



**SAFETY DATA SHEET**  
**BELZONA® 1311 (CERAMIC R-METAL) BASE**

**1. Identification****Product identifier**

**Product name** BELZONA® 1311 (CERAMIC R-METAL) BASE

**Product number** SN2637

**Recommended use of the chemical and restrictions on use**

**Application** Repair system designed for rebuilding 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**

<b>Supplier</b>	Belzona Inc. 2000 N.W. 88 Court Miami FL 33172 UNITED STATES 1-305-594-4994 sds@belzona.com	Belzona Canada Inc. 51-588 Edward Avenue Richmond Hill Ontario, L4C 9Y6 CANADA 1-905-737-2225 sds@belzona.com
<b>Manufacturer</b>	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 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® 1311 (CERAMIC R-METAL) BASE****Pictogram****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**

REACTION PRODUCT: BISPHENOL A-  
(EPICHLORHYDRIN)

10-30%

CAS number: 25068-38-6

EPOXY PHENOL NOVOLAC RESIN

10-30%

CAS number: 28064-14-4

**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.

**BELZONA® 1311 (CERAMIC R-METAL) BASE**

**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**

## BELZONA® 1311 (CERAMIC R-METAL) BASE

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

## 8. Exposure Controls/personal protection

### Control parameters

#### Ingredient comments

No exposure limits known for ingredient(s).

### 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.

## BELZONA® 1311 (CERAMIC R-METAL) BASE

<b>Other skin and body protection</b>	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.
<b>Respiratory protection</b>	Respiratory protection is not normally required, but the hazards of the Solidifier component should be considered for mixing and application purposes.
<b>Immediate danger to life and health</b>	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

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

## BELZONA® 1311 (CERAMIC R-METAL) BASE

<b>Reactivity</b>	There are no known reactivity hazards associated with this product.
<b>Stability</b>	Stable under recommended storage and handling conditions (see Section 7).
<b>Possibility of hazardous reactions</b>	No hazardous reactions expected when stored and handled as recommended.
<b>Conditions to avoid</b>	There are no known conditions that are likely to result in a hazardous situation.
<b>Materials to avoid</b>	Keep away from oxidizing agents and strongly alkaline and strongly acidic materials to prevent the possibility of exothermic reaction.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended.

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** 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** 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.

## BELZONA® 1311 (CERAMIC R-METAL) BASE

**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 entry** 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

**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.

### Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** Not applicable.

### Other adverse effects

**Other adverse effects** None known.

## 13. Disposal considerations

### Waste treatment methods

## BELZONA® 1311 (CERAMIC R-METAL) BASE

### 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.

### UN Number

UN No. (TDG) 3077

UN No. (IMDG) 3077

UN No. (ICAO) 3077

UN No. (DOT) Not applicable.

### UN proper shipping name

Proper shipping name (TDG) Environmentally hazardous substance, solid, n.o.s. (containing Epoxy resin mixture)

Proper shipping name (IMDG) Environmentally hazardous substance, solid, n.o.s. (containing Epoxy resin mixture)

Proper shipping name (ICAO) Environmentally hazardous substance, solid, 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



**BELZONA® 1311 (CERAMIC R-METAL) BASE****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****International Regulations****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): WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**Inventories****Canada - DSL/NDL**

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**

.....

**Training advice**

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

**BELZONA® 1311 (CERAMIC R-METAL) BASE**

<b>Revision comments</b>	REVISION. This safety data sheet has been revised in the following Section(s): 14, 16, 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.
<b>Revision date</b>	11/10/2016
<b>Revision</b>	3.3
<b>SDS No.</b>	11304
<b>SDS status</b>	English (North American). Approved.
<b>Hazard statements in full</b>	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H320 Causes eye irritation.
<b>NFPA - health hazard</b>	Irritation, minor residual injury. (1)
<b>NFPA - flammability hazard</b>	Burns only if pre-heated. (1)
<b>NFPA - instability hazard</b>	Normally stable. (0)