an auxiliary pressure-demand SCBA respirator should be worn.

9. Physical and chemical properties

Information on basic physical and chemical properties

Paste. **Appearance**

Color Light gray.

Odor Amine.

Odor threshold Not applicable.

Ηα Alkaline.

Melting point Not available.

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

>100°C/>212°F Closed cup. Flash point

Not available. **Evaporation rate**

Flammability (solid, gas) Not applicable.

Upper/lower flammability or

explosive limits

Not applicable.

Vapor pressure Low. Vapor density > 1

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

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.

Oxidizing 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.

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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 oxidizing agents and strongly acidic materials to prevent the possibility of

exothermic reaction.

Hazardous decomposition

products

Does not decompose when used and stored as recommended.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

Notes (oral LD50) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC50) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Skin corrosive, assume corrosivity to eyes. No testing is needed.

Respiratory sensitization

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

Skin sensitization

Skin sensitization May cause skin sensitization 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.

NTP carcinogenicity

Not listed.

Not listed.

Not listed.

OSHA Carcinogenicity

Not listed.

Reproductive toxicity

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

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Reproductive toxicity -

development

Based on available data the classification criteria are not met.

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 sensitization

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 (LD₅o

mg/kg)

1,553.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 1,045.0

mg/kg)

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation

0.07

(LC₅₀ dust/mist mg/l)

Species Rat

Notes (inhalation LC50) **NOAEL**

BENZYL ALCOHOL

Toxicological effects May be absorbed through the skin.

Acute toxicity - oral

Acute toxicity oral (LD50

mg/kg)

1,230.0

Rat **Species**

Acute toxicity - inhalation

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Acute toxicity inhalation 4.178

(LC50 dust/mist mg/l)

Species Rat

1,3-BENZENEDIMETHANAMINE

Toxicological effects Has caused skin sensitization in animals.

Acute toxicity - oral

Acute toxicity oral (LD50

mg/kg)

930.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 3,100.0

mg/kg)

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation

(LC50 dust/mist mg/l)

1.34

Species Rat

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

Acute toxicity - oral

Acute toxicity oral (LD₅o

mg/kg)

2,169.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,000.0

mg/kg)

Species Rat

TRIMETHYLHEXANE-1,6-DIAMINE

Toxicological effects Has caused skin sensitization in animals.

Acute toxicity - oral

Acute toxicity oral (LD₅o

mg/kg)

850.0

Species Rat

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.

ToxicityBased 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.

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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

Bio-Accumulative 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.

13. Disposal considerations

Waste treatment methods

Disposal methods Do NOT dump into any sewers, on the ground, or into any body of water. Controlled wastes

include non-hazardous industrial and hazardous chemical wastes. Disposal must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations are the responsibility solely of the waste generator. . . 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, uncleaned containers and contaminated packaging may qualify as hazardous chemical waste as defined in 40 CFR 261.20-24. REACTED PRODUCT, that has been mixed and cured in accordance with the relevant 'Instructions For Use' will form an inert filled polymeric compound that may be able to be disposed of as non-hazardous

solid waste. Refer to your local licensed, permitted waste agent or facility.

Waste class is not relevant. .

14. Transport information

General Labeling 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. (TDG) 3259

UN No. (IMDG) 3259

UN No. (ICAO) 3259

UN No. (DOT) 3259

UN proper shipping name

Proper shipping name (TDG) 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)

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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

copolymer mixture)

Transport hazard class(es)

DOT hazard class 8

TDG class 8

IMDG Class 8

ICAO class/division 8

Packing group

TDG Packing Group III

IMDG packing group III

ICAO packing group

DOT packing group III

Environmental hazards

Environmentally Hazardous Substance

Yes. Not a marine pollutant under US DOT.

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

15. Regulatory information

US Federal Regulations

SARA 313 Emission Reporting

SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

SARA (311/312) Hazard Categories

Acute

US State Regulations

State Regulations Comments U.S California Safe Drinking Water & Toxic Enforcement Act (Proposition 65): To the best of

our knowledge, this product does not contain any chemicals known to the State of California

to cause cancer or reproductive toxicity.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US-TSCA

All the ingredients are listed or exempt.

16. Other information

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

General information

The information contained within this safety data sheet does not constitute the users own assessment of workplace risks as may be required by other Local Regulations. 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 Local Regulations are complied with. To the best of our knowledge, the information contained herein is accurate. However, some of the information presented and conclusions drawn are derived from sources other than direct test data on the product itself and while Belzona Inc. believes such sources to be reliable, the information is provided without any warranty regarding its correctness.

Since Belzona Inc. has no control over the conditions under which the product will be used, liability will not be assumed to exceed replacement or refund of the purchase price of this product. Except as stated herein, there are no express or implied warranties including implied warranties of merchantability or fitness for a particular purpose. Belzona Inc. assumes no liability for injury or incidental or consequential damage arising out of the storage, handling, use or, disposal of this product.

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

to you.

Revision date 1/7/2019

Revision 4.0

SDS No. 11266

SDS status English (North American). Approved.

Hazard statements in full H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

NFPA - health hazard Temporary incapacitation, injury. (2)

NFPA - flammability hazard Burns only if pre-heated. (1)

NFPA - instability hazard Normally stable. (0)