



SAFETY DATA SHEET

BELZONA® 2221 (MP FLUID ELASTOMER) BASE

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

1.1. Product identifier

Product name BELZONA® 2221 (MP FLUID ELASTOMER) BASE

Product number SN2460

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

Identified uses Fluid grade multi-purpose system for preparing horizontal expansion joints, resurfacing, and casting applications. 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 Not Classified

Environmental hazards Not Classified

2.2. Label elements

Hazard statements NC Not Classified

Precautionary statements P260 Do not breathe vapours.
P280 Wear protective clothing and gloves.

Supplemental label information EUH204 Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

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Based on information received from our suppliers no PBT or vPvB substances are intentionally added to this product. May be irritating to eyes, respiratory system and skin. May cause sensitisation by skin contact. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

TOLUENE-DIISOCYANATE	< 0.1%
CAS number: 26471-62-5	EC number: 247-722-4
Classification	
Acute Tox. 1 - H330	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Resp. Sens. 1 - H334	
Skin Sens. 1 - H317	
Carc. 2 - H351	
STOT SE 3 - H335	
Aquatic Chronic 3 - H412	

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

Composition comments This product is based on partly reacted pre-polymer isocyanate with a very low free monomer content.

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.
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	The product contains small quantities of isocyanate. May cause respiratory allergy. May cause respiratory system irritation.
Skin contact	May cause skin irritation. The product contains a small amount of sensitising substance. May cause sensitisation or allergic reactions in sensitive individuals.
Eye contact	May cause eye irritation.

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

Notes for the doctor None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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Suitable extinguishing media Use: sand, foam, carbon dioxide, chemical powder or water fog for larger fires. Do NOT use water jet.

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.

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Exclude non-essential personnel. Keep up-wind of spill to avoid breathing vapours. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Prevent product 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.

6.3. Methods and material for containment and cleaning up

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

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Usage precautions

Vapours may collect in the container headspace during transit or prolonged storage. Avoid the inhalation of vapour when opening the container. Keep the container tightly closed until ready for use. 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. Avoid skin and eye contact. Smoking, eating and drinking should be prohibited in areas of storage and use. For personal protection see Section 8. 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. 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. In cold conditions to ease mixing, containers should be allowed to reach room temperature in a warm ventilated store inside the work place. Applying direct heat is not considered advisable without adequate safeguards to prevent overheating and extract isocyanate vapour from the container.

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.

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. 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 plastic applicator or spatula provided. Mix with Solidifier component 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

TOLUENE-DIISOCYANATE

Long-term exposure limit (8-hour TWA): WEL 0,02 mg/m³

Short-term exposure limit (15-minute): WEL 0,07 mg/m³

Sen

as NCO

WEL = Workplace Exposure Limit

Sen = Capable of causing occupational asthma.

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.

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8.2. Exposure controls

Appropriate engineering controls

STANDARD APPLICATIONS Use in well ventilated areas. **APPLICATION AT HIGH AMBIENT TEMPERATURES** Use in well ventilated areas or provide adequate mechanical ventilation. Where these controls are not sufficient to maintain concentrations of particulates and/or vapours to an acceptable level, 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. **STANDARD APPLICATIONS** Medium-heavy weight gauntlet type gloves that provide wrist protection are suitable. **APPLICATION OF SMALL QUANTITIES** Light weight disposable gloves are normally suitable.

Other skin and body protection

STANDARD APPLICATIONS Synthetic polyethylene coveralls such as the Tyvek PRO-TECH® or equivalent coveralls manufactured to EN 13034 Type 6, Protective clothing against liquid chemicals. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleaner. **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** Not normally required when this product is handled and applied in well ventilated areas. **APPLICATION AT HIGH AMBIENT TEMPERATURES** Where necessary, it is recommended that respiratory protective equipment that complies with EN 14387 with a full face visor should be worn in combination with a low boiling point organic vapours and high efficiency dust filter (AXP3). 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	Viscous liquid.
Colour	Black.
Odour	Odourless.
Odour threshold	Not applicable.
pH	Not applicable.
Melting point	Not available.
Initial boiling point and range	Decomposes.
Flash point	>100°C/>212°F CC (Closed cup).
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

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Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	< 0.0034 kPa @ 25°C/77°F
Vapour density	> 1
Relative density	1.00 - 1.10 @ 20°C/68°F
Solubility(ies)	Isocyanates react with water.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.

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.
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SECTION 10: Stability and reactivity

10.1. Reactivity

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

Stability	Stable under recommended storage and handling conditions (see Section 7).
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No hazardous reactions expected when stored and handled as recommended.
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10.4. Conditions to avoid

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

Hazardous decomposition products	Does not decompose when used and stored as recommended.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

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

Notes (dermal LD₅₀)	Based on available data the classification criteria are not met.
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BELZONA® 2221 (MP FLUID ELASTOMER) BASE**Acute toxicity - inhalation****Notes (inhalation LC₅₀)** Based on available data the classification criteria are not met.**Skin corrosion/irritation****Animal data** Based on available data the classification criteria are not met.**Serious eye damage/irritation****Serious eye damage/irritation** Based on available data the classification criteria are not met.**Respiratory sensitisation****Respiratory sensitisation** Based on available data the classification criteria are not met.**Skin sensitisation****Skin sensitisation** Based on available data the classification criteria are not met.**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. Contains a substance which may be potentially carcinogenic.**IARC carcinogenicity** IARC Group 2B Possibly carcinogenic to humans.**NTP carcinogenicity** Known human carcinogen.**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.**Aspiration hazard****Aspiration hazard** Based on available data the classification criteria are not met.**Medical considerations**

Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not risk exposure to isocyanates. Animal studies have shown that skin contact with isocyanates may cause respiratory sensitisation.

SECTION 12: Ecological Information**Ecotoxicity**

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

12.1. Toxicity**Toxicity**The products LC₅₀/EC₅₀/IC₅₀ are expected to be greater than 100 mg/l in the most sensitive species.**12.2. Persistence and degradability****Persistence and degradability** No data available.

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12.3. Bioaccumulative potential

Bioaccumulative potential No data available.

Partition coefficient Not available.

12.4. Mobility in soil

Mobility There is no data available on the product itself.

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.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Controlled wastes include non-hazardous industrial and hazardous chemical wastes. All controlled wastes should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act. In addition, hazardous chemical wastes should be disposed of in accordance with the Hazardous Waste Regulations. When in doubt, using information provided in this safety data sheet, advice should be obtained from the National regulating agency whether the Hazardous Waste Regulations apply. Refer to information sources listed in Section 16. COMPONENT DISPOSAL TRANSIT PACKAGING: shrink or stretch wrap, boxes and fittings that have not been contaminated with product should be re-used or recycled. UNREACTED PRODUCT and empty uncleaned containers should be disposed of as hazardous chemical waste. REACTED PRODUCT, spilled product that has been decontaminated in accordance with the procedure described in Section 6, 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

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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 applicable.

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

National regulations

This product is determined as not being dangerous for supply according to the requirements of Regulation (EC) No. 1272/2008, Classification, Labelling and Packaging of substances and mixtures, as amended.

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. HSG97 A step by step guide to COSHH assessment. 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.

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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, 2, 7, 8, 10, 13, 16, 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	10/08/2016
Revision	2.1
SDS number	11509
SDS status	English. Approved.
Hazard statements in full	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H330 Fatal if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H351 Suspected of causing cancer. H412 Harmful to aquatic life with long lasting effects.