MATERIAL SAFETY DATA SHEET
In compliance with OSHA 29 CFR 1910.1200
N.ap means Not Applicable NIA means No Information Available

PREPARED BY : N.A.ROBINSON DATE PREPARED : 28 NOV 2000

BELZONA INC., 2000 N.W. 88 COURT, MIAMI, FL 33172	EMERGENCY PHONE NUMBERS (Spill, Leak, Fire, Exposure or Accident) 800 424 9300 - Toll free in United States 202 483 7616 - For calls from outside the United States INFORMATION PHONE NUMBER 305 594 4994 - Working hours only

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER : 2208/1243
PRODUCT NAME : Belzona® 3121 (MR7) Base
PRODUCT CLASS : Modified epoxide resin

SECTION II - HAZARDOUS INGREDIENTS/TOXICOLOGICAL DATA

Hazardous Components	% by Weight	CAS Number	Exposure Limits OSHA PEL mg/m³	ACGIH (TWA)TLV ppm	ACGIH (TWA)TLV mg/m³	Toxicity LD_{50} Oral mg/Kg	LD_{50} Dermal mg/Kg	LC_{50} Inhal mg/m³
Paraisononyl phenol	0.5-1.5	25154-52-3	NIA	NIA	NIA	580	NIA	NIA
Xylene	1.1	1330-20-7	435	100	100ppm	4300	NIA	5000ppm
DGEBA-EPOXY resin	10-30	25068-38-6	NIA	NIA	NIA	>5000	NIA	NIA
Solvent naphtha (petroleum) light aromatic	10-30	64742-95-6	NIA	NIA	200*	NIA	NIA	NIA
1,2,4 Trimethyl benzene	7.7	95-63-6	NIA	NIA	25ppm	5000	NIA	1800

CARCINOGENICITY

No data is available for the mixture, however, none of the ingredients are listed as carcinogens by OSHA, NTP, ACGIH or IARC. The benzene content of the hydrocarbon constituents contained within this product is significantly below the 0.1% w/w threshold and therefore, the product is not classified as a carcinogen.

* Supplier's recommendation.

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR : Off-white liquid with hydrocarbon odor.
BOILING POINT : 160°C
VAPOR PRESSURE : 2.9mm Hg @25°C
EVAPORATION RATE : N.ap
SOLUBILITY IN WATER : Reacts
SPECIFIC GRAVITY : 1.17
VAPOR DENSITY : >1 (Air = 1)
% VOLATILE BY VOLUME : 10-30

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT : 54°C
TEST METHOD : Closed cup
EXPLOSION LIMITS LOWER : 0.8
UPPER : NIA

OSHA FLAMMABILITY CLASS : Combustible liquid Class II
FLAMMABILITY INDEX (NFPA) : 2 Moderate
REACTIVITY INDEX (NFPA) : 1 Slight
HEALTH HAZARD (NFPA) : 2 Moderate
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

Wear protective clothing and use self-contained breathing apparatus. Full bunker gear should be worn in extreme cases. Use sand to contain burning material.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Vapors can form explosive mix with air and also vapors may travel considerable distance to source of ignition and flashback. Decomposition and combustion products may be hazardous.

SECTION V - HEALTH HAZARDS

ROUTE(S) OF ENTRY : Skin contact, skin absorption, eye contact, inhalation. Ingestion.
PRIME HAZARD(S) : Skin sensitization. Harmful by inhalation.

EFFECTS OF EXPOSURE

Acute : There is no data on the product itself. Exposure to organic solvent vapors may result in adverse health effects such as irritation of the mucous membrane and the respiratory system and adverse effects on the renal and central nervous systems. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases loss of consciousness. Based on the properties of the epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitizer 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 sensitization with possibly cross-sensitization to other epoxies.

Chronic : There is no data on the product itself. 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.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation : If symptoms are experienced move victim to fresh air. If recovery is delayed or there are signs of distress obtain medical attention immediately.

Eye contact : Flush eyes with water for 15 minutes. Seek medical advice if any irritation persists.

Skin contact : Immediately remove excess with a clean cloth and wash skin thoroughly with soap and water. If irritation or inflammation persists, seek medical advice.

Ingestion : If swallowed, do not induce vomiting. Rinse mouth with water and drink plenty of water. Call TAMPA BAY Regional Poison Center (Tel.No.1-800-282-3171) and/or seek medical advice.

SECTION VI - REACTIVITY DATA

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Skin and respiratory tract conditions. Persons with a history of skin sensitization problems should only be employed in processes in which this product is used under appropriate medical supervision.

STABILITY : Stable
STABILITY CONDITIONS TO AVOID : N.ap

INCOMPATIBILITY (MATERIALS TO AVOID CONTACT WITH)
Strong oxidizing agents, acids, bases and amines.

HAZARDOUS DECOMPOSITION PRODUCTS
Gaseous combinations of carbon, hydrogen and oxygen may occur at elevated temperatures.

HAZARDOUS POLYMERIZATION
Hazardous polymerization will not occur when stored and used as directed.

POLYMERIZATION CONDITIONS TO AVOID
N.ap

SECTION VII - SPILL AND LEAK PROCEDURES

SPILLAGE
Absorb with an inert material (e.g. earth or sand). Sweep up, place into suitable labelled containers, seal and dispose of properly. Flush area with detergent and water.

WASTE DISPOSAL METHODS
Dispose of in accordance with Local, State and Federal Regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

PERSONAL PROTECTIVE MEASURES

RESPIRATORY : In confined areas or where good natural/mechanical ventilation is not available, leading to a risk of exceeding the TLV's indicated, an appropriate NIOSH or MSHA approved respirator should be worn.

SKIN : Impermeable gloves, such as Nitrile, Neoprene or PVA. Wash hands with soap and water and use hand cream. Suitable protective clothing to minimize skin contact. Remove contaminated clothing and wash before reuse.

EYE : Safety glasses or goggles. Eyewash station.

MECHANICAL PROTECTIVE MEASURES

VENTILATION : Where adequate natural ventilation is not available provide suitable local exhaust ventilation.

OTHER PROTECTIVE EQUIPMENT
: Where there is a risk of contamination of footwear, safety boots should be worn and cleaned thoroughly before reuse.

OTHER COMMENTS
: Where abrading of cured material leads to the production of respirable and/or nuisance dust, an appropriate NIOSH or MSHA approved respirator should be worn.

SECTION IX - SAFE HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS
HANDLING
Avoid contact with skin and eyes. Do not breathe fumes/vapor.

STORAGE
Overheating may cause containers to rupture. Containers should be stored under cool, dry conditions. Empty containers will retain residue and may be dangerous. Check all containers for leaks at regular intervals and before use.

HYGIENE PRACTICES
When using, do not eat, drink or smoke. Remove contaminated clothing and launder before reuse. Wash hands with soap and water after handling this product.

SECTION X - REGULATORY INFORMATION

SARA TITLE III - NOTIFICATION OF TOXIC CHEMICALS
1,2,4 Trimethylbenzene, CAS Number 95-63-6, and Xylene, CAS Number 1330-20-7, which are constituents of this product are subject to reporting requirements under section 313 of the Superfund Amendment and Reauthorization Act of 1986 (40 CFR Part 372).

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, some of the information presented and conclusions drawn are derived from sources other than direct test data on the product itself and while Belzona Inc. believe such sources to be reliable, the information is provided without any warranty regarding its correctness.
Since Belzona Inc. has no control over the conditions under which the product will be used, liability will not be assumed to exceed replacement or refund of the purchase price of this product. Except as stated herein, there are no express or implied warranties including implied warranties of merchantability or fitness for a particular purpose. Belzona Inc. assumes no liability for injury or incidental or consequential damage arising out of the storage, handling, use or disposal of this product.

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SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER : 2308/1245
PRODUCT NAME : Belzona® 3121 (MR7) Solidifier
PRODUCT CLASS : Modified polyamine

SECTION II - HAZARDOUS INGREDIENTS/TOXICOLOGICAL DATA

Hazardous Components	% by Weight	CAS Number	Exposure Limits OSHA PEL mg/m^3	ACGIH (TWA)TLV ppm	ACGIH (TWA)TLV mg/m^3	Toxicity LD_{50} Oral mg/Kg	LD_{50} Dermal mg/Kg	LC_{50} Inhal mg/m^3
2,2'-Dimethyl-4,4'-methylenebis (cyclohexylamine)	5-10	6864-37-5	NIA	NIA	NIA	320	200	NIA
Tris-dimethylamino-methyl phenol	5-10	90-72-2	NIA	NIA	NIA	1200	1280	NIA
Solvent naphtha (petroleum) light aromatic	5-10	64742-95-6	NIA	NIA	200*	NIA	NIA	NIA
1,2,4-Trimethyl benzene	2.4	95-63-6	NIA	NIA	25ppm	5000	NIA	1800
Benzyl alcohol	1-5	100-51-6	NIA	NIA	NIA	1230	NIA	NIA

CARCINOGENICITY

No data is available for the mixture, however, none of the ingredients are listed as carcinogens by OSHA, NTP, ACGIH or IARC. The benzene content of the hydrocarbon constituents contained within this product is significantly below the 0.1% w/w threshold and therefore, the product is not classified as a carcinogen.

* Supplier's recommendation.

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR : Black liquid with hydrocarbon odor.
BOILING POINT : 160°C
SPECIFIC GRAVITY : 1.54
VAPOR PRESSURE : 2.9 mm Hg @ 25°C
VAPOR DENSITY : Heavier than air
EVAPORATION RATE : NIA
% VOLATILE BY VOLUME : 5-10
SOLUBILITY IN WATER : Negligible (<0.1%)

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT : 83°C
TEST METHOD : Closed cup
EXPLOSION LIMITS LOWER : 0.8
UPPER : NIA

OSHA FLAMMABILITY CLASS : Combustible liquid Class II
FLAMMABILITY INDEX (NFPA) : 2 Moderate
REACTIVITY INDEX (NFPA) : 1 Slight
HEALTH HAZARD (NFPA) : 3 Serious
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
Wear protective clothing and use self-contained breathing apparatus. Full bunker gear should be worn in extreme cases. Use sand to contain burning material.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Decomposition and combustion products may be hazardous.

SECTION V - HEALTH HAZARDS

ROUTE(S) OF ENTRY : Skin contact, skin absorption, eye contact, ingestion, inhalation.
PRIME HAZARD(S) : Corrosive. Highly toxic by inhalation and in contact with skin.

EFFECTS OF EXPOSURE

Acute : There is no data on the product itself. 2,2'-Dimethyl-4,4'-methylenebis (cyclohexylamine), a constituent of this product may be fatal if inhaled, swallowed or absorbed through the skin. Inhalation may result is spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Contact with skin or any living tissue may cause burns, in severe cases complete tissue destruction may occur. Contact with eyes may cause severe irritation with corneal injury, which may result in permanent impairment of vision. Exposure to vapors may result in irritation of the mucous membrane and the respiratory system, in severe cases burns may occur. Exposure to organic solvent vapors may result in adverse health effects such as irritation of the mucous membrane and the respiratory system and adverse effects on the renal and central nervous systems. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases loss of consciousness.

Chronic : There is no data on the product itself. 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. Causes of allergic skin reaction have been observed. 2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine), a constituent of this product is suspected of causing a skin disease that is characterized by hardening and shrinking of the skin.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation : If symptoms are experienced move victim to fresh air. If recovery is delayed or there are signs of distress obtain medical attention immediately.

Eye contact : Flush eyes with water for 15 minutes. Immediate first aid is necessary to prevent eye damage. Seek medical advice if any irritation persists.

Skin contact : Immediately remove excess with a clean cloth and wash skin thoroughly with soap and water. If irritation or inflammation persists, seek medical advice.

Ingestion : If swallowed, do not induce vomiting. Rinse mouth with water and drink 1 cup of water every 10 minutes for 30 minutes. Call TAMPA BAY Regional Poison Center (Tel.No.1-800-282-3171) and/or seek medical advice.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Skin and respiratory conditions. Persons with a history of skin sensitization problems should only be employed in processes in which this product is used under appropriate medical supervision.

SECTION VI - REACTIVITY DATA

STABILITY : Stable
STABILITY CONDITIONS TO AVOID : N.ap

INCOMPATIBILITY (MATERIALS TO AVOID CONTACT WITH)
Strong oxidizing agents, acids, epoxy resins and isocyanates.

HAZARDOUS DECOMPOSITION PRODUCTS
Gaseous combinations of carbon, hydrogen, nitrogen and oxygen may occur at elevated temperatures.

HAZARDOUS POLYMERIZATION
Hazardous polymerization will not occur when stored and used as directed.

POLYMERIZATION CONDITIONS TO AVOID
N.ap

SECTION VII - SPILL AND LEAK PROCEDURES

SPILLAGE
Absorb with an inert material (e.g. earth or sand). Sweep up, place into suitable labelled containers, seal and dispose of properly. Flush area with detergent and water.

WASTE DISPOSAL METHODS
Dispose of in accordance with Local, State and Federal Regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

PERSONAL PROTECTIVE MEASURES
RESPIRATORY : In confined areas or where good natural/mechanical ventilation is not available, leading to a risk of exceeding the TLV's indicated, an appropriate NIOSH or MSHA approved respirator should be worn.

SKIN : Impermeable gloves, such as Neoprene, Nitrile or PVA. Wash hands with soap and water and use hand cream. Suitable protective clothing to minimize skin contact. Remove contaminated clothing and wash before reuse.

EYE : Safety glasses or goggles. Eyewash station.

MECHANICAL PROTECTIVE MEASURES
VENTILATION : Where adequate natural ventilation is not available provide suitable local exhaust ventilation.

OTHER PROTECTIVE EQUIPMENT

: Where there is a risk of contamination of footwear, safety boots should be worn and cleaned thoroughly before reuse. Cotton or cotton/synthetic overalls or coveralls are normally suitable. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleaner.

OTHER COMMENTS

: Where abrading of cured material leads to the production of respirable and/or nuisance dust, an appropriate NIOSH or MSHA approved respirator should be worn.

SECTION IX - SAFE HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS

HANDLING

Avoid breathing vapors and contact with skin and eyes.

STORAGE

Overheating may cause containers to rupture. Containers should be stored under cool, dry conditions. Empty containers will retain residue and may be dangerous. Check all containers for leaks at regular intervals and before use.

HYGIENE PRACTICES

When using, do not eat, drink or smoke. Remove contaminated clothing and launder before reuse. Wash hands with soap and water after handling this product.

SECTION X - REGULATORY INFORMATION

SARA TITLE III - NOTIFICATION OF TOXIC CHEMICALS

1,2,4-Trimethylbenzene, CAS Number 95-63-6, a constituent of this product is subject to the reporting requirements under section 313 of the Superfund Amendment and Reauthorization Act of 1986 (40 CFR Part 372).

DISCLAIMER

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