



SAFETY DATA SHEET
BELZONA® 1321 (CERAMIC S-METAL) BASE

1. Identification

Product identifier

Product name BELZONA® 1321 (CERAMIC S-METAL) BASE
Product number SN2636

Recommended use of the chemical and restrictions on use

Application Repair system designed for surfacing metals damaged by erosion-corrosion. For industrial use only.

Uses advised against The product should not be used for purposes other than those recommended in the appropriate Instructions For Use (IFU) leaflet.

Details of the supplier of the safety data sheet

Supplier	Belzona Inc. 14300 NW 60th Ave. Miami Lakes FL 33014 UNITED STATES 1-305-594-4994 sds@belzona.com	Belzona Great Lakes 588 Edward Avenue, Unit 51 Richmond Hill Ontario, L4C 9W7 CANADA 1-905-737-2225 sds@belzona.com
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Manufacturer Belzona Polymerics Limited
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 United Kingdom
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 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 Irrit. 2 - H315 Eye Irrit. 2B - H320 Skin Sens. 1 - H317

Environmental hazards Not Classified

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

Label elements

BELZONA® 1321 (CERAMIC S-METAL) BASE**Hazard symbols****Signal word**

Warning

Hazard statements

H315+H320 Causes skin and eye irritation.
 H317 May cause an allergic skin reaction.

Precautionary statements

P261 Avoid breathing vapors.
 P264 Wash contaminated skin thoroughly after handling.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves, protective clothing and eye protection.
 P302+P352 If on skin: Wash with plenty of 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.
 P337+P333+P313 If skin irritation or rash occurs or eye irritation persists: Get medical attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P501 Dispose of contents/container in accordance with all Federal, State/Provincial and local regulations.

Contains

REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN), EPOXY PHENOL NOVOLAC RESIN

Other hazards

Not applicable.

Hazards not otherwise classified (HNOC)

Not applicable.

3. Composition/information on ingredients**Mixtures**

EPOXY PHENOL NOVOLAC RESIN CAS number: 28064-14-4	10-30%
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REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN) CAS number: 25068-38-6	10-30%
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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.

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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

Skin contact Prolonged or repeated contact with the skin or mucous membrane may result in irritant symptoms such as redness, blistering or dermatitis. Onset of symptoms may be delayed. May cause allergic skin reaction.

Eye contact Irritating to eyes.

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, 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 products In a fire, hazardous decomposition products such as smoke, carbon monoxide and carbon dioxide 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 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 Avoid contact with skin and eyes.

Environmental precautions

Environmental precautions Prevent product 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

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Usage precautions

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. Avoid contact with eyes, skin and clothing. 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. 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 alkaline 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)

Specific end use(s)

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

8. Exposure controls/Personal protection

Exposure controls

Appropriate engineering controls

Open containers in a well ventilated area.

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.

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Respiratory protection	Respiratory protection is not normally required, but the hazards of the Solidifier component should be considered for mixing and application purposes.
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

Appearance	Paste.
Color	Grey.
Odor	Epoxy.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point	Not available.
Initial boiling point and range	>200°C/>392°F @ 760 mm Hg
Flash point	>170°C/>338°F Closed cup.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapor pressure	Not available.
Vapor density	> 1
Relative density	2.65 - 2.75 @ 20°C/68°F
Solubility(ies)	Immiscible with water.
Partition coefficient	Not available.
Auto-ignition temperature	>300°C/>572°F
Decomposition Temperature	>200°C/>392°F
Viscosity	Technically not feasible.
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.

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.

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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 Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation Irritating to eyes.

Respiratory sensitization

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

Skin sensitization

Skin sensitization Based on the properties of the epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitizer. Repeated skin contact may lead to sensitization with possibly cross-sensitization to other epoxies.

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.

OSHA Carcinogenicity Not listed.

Reproductive toxicity

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

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.

BELZONA® 1321 (CERAMIC S-METAL) BASE**Aspiration hazard**

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

Route of exposure Skin and/or eye contact

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.

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.

Toxicity Based on the epoxy resin content, this 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 epoxy resin content, this product is not expected to be rapidly biodegradable according to OECD/EC guidelines.

Bioaccumulative potential

Bio-Accumulative Potential Based on the epoxy resin content, this 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 . . Waste class is not relevant. .

14. Transport information

General This product is not regulated for transport by US DOT, and qualifies for exemption (TDG 1.45.1) if shipped on land in Canada. 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.

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UN No. (TDG)	3082
UN No. (IMDG)	3082
UN No. (ICAO)	3082
UN No. (DOT)	Not applicable.

UN proper shipping name

Proper shipping name (TDG)	Environmentally hazardous substance, liquid, n.o.s. (containing Epoxy resin mixture)
Proper shipping name (IMDG)	Environmentally hazardous substance, liquid, n.o.s. (containing Epoxy resin mixture)
Proper shipping name (ICAO)	Environmentally hazardous substance, liquid, n.o.s. (containing Epoxy resin mixture)
Proper shipping name (DOT)	Not applicable.

Transport hazard class(es)

DOT hazard class	Not applicable
TDG class	9
IMDG Class	9
ICAO class/division	9

Packing group

TDG Packing Group	III
IMDG packing group	III
ICAO packing group	III
DOT packing group	Not applicable

Environmental hazards**Environmentally Hazardous Substance**

Yes. Not a marine pollutant under US DOT.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not carried in bulk.

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

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State Regulations Comments U.S California Safe Drinking Water & Toxic Enforcement Act (Proposition 65): WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

16. Other information

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

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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

6/7/2018

Revision

6.5

SDS No.

10746

SDS status

English (North American). Approved.

Hazard statements in full

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H320 Causes eye irritation.

NFPA - health hazard

Temporary incapacitation, injury. (2)

NFPA - flammability hazard

Burns only if pre-heated. (1)

NFPA - instability hazard

Normally stable. (0)