



SAFETY DATA SHEET

BELZONA® 1111 (SUPER METAL) - SOLIDIFIER

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

PRODUCT NAME	BELZONA® 1111 (SUPER METAL) - SOLIDIFIER
INTERNAL ID	1104/0180/05
APPLICATION	Solidifier component of a two component system. Mix with Base 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

Harmful if swallowed. Causes burns. May cause sensitisation by skin contact. Possible risk of irreversible effects.

CLASSIFICATION (1999/45) Xn;R22. Muta. Cat. 3;R68. C;R34. R43.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification (67/548)
DIETHYLENTRIAMINE	203-865-4	111-40-0	5-10%	C;R34 Xn;R21/22 R43
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL	202-013-9	90-72-2	1-5%	Xn;R22 Xi;R36/38
PHENOL	203-632-7	108-95-2	1.8%	Muta. Cat. 3;R68 T;R23/24/25 C;R34 Xn;R48/20/21/22

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 do NOT induce vomiting. Keep at rest. Rinse mouth with water and drink 1 cup of water every 10 minutes for 30 minutes. Seek prompt medical attention.

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.

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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

Exclude sources of ignition and ventilate the area. Exclude non-essential personnel. Keep up-wind of spill to avoid breathing vapours. Do not get on skin or in 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. Keep the container tightly closed when not in use. Where possible open containers and mix components in a well ventilated place away from the application area. Prevent air-borne concentrations higher than the occupational exposure limits (see Section 8). 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. 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 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

Name	Std	TWA - 8 hrs		STEL - 15 min		Notes
DIETHYLENETRIAMINE	WEL	1 ppm	4,3 mg/m3			Sk
PHENOL	WEL	2 ppm				Sk

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through skin.

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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.

OEL's are taken from the current version of EH40 except those that are marked 'SUP' which are assigned by the supplier of the substance. 'Sk' indicates a risk of exposure through skin absorption. Exposure to chemicals assigned occupational exposure limits (OELs) should be controlled using the most effective and reliable measures, proportional to the health risk, which minimise their escape and spread. All relevant exposure routes should be taken into account.

ENGINEERING MEASURES

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 particulates and/or vapours below the relevant occupational exposure limits, suitable respiratory protective equipment should be worn (see 'Respirators' below).

RESPIRATORY EQUIPMENT

GENERAL GUIDANCE ON RESPIRATORY PROTECTION

Not normally required when this product is handled and applied in well ventilated areas. 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 14594 (compressed airline breathing apparatus) is worn if exposure to the applicator or other people nearby cannot be controlled to below the occupational exposure limit and engineering methods cannot reasonably be improved. 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.

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

Light grey.

ODOUR

Amine.

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. N.ap = Not Applicable. NIA = No Information available. A = Alkaline.

BOILING POINT (°C)

> 100 @ 760 mm Hg

RELATIVE DENSITY

1.63 - 1.69 @ 20 °C

VAPOUR DENSITY (air=1)

> 1

VAPOUR PRESSURE

0.028 kPa @ 20 °C

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pH-VALUE, CONC. SOLUTION	A	VISCOSITY	N.ap
DECOMPOSITION TEMPERATURE (°C)	> 250	FLASH POINT (°C)	> 110 CC (Closed cup).
AUTO IGNITION TEMPERATURE (°C)	>350°C	PARTITION COEFFICIENT (N-Octanol/Water)	NIA

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, oxides of nitrogen and ammonia may be produced.

CONDITIONS TO AVOID

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

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION

There is no data on the product itself. This product contains low levels of phenol. Exposure to phenol can cause damage to the kidneys, liver, pancreas, spleen and edema of the lungs. Possible risk of irreversible effects. Recent evidence indicates that phenol can be genotoxic, which means it can cause changes to the genetic material in the body. Diethylenetriamine, a component of this product, may cause respiratory sensitisation in susceptible individuals.

INHALATION

Exposure to vapors may result in irritation of the mucous membrane and the respiratory system; in severe cases burns may occur. Low vapour concentrations of many amines can cause a visual disturbance known as 'blue haze' or 'halo vision'. Vision becomes foggy or blurred, objects may appear bluish, and halos may be seen around lights. Symptoms may be delayed. Eye discomfort or pain may not be experienced by affected persons. The effect normally clears up within a day and causes no permanent injury. The visual disturbance could contribute to accidents.

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 or burns of the mouth, throat and stomach. Harmful if swallowed.

SKIN CONTACT

Contact with skin or any living tissue may cause burns, in severe cases complete tissue destruction may occur. This product contains one or more components that have caused skin sensitization in humans. This product contains components that may be absorbed through the skin (see Section 8).

EYE CONTACT

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

ROUTE OF ENTRY

Inhalation. Skin absorption. Ingestion. Skin and/or eye contact.

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

This product is not expected to present an environmental hazard under current legislation.

DEGRADABILITY

This product is not expected to present an environmental hazard under current legislation.

ACUTE FISH TOXICITY

Based on the individual component data, the products LC50/EC50/IC50 are expected to be greater than 100 mg/l in most sensitive species. Not classified.

13 DISPOSAL CONSIDERATIONS

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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.

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

Polyamines, solid, corrosive, n.o.s. (containing Diethylenetriamine mixture)

ROAD TRANSPORT NOTES

Transport category 3

UN NO. ROAD	3259	ADR CLASS NO.	8
ADR PACK GROUP	III	UN NO. SEA	3259
IMDG CLASS	8	IMDG PACK GR.	III
MARINE POLLUTANT	No.	UN NO. AIR	3259
AIR CLASS	8	AIR PACK GR.	III

15 REGULATORY INFORMATION

LABELLING



Corrosive

CONTAINS

DIETHYLENETRIAMINE

PHENOL

RISK PHRASES

R22	Harmful if swallowed.
R34	Causes burns.
R43	May cause sensitisation by skin contact.
R68	Possible risk of irreversible effects.

SAFETY PHRASES

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.

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S45

In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

S60

This material and its container must be disposed of as hazardous waste.

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

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.

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).

Special Waste Regulations 1996 (SI 1996: 972), as amended (Scotland Only).

The Confined Spaces Regulations 1997 (SI1997: 1713).

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.

EH40: Workplace exposure limits.

HSG97 A step by step guide to COSHH assessment.

HSG193 COSHH essentials: easy steps to control chemicals.

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

HSG53 The selection, use and maintenance of respiratory protective equipment.

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

English. Approved.

BELZONA® 1111 (SUPER METAL) - SOLIDIFIER**RISK PHRASES IN FULL**

R21/22 Harmful in contact with skin and if swallowed. , R22 Harmful if swallowed. , R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. , R34 Causes burns. , R36/38 Irritating to eyes and skin. , R43 May cause sensitisation by skin contact. , R48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. , R68 Possible risk of irreversible effects.

REVISION NO.

6.6