



SAFETY DATA SHEET

BELZONA® 9631

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name BELZONA® 9631
Product number SN2905

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

Identified uses Water activated pipe repair bandage. 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.

1.3. Details of the supplier of the safety data sheet

Supplier Belzona Polymerics Limited
Claro Road, Harrogate
HG1 4DS
United Kingdom
+44 1423 567641
sds@belzona.com

Manufacturer Belzona Polymerics Limited
Claro Road, Harrogate
HG1 4DS
United Kingdom
+44 1423 567641
sds@belzona.com

1.4. Emergency telephone number

Emergency telephone ChemTel: +1 813-248-0585

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

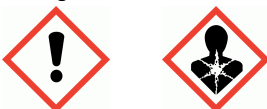
Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1
- H317 STOT SE 3 - H335 STOT RE 2 - H373
Environmental hazards Not Classified

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

2.2. Label elements

Pictogram



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Signal word	Danger
Hazard statements	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H373 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure if inhaled.
Precautionary statements	P261 Avoid breathing vapours. P280 Wear protective gloves, protective clothing and eye protection. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P501 Dispose of contents/ container in accordance with national regulations.
Contains	ETHOXYLATED PROPOXYLATED GLYCEROL-MDI COPOLYMER, TOSYL ISOCYANATE

2.3. Other hazards

Based on information received from our suppliers no PBT or vPvB substances are intentionally added to this product.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

ETHOXYLATED PROPOXYLATED GLYCEROL-MDI COPOLYMER	30-60%
CAS number: 59675-67-1	EC number: 611-860-7
Classification Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 STOT SE 3 - H335 STOT RE 2 - H373	
TOSYL ISOCYANATE	<1%
CAS number: 4083-64-1	EC number: 223-810-8
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 STOT SE 3 - H335	

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

SECTION 4: First aid measures**4.1. 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.

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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.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	Respiratory exposure may cause acute irritation and/or sensitisation of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest. Repeated exposure may lead to permanent respiratory disability. Inhalation of vapour, skin absorption and ingestion may result in symptoms of central nervous system depression, such as headache, drowsiness, nausea and vomiting.
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.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	None.
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SECTION 5: Firefighting measures

5.1. 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.
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5.2. 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, hydrogen cyanide, amines and alcohols may be produced.
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5.3. 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.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin and eyes. Keep up-wind of spill to avoid breathing vapours.
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6.2. 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.
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6.3. Methods and material for containment and cleaning up

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Methods for cleaning up

Do not allow spilled product or the associated washings to enter surface water drains or watercourses. Contain and collect spillages with non-combustible absorbent materials e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable labelled container. The contaminated area should be cleaned up immediately with a suitable decontaminant e.g. Sodium Carbonate (5 parts) / Water (95 parts). Add the same decontaminant to any residues and allow to stand for several days in a non-sealed container until no further reaction occurs. Once this stage is reached, close the container and dispose of in accordance with the waste regulations.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13. For information on National regulating agencies refer to Section 16.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Keep the container closed when not in use. Avoid the inhalation of vapours when opening the container. Exclude sources of heat, sparks and open flame. Where possible open containers 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. Avoid skin and eye contact. 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. **FIRE/EXPLOSION** This product is combustible. Exclude sources of heat, sparks and open flame. **SPECIAL** Isocyanates may generate vapours at temperatures approaching 40 °C, which can significantly increase the risk of exposure. All applications involving isocyanates should be carried out at the lowest temperature possible to minimise the creation of vapours. Avoid inhalation of vapour.

Advice on general occupational hygiene

Wash at the end of each work shift and before eating, smoking and using the toilet. Do not put contaminated articles or equipment e.g. spatulas, applicators, brushes, cloths etc., into pockets. Ensure eye wash facilities (fountain, bottle, vials, etc.) are readily available. 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.

7.2. 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. Have appropriate fire extinguishers available in and near the storage area. Store separately from oxidising agents and strongly alkaline and strongly acidic materials, amines and alcohols. **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 banded to contain any spillages.

7.3. Specific end use(s)

Specific end use(s)

Application by hand (see Section 7.1 & 8). Immerse in water before use. Please refer to the relevant Belzona® Instructions For Use for further information.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

TOSYL ISOCYANATE

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Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m³(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m³(Sen)

WEL = Workplace Exposure Limit

Ingredient comments All reasonable precautions should be taken to reduce exposure to isocyanates to the lowest level possible by means other than the use of Respiratory Protective Equipment (RPE). Suitable RPE may then be used as a last resort to ensure that the level of exposure is reduced so far as is reasonably practicable below the WEL. Exposure to chemicals that are respiratory sensitisers or have been shown to cause occupational asthma must be controlled to as low a level as is reasonably practicable.

8.2. Exposure controls

Appropriate engineering controls Use in well ventilated areas or provide adequate mechanical 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).

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.

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.

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. **APPLICATION OF SMALL QUANTITIES** Cotton overalls are normally suitable.

Respiratory protection 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. **STANDARD APPLICATIONS** 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

9.1. Information on basic physical and chemical properties

Appearance	Impregnated tape.
Colour	White.
Odour	Musty (mouldy).
Odour threshold	Not applicable.

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pH	Not applicable.
Melting point	Not available.
Initial boiling point and range	(MDI Copolymer) - 207°C/405°F
Flash point	198°C/388°F CC (Closed cup).
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Reacts in contact with moisture and water.
Partition coefficient	Not available.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable.
Viscosity	Not applicable.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.

9.2. Other information

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**10.1. Reactivity**

Reactivity See the other subsections of this section for further details.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No hazardous reactions expected when stored and handled as recommended.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Materials to avoid Keep away from oxidising agents and strongly alkaline and strongly acidic materials. Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.

10.6. Hazardous decomposition products

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Hazardous decomposition products Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Toxicological effects The toxicological values quoted in this section have been calculated, therefore LD50/LC50 values can be considered as Acute Toxicity Estimates (ATEs).

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) >3.0 mg/l, , Dust/Mist Harmful if inhaled.

Skin corrosion/irritation

Animal data Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation Irritating to eyes.

Respiratory sensitisation

Respiratory sensitisation Based on the properties of the isocyanate content of this product, respiratory exposure may cause acute irritation and/or sensitisation of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to airborne concentrations of isocyanates well below the occupational exposure limit. Repeated exposure may lead to permanent respiratory disability.

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 - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Respiratory irritant effects that impair function with symptoms such as cough, pain, choking, and breathing difficulties.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Harmful: danger of serious damage to health by prolonged exposure through inhalation.

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Target organs	Respiratory tract
<u>Aspiration hazard</u> Aspiration hazard	Based on available data the classification criteria are not met.
Route of entry	Inhalation Skin and/or eye contact
Medical considerations	COSHH requires that persons exposed to products containing respiratory sensitisers, are subject to appropriate health surveillance. Publications giving guidance on health surveillance are listed in Section 16. Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not risk exposure to isocyanates. Persons with a history of skin sensitisation problems should only be employed in processes in which this product is used under appropriate medical supervision. Skin contact constitutes a pronounced hazard. Animal studies have shown that skin contact with isocyanates may cause respiratory sensitisation.

SECTION 12: Ecological Information

Ecotoxicity	This product is not expected to present an environmental hazard under current legislation. The product should not be allowed to enter drains or watercourses or be deposited where it can affect ground or surface waters. The isocyanate component within this product reacts with water at the interface forming carbon dioxide gas and a solid insoluble product with a high melting point (polyurea).
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12.1. Toxicity

Toxicity	The products LC50/EC50/IC50 are expected to be greater than 100 mg/l in the most sensitive species. Not classified.
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12.2. 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.
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12.3. Bioaccumulative potential

Bioaccumulative potential	No data available.
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Partition coefficient	Not available.
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12.4. Mobility in soil

Mobility	There is no data available on the product itself.
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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	Based on information received from our suppliers no PBT or vPvB substances are intentionally added to this product.
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12.6. Other adverse effects

Other adverse effects	None known.
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SECTION 13: Disposal considerations**13.1. Waste treatment methods**

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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 spilled product that has been decontaminated in accordance with the procedure described in Section 6, 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

List of Waste (LoW) code: 08 05 01* *Hazardous waste pursuant to Directive 91/689/EEC. The LoW code quoted in this section is an absolute entry. 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

Not classified for transport under current National and International 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.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not carried in bulk.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

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National regulations	The provisions of the Health and Safety at Work Act and the Control of Substances Hazardous to Health Regulations with amendments apply to the use of this product at work.
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. In accordance with Regulation (EC) No 453/2010.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other 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.
Key literature references and sources for data	Provision and Use of Personal Protective Equipment Regulations 1992 (SI 1992: 2932). PPG18: Control of Spillages and fire fighting run-off. HSG53 The selection, use and maintenance of respiratory protective equipment, as amended. Health Surveillance at Work (HSG61) available from HSE Books. HSG97 A step by step guide to COSHH assessment. MDHS 25/3 Organic isocyanates in air. UK ENVIRONMENTAL REGULATING AGENCIES: England and Wales- Environment Agency; Scotland- Scottish Environment Protection Agency (SEPA); Northern Ireland- Environment and Heritage Service.
Classification procedures according to Regulation (EC) 1272/2008	Where there is no test data available for the mixture, the classification has been determined based on the individual component hazard data in accordance with EC 1272/2008.
Training advice	For further information please contact your supplier, Belzona consultant or Belzona direct.
Revision comments	New formulation. 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	04/10/2017
Revision	1.0
SDS number	41176
SDS status	English. Approved.

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Hazard statements in full

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure if inhaled.