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 : 29 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 : 3204/1127-1128
PRODUCT NAME : Belzona® 4131 (Magma-Screed) Base (Red-Gray)
PRODUCT CLASS : Coated aggregate

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
DGEBA-Epoxy resin	5-10	25068-38-6	NIA	NIA	NIA	>5000	NIA	NIA
Silica, quartz	60-100	14808-60-7	0.38(TD)	N.ap	N.ap	NIA	NIA	NIA
2,3-Epoxypropyl o-tolyl ether	1-5	2210-79-9	NIA	NIA	NIA	>4000	NIA	6090

CARCINOGENICITY
Quartz is listed by ACGIH as 'A2' suspected human carcinogen. The risk is associated with the inhalation of the respirable dust fraction. The quartz contained within this product is very unlikely to be a risk due to physical form (see Section III).
(TD) = Total dust

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR : Red or gray damped powder with epoxy odor.
BOILING POINT : N.ap
VAPOR PRESSURE : NIA
EVAPORATION RATE : N.ap
SOLUBILITY IN WATER : Negligible (<0.1%)
SPECIFIC GRAVITY : 2.44
VAPOR DENSITY : NIA
% VOLATILE BY VOLUME : N.ap

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT : >138°C
TEST METHOD : Closed cup
EXPLOSION LIMITS LOWER : N.ap
UPPER : N.ap

OSHA FLAMMABILITY CLASS : N.ap
FLAMMABILITY INDEX (NFPA) : 1 Slight
REACTIVITY INDEX (NFPA) : 1 Slight
HEALTH HAZARD (NFPA) : 3 Serious
EXTINGUISHING MEDIA : Water fog, foam, carbon dioxide, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES
Not flammable. If involved in a fire this product will not contribute significantly to the combustible material. However, special fire fighting procedures may be required for the other materials involved.

UNUSUAL FIRE AND EXPLOSION HAZARDS
N.ap.

SECTION V - HEALTH HAZARDS

ROUTE(S) OF ENTRY : Skin contact, eye contact. Inhalation.
PRIME HAZARD(S) : Possible risk of irreversible effects. Sensitizer.

EFFECTS OF EXPOSURE

Acute : 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 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. Quartz is listed by ACGIH as 'A2' suspected human carcinogen. The risk is associated with the inhalation of the respirable dust fraction. The EC have classified 2,3-Epoxypropyl o-tolyl ether as a Category 3 Mutagen – indicating a cause for concern for humans owing to possible mutagenic effects.

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 : 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.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Skin 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, 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
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 or Nitrile. 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
: 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 machining or 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 vapors.

STORAGE
Containers should be stored under cool, dry conditions.

HYGIENE PRACTICES
When using, do not eat, drink or smoke. Wash hands with soap and water after handling this product.

SECTION X - REGULATORY INFORMATION

SARA TITLE III - NOTIFICATION OF TOXIC CHEMICALS
None of the 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 : 3303/1131
PRODUCT NAME : Belzona® 4131 (Magma-Screed) 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 ppm
Diethylenetriamine	5-10	111-40-0	NIA	NIA	4(sk)	1080	NIA	NIA
Isophoronediamine	30-60	2855-13-2	NIA	NIA	NIA	1030	NIA	NIA
Benzyl alcohol	10-30	100-51-6	NIA	NIA	NIA	1230	NIA	NIA
Trisdimethylamino-methyl phenol	3-7	90-72-2	NIA	NIA	NIA	1200	NIA	NIA
Paraisononylphenol	10-30	25154-52-3	NIA	NIA	NIA	580	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.
(sk) = skin absorption

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR : Amber liquid with amine odor.
BOILING POINT : >175°C
VAPOR PRESSURE : 0.22mm Hg @ 25°C
EVAPORATION RATE : NIA
SOLUBILITY IN WATER : Partially miscible
SPECIFIC GRAVITY : 0.99
VAPOR DENSITY : Heavier than air
% VOLATILE BY VOLUME : 0%

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT : >96°C
TEST METHOD : Closed cup
EXPLOSION LIMITS LOWER : NIA
UPPER : NIA

OSHA FLAMMABILITY CLASS : Combustible liquid Class IIIB
FLAMMABILITY INDEX (NFPA) : 1 Slight
REACTIVITY INDEX (NFPA) : 1 Slight
HEALTH HAZARD (NFPA) : 3 Serious
EXTINGUISHING MEDIA : Water fog (not a direct stream of water), foam, carbon dioxide, dry chemical.

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, inhalation, ingestion.
PRIME HAZARD(S) : Corrosive. Sensitizer. Harmful by inhalation, contact with skin and if swallowed.

EFFECTS OF EXPOSURE

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

Chronic : There is no data on the product itself. Respiratory exposure may cause acute irritation and/or sensitization of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest. Repeated exposure may lead to permanent respiratory disability. 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.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation : If symptoms are experienced, remove source of contamination and/or 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 asthma, allergies or chronic or recurrent respiratory disease should not risk exposure to respiratory sensitizers. 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 or Nitrile. 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 machining or 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

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