SAFETY DATA SHEET
BELZONA® 1111 (SUPER METAL) - BASE

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME BELZONA® 1111 (SUPER METAL) - BASE

INTERNAL ID 1004/0866/-/04

APPLICATION Base component of a two component system. Mix with Solidifier component before use. Engineering grade repair system for repairing and rebuilding machinery and equipment. Application by plastic applicator or spatula provided. Please refer to the relevant Belzona® Instructions For Use for further information. For use only by professional operators.

SUPPLIER
Belzona Polymerics Limited
Claro Road, Harrogate
North Yorkshire
HG1 4DS, England
☏ +44 (0) 1423 567641
+44 (0) 1423 505967
sds@belzona.com

EMERGENCY TELEPHONE +44 (0) 1423 567641 (office hours)

2 HAZARDS IDENTIFICATION

Irritating to eyes and skin. May cause sensitisation by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CLASSIFICATION (1999/45) Xi;R36/38. R43. N;R51/53.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification (67/548)
EPOXY RESIN (Number average MW <= 700)	500-033-5	25068-38-6	10-30%	R43 Xi;R36/38 N;R51/53

The Full Text for all R-Phrases are Displayed in Section 16

4 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. If breathing has stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in the recovery position and seek medical advice.

INGESTION

If accidentally swallowed obtain immediate medical attention. Keep at rest. Rinse mouth with plenty of water and drink 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.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Use: sand, alcohol resistant foam, carbon dioxide, chemical powder, water fog for larger fires.
Do NOT use water jet.

SPECIAL FIRE FIGHTING PROCEDURES

Fire will produce dense black smoke containing hazardous products of combustion (see Section 10). 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.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Avoid contact with skin and eyes. Refer to protective measures listed in Section 8.

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. Refer to information sources listed in Section 16.

SPILL CLEAN UP METHODS

Scrape the majority of the product into a suitable labelled 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. Refer to disposal methods listed in Section 13. Do not allow spilled product or the associated washings to enter surface water drains or watercourses.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

GENERAL
Vapours may collect in the container headspace during transit or prolonged storage. Avoid the inhalation of vapour when opening the container. Where possible open containers and mix components in a well ventilated place away from the application area. 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. Good housekeeping methods and regular safe removal of waste materials should be observed. The Manual Handling Operations Regulations may apply to the handling of containers/packages of this product. Refer to the guide weight on the container/package when carrying out assessments.
FIRE/EXPLOSION
This product is combustible. Exclude sources of heat, sparks and open flame.

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.
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 bunded to contain any spillages.

STORAGE CLASS

The principals contained in the HSE guidance note Chemical Warehousing: storage of packaged dangerous substances (HSG71) should be observed when storing this product.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT COMMENTS

When personal protective equipment, including respiratory protective equipment, is used to control exposure to hazardous substances it must be selected to meet the requirements of the COSHH Regulations.

ENGINEERING MEASURES

Open containers in a well ventilated area.

RESPIRATORY EQUIPMENT

Respiratory protection is not normally required but it may be required when this product is used in confined spaces or where adequate ventilation cannot be achieved.

HAND PROTECTION

GENERAL GUIDANCE ON 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

Use protective gloves made of: Neoprene. Nitrile.

STANDARD APPLICATIONS

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.

EYE 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. 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.

OTHER 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.

EMERGENCY REPAIRS OR APPLICATION OF SINGLE UNITS

Cotton overalls are normally suitable.

HYGIENE MEASURES

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 should be removed to prevent cross contamination of surfaces and the risk of inadvertent skin contact and ingestion.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Paste.
COLOUR	Dark grey.
ODOUR	Epoxy.
PHYSICAL DATA COMMENTS	This section contains typical values for Health, Safety and Environmental guidance only and is not intended to represent a technical specification for the product. L = Low. NIA = No Information available. LP = See Section 12. N.ap = Not Applicable.
SOLUBILITY	Immiscible with water

BOILING POINT (°C)	> 200 @ 760 mm Hg	**RELATIVE DENSITY**	2.70 - 2.90 @ 20 °C
VAPOUR DENSITY (air=1)	>1	**VAPOUR PRESSURE**	L
pH-VALUE, CONC. SOLUTION	NIA	**VISCOSITY**	N.ap
DECOMPOSITION TEMPERATURE (°C)	> 200	**FLASH POINT (°C)**	> 170 CC (Closed cup).
AUTO IGNITION TEMPERATURE (°C)	>300	**PARTITION COEFFICIENT (N-Octanol/Water)**	LP

10 STABILITY AND REACTIVITY

STABILITY

Stable under recommended storage and handling conditions (see Section 7). In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide may be produced.

CONDITIONS TO AVOID

Keep away from oxidising agents and strongly alkaline and strongly acidic materials to prevent the possibility of exothermic reaction.

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION

There is no data on the product itself. Based on the properties of the epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitiser and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation with possibly cross-sensitisation to other epoxies.

INHALATION

Vapours that may collect in the container headspace during transit or prolonged storage may be harmful by inhalation.

INGESTION

Ingestion is not normally an exposure risk arising from professional applications. Inadvertent ingestion of small amounts of this product through poor hygiene or cross contamination may cause irritation of mucous membranes.

SKIN CONTACT

Prolonged or repeated contact with the skin may cause irritation, blistering or dermatitis. Causes of allergic skin reaction have been observed. May cause sensitisation by skin contact.

EYE CONTACT

May cause eye irritation.

ROUTE OF ENTRY

Skin and/or eye contact. Ingestion. Inhalation.

MEDICAL SYMPTOMS

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.

MEDICAL CONSIDERATIONS

Skin contact constitutes a pronounced hazard. Persons with a history of skin sensitisation 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, and in strict compliance with the conventional classification guidelines for preparations as outlined in the Chemicals (Hazard Information and Packaging for Supply) Regulations. The product should not be allowed to enter drains or watercourses or be deposited where it can affect ground or surface waters. See also Sections 5, 6, 7, 9 and 13.

BIOACCUMULATION

Based on the epoxy resin (number average MW<=700) content, this product is expected to bioaccumulate. Log octanol/water partition coefficient (Log Pow) is expected to be greater than 3.0. May cause long-term adverse effects in the aquatic environment.

DEGRADABILITY

Based on the epoxy resin (number average MW<=700) content, this product is not expected to be readily biodegradable according to OECD/EC guidelines. May cause long-term adverse effects in the aquatic environment.

ACUTE FISH TOXICITY

Based on the epoxy resin (number average MW <=700) content, this product is expected to have experimental LC50/EC50/IC50 values between 1 and 10 mg/l in most sensitive species. Toxic to aquatic organisms.

13 DISPOSAL CONSIDERATIONS

GENERAL INFORMATION

All cleaning activities including cleaning of equipment, floors and containers, can produce large volumes of contaminated waste. All cleaning agents used are potentially polluting. Water containing detergents, degreasers or any other cleaning agents must not be allowed to enter the surface water drains or soakaways. All water based cleaning/degreasing operations should be carried out in designated areas away from the surface water system and drained to the foul water system. Where this is not possible the surface water system should be isolated by suitable damming techniques and the contaminated water collected and removed for controlled safe disposal. Where water immiscible cleaners/degreasers are used for example solvents, the relevant product safety data sheet should be referred to for information on safe disposal.

DISPOSAL METHODS

GENERAL

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 controlled wastes. REACTED PRODUCT: contaminated mixing boards, spatulas, applicators, brushes, nominally empty containers and mixing bowls- once fully cured- should be disposed of as non-hazardous chemical waste.

BELZONA® 1111 (SUPER METAL) - BASE

WASTE CLASS

European Waste Catalogue (EWC) code: 08 04 09
The EWC code quoted in this section is a general entry. EWC codes should be assigned based on the end use of the product. Where a more specific code is available it should be used in preference to the code given above. 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.

14 TRANSPORT INFORMATION

GENERAL	Transport classification: labelling 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.		
PROPER SHIPPING NAME	Environmentally hazardous substance, solid, n.o.s. (containing Epoxy resin mixture)		
ROAD TRANSPORT NOTES	Transport category 3		
UN NO. ROAD	3077	**ADR CLASS NO.**	9
ADR PACK GROUP	III	**UN NO. SEA**	3077
IMDG CLASS	9	**IMDG PACK GR.**	III
MARINE POLLUTANT	No.	**UN NO. AIR**	3077
AIR CLASS	9	**AIR PACK GR.**	III

15 REGULATORY INFORMATION

LABELLING



Irritant



Dangerous for the environment

CONTAINS EPOXY RESIN (Number average MW <= 700)

RISK PHRASES

R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY PHRASES

P5	Contains epoxy constituents. See information supplied by the manufacturer.
S36/37	Wear suitable protective clothing and gloves.
S60	This material and its container must be disposed of as hazardous waste.
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

UK REGULATORY REFERENCES

This product is classified and labelled for supply in accordance with the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002, as amended.
The provisions of the Health and Safety at Work Act and the Control of Substances Hazardous to Health Regulations apply to the use of this product at work.
The information contained within this safety data sheet is provided in accordance with Regulation (EC) No. 1907/2006 as amended concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

ENVIRONMENTAL LISTING

The Environmental Protection Act 1990.
The Environment Act 1985.

EU DIRECTIVES

Dangerous Substance Directive 67/548/EEC. 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. Dangerous Preparations Directive 1999/45/EC. System of specific information relating to Dangerous Preparations. 2001/58/EC.

STATUTORY INSTRUMENTS

Chemicals (Hazard Information and Packaging for Supply) Regulations 2002, as amended (SI 2002: 1689).
Control of Substances Hazardous to Health Regulations 2002, as amended (SI 2002: 2677).
Provision and Use of Personal Protective Equipment Regulations 1992 (SI 1992: 2932).
The Confined Spaces Regulations 1997 (SI1997: 1713).
Special Waste Regulations 1996 (SI 1996: 972), as amended (Scotland Only).
The Hazardous Waste Regulations 2005 (SI2005: 894), as amended.
The List of Wastes Regulations 2005 (SI2005: 895), as amended.

APPROVED CODE OF PRACTICE

Control of Substances Hazardous to Health (Fifth edition) approved code of practice and guidance.

GUIDANCE NOTES

PPG11: Preventing pollution at industrial sites.
PPG18: Control of Spillages and fire fighting run-off.
HSG97 A step by step guide to COSHH assessment.
HSG193 COSHH essentials: easy steps to control chemicals.
HSG53 The selection, use and maintenance of respiratory protective equipment.
Working with ADR: An introduction to the carriage of dangerous goods by road.
Hazardous Waste: Interpretation of the Definition and Classification of Hazardous Waste (Technical Guidance WM2).

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.
RESTRICTIONS ON USE
The product should not be used for purposes other than those recommended and in addition should be applied in line with the procedures detailed in the related Instructions For Use (IFU) leaflet.
This product may only be used in 'confined spaces' where a suitable and sufficient assessment has been carried out by a competent person in accordance with the Confined Spaces Regulations. The assessment should cover the risks involved for all work activities.

INFORMATION SOURCES

Health Surveillance at Work (HSG61) available from HSE Books.
UK ENVIRONMENTAL REGULATING AGENCIES: England and Wales- Environment Agency; Scotland- Scottish Environment Protection Agency (SEPA); Northern Ireland- Environment and Heritage Service.

REVISION COMMENTS

REVISION. This safety data sheet has been revised in the following Section(s): 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 04-01-2011

SAFETY DATA SHEET STATUS

Approved.

RISK PHRASES IN FULL

R36/38 Irritating to eyes and skin. , R43 May cause sensitisation by skin contact. , R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

REVISION NO. 4.7

SAFETY DATA SHEET
BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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

1.1. Product identifier

Product name BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Product number SN2598

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

Identified uses Engineering grade repair system for repairing and rebuilding machinery and equipment. 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 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 2 - H411

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

2.2. Label elements

Hazard pictograms



BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Signal word	Danger
Hazard statements	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P260 Do not breathe vapours. P273 Avoid release to the environment. P280 Wear protective clothing, gloves, eye and face protection. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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. P313 Get medical attention.
Contains	DIETHYLENETRIAMINE, M-PHENYLENEBIS(METHYLAMINE), 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL, TRIMETHYLHEXANE-1,6-DIAMINE

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

DIETHYLENETRIAMINE **10-30%**

CAS number: 111-40-0 EC number: 203-865-4 REACH registration number: 01-2119473793-27-xxxx

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Acute Tox. 2 - H330
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Skin Sens. 1 - H317
STOT SE 3 - H335

BENZYL ALCOHOL **5-15%**

CAS number: 100-51-6 EC number: 202-859-9 REACH registration number: 01-2119492630-38-xxxx

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Eye Irrit. 2 - H319

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

FORMALDEHYDE POLYMER WITH 1,3-BENZENEDIMETHANAMINE AND PHENOL **5-10%**

CAS number: 57214-10-5 EC number: 500-137-0

M factor (Acute) = 1 M factor (Chronic) = 1

Classification
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

M-PHENYLENEBIS(METHYLAMINE) **1-5%**

CAS number: 1477-55-0 EC number: 216-032-5 REACH registration number: 01-2119480150-50-xxxx

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Skin Sens. 1 - H317
Aquatic Chronic 3 - H412

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL **1-5%**

CAS number: 90-72-2 EC number: 202-013-9 REACH registration number: 01-2119560597-27-xxxx

Classification
Acute Tox. 4 - H302
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Aquatic Chronic 3 - H412

TRIMETHYLHEXANE-1,6-DIAMINE **1-5%**

CAS number: 25620-58-0 EC number: 247-134-8 REACH registration number: 01-2119538811-39-XXXX

Classification
Acute Tox. 4 - H302
Skin Corr. 1A - H314
Eye Dam. 1 - H318
Skin Sens. 1A - H317
Aquatic Chronic 3 - H412

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

Ingredient notes Diethylenetriamine is toxic by inhalation when aerosolised or sprayed, however the chemical vapours show no signs of toxicity. If the product is not aerosolised or sprayed, inhalation toxicity does not apply when the toxicity of the finished product is calculated.

SECTION 4: First aid measures

4.1. Description of first aid measures

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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 Exposure to vapours may result in irritation of the mucous membrane and the respiratory system; in severe cases burns may occur.

Ingestion May cause chemical burns in mouth, oesophagus and stomach.

Skin contact Skin contact causes chemical burns. Symptoms may include pain, severe local redness and tissue damage. May cause allergic skin reaction.

Eye contact Contact with eyes may cause severe irritation with corneal injury, which may result in permanent impairment of vision.

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

Suitable extinguishing media Use: sand, alcohol resistant 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 and ammonia 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. Do not get on skin or in eyes.

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.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Scrape the majority of the product into a suitable labelled 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.

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 tightly closed when not in use. Vapours may collect in the container headspace during transit or prolonged storage. Avoid the inhalation of vapour when opening the container. Where possible open containers and mix components in a well ventilated place away from the application area. Exclude non-essential personnel. Minimise the number of employees exposed and the duration of their exposure. Do not get on skin or in eyes. Smoking, eating and drinking should be prohibited in areas of storage and use. For personal protection see Section 8. Always keep in containers made of the same material as the supply container. Ensure emergency equipment (for fires, spills, leaks, etc.) is readily available. Good housekeeping methods and regular safe removal of waste materials should be observed. FIRE/EXPLOSION This product is combustible. Exclude sources of heat, sparks and open flame.

Advice on general occupational hygiene Wash at the end of each work shift and before eating, smoking and using the toilet. Ensure eye wash facilities (fountain, bottle, vials, etc.) are readily available. Do not put contaminated articles or equipment e.g. spatulas, applicators, brushes, cloths etc., into pockets. Where necessary, contaminated work clothing and shoes should be removed to prevent cross contamination of surfaces and the risk of inadvertent skin contact and ingestion.

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 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, must be securely stored on site in designated areas that are isolated from surface drains and bunded to contain any spillages.

7.3. Specific end use(s)

Specific end use(s) Application by plastic applicator or spatula provided. Mix with Base component before use. Please refer to the relevant Belzona® Instructions For Use for further information.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

DIETHYLENETRIAMINE

Long-term exposure limit (8-hour TWA): WEL 1 ppm 4.3 mg/m³

Sk

WEL = Workplace Exposure Limit
Sk = Can be absorbed through the skin.

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Ingredient comments During standard, non-spray applications, the risk of exposure by inhalation to hazardous concentrations of diethylenetriamine under normal working conditions in a well ventilated area is minimal.

DIETHYLENETRIAMINE (CAS: 111-40-0)

DNEL

Industry - Inhalation; Long term systemic effects: 15.4 mg/m³
Industry - Inhalation; Long term local effects: 0.87 mg/m³
Industry - Inhalation; Short term systemic effects: 92.1 mg/m³
Industry - Inhalation; Short term local effects: 2.6 mg/m³
Industry - Dermal; Long term systemic effects: 11.4 mg/kg/day
Industry - Dermal; Long term local effects: 1.1 mg/m³
Consumer - Inhalation; Long term systemic effects: 4.6 mg/m³
Consumer - Inhalation; Short term systemic effects: 27.5 mg/m³
Consumer - Dermal; Long term systemic effects: 4.88 mg/kg/day
Consumer - Dermal; Short term systemic effects: 4.88 mg/kg/day

PNEC

Fresh water; 0.56 mg/l
marine water; 0.056 mg/l
Sediment (Freshwater); 1072 mg/kg
Sediment (Marinewater); 107.2 mg/kg
Soil; 214 mg/kg
STP; 6 mg/l

BENZYL ALCOHOL (CAS: 100-51-6)

DNEL

Industry - Inhalation; Short term systemic effects: 110 mg/m³
Industry - Inhalation; Long term systemic effects: 22 mg/m³
Industry - Dermal; Short term systemic effects: 40 mg/kg/day
Industry - Dermal; Long term systemic effects: 8 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 5.4 mg/m³
Consumer - Inhalation; Short term systemic effects: 27 mg/m³
Consumer - Dermal; Long term systemic effects: 4 mg/kg/day
Consumer - Dermal; Short term systemic effects: 20 mg/kg/day
Consumer - Oral; Long term systemic effects: 4 mg/kg/day
Consumer - Oral; Short term systemic effects: 20 mg/kg/day

PNEC

Fresh water; 1 mg/l
Sediment (Freshwater); 5.27 mg/kg/day
marine water; 0.1 mg/l
Sediment (Marinewater); 0.527 mg/kg/day
Intermittent release; 2.3 mg/l
STP; 39 mg/l
Soil; 0.456 mg/kg/day

M-PHENYLENEBIS(METHYLAMINE) (CAS: 1477-55-0)

DNEL

Workers - Inhalation; Long term systemic effects: 1.2 mg/m³
Workers - Dermal; Long term systemic effects: 0.33 mg/kg/day

PNEC

Fresh water; 0.094 mg/l
marine water; 0.0094 mg/l

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL (CAS: 90-72-2)

DNEL	Workers - Inhalation; Long term systemic effects: 0.13 mg/m³ Workers - Inhalation; Short term systemic effects: 0.52 mg/m³ Workers - Dermal; Long term systemic effects: 0.15 mg/kg/day Workers - Dermal; Short term systemic effects: 0.6 mg/kg/day
PNEC	Fresh water; 0.084 mg/l marine water; 0.0084 mg/l Intermittent release; 0.84 mg/l STP; 0.2 mg/l

TRIMETHYLHEXANE-1,6-DIAMINE (CAS: 25620-58-0)

DNEL	General population - Oral; Long term systemic effects: 0.05 mg/kg/day

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of 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. 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

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. 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 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. EMERGENCY REPAIRS OR APPLICATION OF SINGLE UNITS Cotton overalls are normally suitable.

Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. Respiratory protection is not normally required, but the hazards of the Base component should be considered for mixing and application purposes. Respiratory protection is not normally required but it may be required when this product is used in confined spaces or where adequate ventilation cannot be achieved. It is essential that the concentration of the contaminant(s) in the application environment does not exceed the applicable Occupational Exposure Limit(s) (OELs) multiplied by the Assigned Protection Factor (APF) quoted for the respiratory protective equipment selected. 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	Paste.
Colour	Light grey.
Odour	Amine.
Odour threshold	Not applicable.
pH	Alkaline.
Melting point	Not available.
Initial boiling point and range	>100°C/>212°F @ 760 mm Hg
Flash point	>100°C/>212°F Closed cup.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Low.
Vapour density	> 1
Relative density	1.62 - 1.72 @ 20°C/68°F
Solubility(ies)	Immiscible with water.
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.

9.2. Other information

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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 There are no known reactivity hazards associated with this product.

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 acidic materials to prevent the possibility of exothermic reaction.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50}) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Skin corrosive; corrosivity to eyes is assumed. No testing is needed.

Respiratory sensitisation

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

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.

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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	Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Based on available data the classification criteria are not met.

Aspiration hazard

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

Route of exposure	Skin and/or eye contact Skin absorption
Medical considerations	Skin contact constitutes a pronounced hazard. Persons with a history of skin sensitisation problems should only be employed in processes in which this product is used under appropriate medical supervision.

Toxicological information on ingredients.

DIETHYLENETRIAMINE

Toxicological effects	May be absorbed through the skin. During standard, non-spray applications, the risk of exposure by inhalation to hazardous concentrations of diethylenetriamine under normal working conditions in a well ventilated area is minimal.

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,553.0
Species	Rat

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	1,045.0
Species	Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} dust/mist mg/l)	0.07
Species	Rat
Notes (inhalation LC_{50})	NOAEL

BENZYL ALCOHOL

Toxicological effects	May be absorbed through the skin.

Acute toxicity - inhalation

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

Acute toxicity inhalation (LC_{50} dust/mist mg/l)	4.178

M-PHENYLENEBIS(METHYLAMINE)

Toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	930.0
Species	Rat

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	3,100.0
Species	Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} dust/mist mg/l)	1.34
Species	Rat

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,169.0
Species	Rat

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,000.0
Species	Rat

TRIMETHYLHEXANE-1,6-DIAMINE

Toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	850.0
Species	Rat

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 Based on the individual component data, the product is expected to have experimental LC50/EC50/IC50 values between 1 and 10 mg/l in most sensitive species.

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.

12.3. Bioaccumulative potential

Bioaccumulative potential Based on the individual component data, the product is expected to bioaccumulate.

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, 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 Code: 08 04 09* *Hazardous waste pursuant to Directive 91/689/EEC. The LoW code quoted in this section is a general entry. LoW codes should be assigned based on the end use of the product. Where a more specific code is available it should be used in preference to the code given above. 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 Labelling 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.

14.1. UN number

UN No. (ADR/RID) 3259

UN No. (IMDG) 3259

UN No. (ICAO) 3259

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric copolymer mixture)
Proper shipping name (IMDG)	Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric copolymer mixture)
Proper shipping name (ICAO)	Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric copolymer mixture)

14.3. Transport hazard class(es)

ADR/RID class	8
IMDG class	8
ICAO class/division	8

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

Yes. Labelling requirements will vary with hazardous net quantity. Please refer to the current transport regulations.

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

SECTION 15: Regulatory information

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

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. This product may add to the calculation for determining whether a site is within scope of the Control of Major Accident Hazards Regulations.
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.

BELZONA® 1111 (SUPER METAL) SOLIDIFIER

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. Working with ADR: An introduction to the carriage of dangerous goods by road. 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

REVISION. This safety data sheet has been revised in the following Section(s): 3, 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

17/07/2020

Revision

4.1

SDS number

11266

SDS status

English. Approved.

Hazard statements in full

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.