WHMIS MATERIAL SAFETY DATA SHEET

SECTION 1 - Product Identification and Use		Date : **13 December, 2000**
Product identifier : **BELZONA® 2100 (D&A ELASTOMER) BASE**		PIN/UN No : **Not applicable**
Product use : **Repair and Reclamation**		WHMIS classification : **D1A,D2A,D2B**
Manufacturer's name & address : **BELZONA POLYMERICS Ltd.,** Claro Road, Harrogate, Yorkshire, HG1 4AY, United Kingdom. Emergency telephone number : U.K. -44-1423-503218	Supplier's name & address : **BELZONA Inc.,** 2000 N.W. 88 Court, America's Gateway Park, Miami, Florida 33172, United States.	Supplier's emergency telephone numbers : (Spill, Leak, Fire, Exposure or Accident) 800 424 9300 - Toll free in Canada 202 483 7616 Information telephone number : 305 594 4994 - Working hours only

SECTION 2 - Hazardous Ingredients

Hazardous Ingredients	Approximate Concentration	CAS Numbers	Exposure Limits	LD_{50}/LC_{50} Species and Route
Diphenylmethane-4,4'-diisocyanate (MDI)	**7-13%**	**101-68-8**	**ACGIH (TWA) TLV = 0.005 ppm**	**Oral LD_{50} 9200 mg/kg rat IHL LC_{50} 178mg/m^3 rat**
Diphenylmethane-4,4'-diisocyanate, homopolymer	**60-100%**	**—**	**Not available**	**Not available**

SECTION 3 - Physical Data

Physical state : **Viscous liquid**	Appearance/Odour : **Milky white/not applicable**	Odour threshold(ppm) : **Not applicable**
Vapour pressure (mm Hg) : **<0.5**	Vapour density (Air = 1) : **8.5**	Boiling point (°C) : **>100**
pH : **Not applicable**	Specific gravity : **1.15**	Coefficient water/oil : **Not applicable**
Freezing point (°C) : **Not available**	Solubility in water (20°C) : **Reacts**	Evaporation rate (relative to n-Butyl Acetate) : **Not applicable**

SECTION 4 - Fire and Explosion Data

Flammability : If yes, under which conditions :	**Not flammable but combustible**	
Means of extinction :	**Dry powder, carbon dioxide, chemical foam.**	
Special 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.**	
Flash point and method : **>200°C Closed cup**	Explosion limits (% by volume) : Lower : **Not applicable** Upper : **Not applicable**	Autoignition temp (°C) : **Not available**
Hazardous combustion products : **Gaseous combinations of carbon, hydrogen, nitrogen and oxygen**		
Explosion data - Sensitivity to impact : **Not applicable**	Explosion data - Sensitivity to static discharge : **Not applicable**	

SECTION 5 - Reactivity Data

Chemical stability : If no, under which conditions :	**Yes**
Incompatibility to other substances : If yes, which ones :	**Yes** **Water, oxidizing agents, alcohols and amines**
Reactivity and under what conditions :	**Reacts with water/moisture to generate carbon dioxide**
Hazardous decomposition products :	**See hazardous combustion products above**

Product identifier : **BELZONA® 2100 (D&A ELASTOMER) BASE**

SECTION 6 - Toxicological Properties of Product

Route of entry :

Skin contact : √ Skin absorption : Eye contact : √ Inhalation acute : √ Inhalation chronic : Ingestion :

Effects of acute exposure to product : **Very Toxic; 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. Toxic; Causes of allergic skin reaction have been observed.**

Effects of chronic exposure to product :

LD_{50} of product (species and route) :	Irritancy of product :	Exposure limits of product :
>2200 mg/kg oral - mus	**Irritating to eyes, respiratory system and skin.**	**0.005 ppm (TWA)**
LC_{50} of product (species and route) :	Sensitization to product :	Synergistic materials :
Not available	**Respiratory and skin**	**Not applicable**

Carcinogenicity : **N.av*** Reproductive effects : **N.av*** Teratogenicity : **N.av*** Mutagenicity : **N.av***

*** Not available for the mixture, however available information on the individual components does not indicate any chronic exposure hazard other than that stated above.**

SECTION 7 - Preventative Measures

Personal protective equipment :	Gloves :	Eye :
	Neoprene or nitrile	**Goggles/faceshield**
Footwear :	Respiratory (protection required if exposure > TLV) :	Clothing :
Industrial boots	**Face mask with isocyanate canister**	**Overalls**

Other :

Engineering controls :	**Where adequate natural ventilation is not available provide suitable local exhaust ventilation.**
Leak and spill procedures :	**Contain with a dry inert material (e.g. sand). Sweep up and place into suitable covered, labelled containers. Flush area with dilute ammonium hydroxide or alcohol/water.**
Waste disposal :	**In accordance with Federal, Provincial and Local Regulations.**
Handling procedures :	**Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not risk exposure to respiratory sensitisers. Avoid breathing vapours and contact with skin and eyes.**
Storage requirements :	**Keep in a cool, well ventilated place, in the original containers.**

SECTION 8 - First Aid Measures

Skin :	**After contact with skin, wash immediately with plenty of soap and water.**
Eye :	**In case of contact with eyes, rinse immediately with plenty of water and seek medical advice if any irritation persists.**
Inhalation :	**If symptoms are experienced, remove source of contamination or move victim to fresh air. Obtain medical attention immediately if recovery is delayed.**
Ingestion :	**Do not induce vomiting. Immediately rinse the mouth with water. Drink plenty of water (1 pint/600 mls.). Seek medical attention promptly.**
General advice :	**When using do not eat, drink or smoke. Take off immediately all contaminated clothing and launder before reuse. Wash hands thoroughly after handling this product.**

SECTION 9 - Preparation Date of MSDS

Additional information : **Replaces previous issue dated 17 October, 2000**

Prepared by :	Phone number :	Date :
N.A.Robinson	**U.K. -44-1423-567641**	**13 December, 2000**

WHMIS MATERIAL SAFETY DATA SHEET

SECTION 1 - Product Identification and Use			Date : **10 November, 2000**
Product identifier : **BELZONA® 2111 (D&A HI-BUILD ELASTOMER) SOLIDIFIER**			PIN/UN No : **Not applicable**
Product use : **Repair and Reclamation**			WHMIS classification: **D2A**
Manufacturer's name & address : **BELZONA POLYMERICS Ltd.,** Claro Road, Harrogate, Yorkshire, HG1 4AY, United Kingdom. Emergency telephone number : U.K. -44-1423-503218	Supplier's name & address : **BELZONA Inc.,** 2000 N.W. 88 Court, America's Gateway Park, Miami, Florida 33172, United States.	Supplier's emergency telephone numbers : (Spill, Leak, Fire, Exposure or Accident) 800 424 9300 - Toll free in Canada 202 483 7616 Information telephone number : 305 594 4994 - Working hours only	

SECTION 2 - Hazardous Ingredients

Hazardous Ingredients	Approximate Concentration	CAS Numbers	Exposure Limits	LD_{50}/LC_{50} Species and Route
Phenylmercuric neodecanoate	**1-5%**	**26545-49-3**	**ACGIH (TWA) TLV 0.01 mg/m³ (sk)**	**Oral LD_{50} 60mg/kg rat**
m-phenylenediamine	**1-5%**	**108-45-2**	**ACGIH (TWA) TLV 0.1 mg/m³**	**Oral LD_{50} 280mg/kg rat**
Polyether polyol	**30-60%**	**25322-69-4**	**Not available**	**Oral LD_{50} 1000-2000mg/kg rat**

SECTION 3 - Physical Data

Physical state : **Liquid**	Appearance/Odour : **Black/no characteristic odour**	Odour threshold(ppm) : **Not applicable**
Vapour pressure (mm Hg) : **Not available**	Vapour density (Air = 1) : **>1**	Boiling point (°C) : **>200**
pH : **Not applicable**	Specific gravity : **1.00**	Coefficient water/oil : **Not available**
Freezing point (°C) : **Not available**	Solubility in water (20°C) : **Partially miscible**	Evaporation rate (relative to n-Butyl Acetate) : **Not applicable**

SECTION 4 - Fire and Explosion Data

Flammability : If yes, under which conditions :	**Not flammable but combustible**	
Means of extinction :	**Water fog, foam, carbon dioxide or dry powder.**	
Special 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.**	
Flash point and method : **>119°C Closed cup**	Explosion limits (% by volume) : Lower : **Not applicable** Upper : **Not applicable**	Autoignition temp (°C) : **Not available**
Hazardous combustion products : **Gaseous combinations of carbon, hydrogen, nitrogen, oxygen and mercury**		
Explosion data - Sensitivity to impact : **Not applicable**	Explosion data - Sensitivity to static discharge : **Not applicable**	

SECTION 5 - Reactivity Data

Chemical stability : If no, under which conditions :	**Yes**
Incompatibility to other substances : If yes, which ones :	**Yes** **Strong oxidising agents and isocyanates**
Reactivity and under what conditions :	**Not applicable**
Hazardous decomposition products :	**See hazardous combustion products above**

SECTION 6 - Toxicological Properties of Product

Route of entry :
Skin contact : √ Skin absorption : √ Eye contact : √ Inhalation acute : √ Inhalation chronic : √ Ingestion : √

Effects of acute exposure to product :	**Harmful by inhalation, in contact with skin or if swallowed.**
Effects of chronic exposure to product :	**Danger of serious damage to health by prolonged exposure by inhalation, in contact with skin and if swallowed. Possible risk of irreversible effects. †**

LD_{50} of product (species and route) : **>1400 mg/kg oral rat ***	Irritancy of product : **Irritating to eyes and skin**	Exposure limits of product : **See TLVs**
LC_{50} of product (species and route) : **Not available**	Sensitization to product : **Skin sensitizer**	Synergistic materials : **Not available**

Carcinogenicity : √ Reproductive effects : **N.ap** Teratogenicity : **N.ap** Mutagenicity : √

† The EC have classified m-phenylenediamine as a Category 3 mutagen indicating a cause for concern for humans owing to possible mutagenic effects. ACGIH classifies m-phenylenediamine as 'A4- Not classifiable as a Human carcinogen' : an agent which shows cause for concern to humans in respect of cancer but which cannot be assessed conclusively because of a lack of data.
*** According to method described in Section 45 of the Controlled Products Regulations.**

SECTION 7 - Preventative Measures

Personal protective equipment :	Gloves : **Neoprene or nitrile**	Eye : **Goggles/faceshield**
Footwear : **Industrial boots**	Respiratory (protection required if exposure > TLV) : **Face mask with organic vapour canister**	Clothing : **Overalls**

Other :

Engineering controls :	**Where adequate natural ventilation is not available provide suitable local exhaust ventilation.**
Leak and spill procedures :	**Contain with an inert material (e.g. earth or sand). Sweep up and place into suitable covered, labelled containers. Flush area with detergent and water.**
Waste disposal :	**In accordance with Federal, Provincial and Local Regulations.**
Handling procedures :	**Avoid contact with skin and eyes. Do not breathe vapours.**
Storage requirements :	**Keep in a cool, well ventilated place, in the original containers.**

SECTION 8 - First Aid Measures

Skin :	**After contact with skin, wash immediately with plenty of soap and water.**
Eye :	**In case of contact with eyes, rinse immediately with plenty of water and seek medical advice if any irritation persists.**
Inhalation :	**If symptoms are experienced, remove source of contamination or move victim to fresh air. Obtain medical attention immediately if recovery is delayed.**
Ingestion :	**Do not induce vomiting. Immediately rinse the mouth with water. Drink plenty of milk. Seek medical attention promptly.**
General advice :	**When using do not eat, drink or smoke. Take off immediately all contaminated clothing and launder before reuse. Wash hands thoroughly after handling this product.**

SECTION 9 - Preparation Date of MSDS

Additional information : **Replaces previous issue dated 17 October, 2000**

Prepared by :	Phone number :	Date :
N.A.Robinson	**U.K. -44-1423-567641**	**10 November, 2000**