



95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

# Material Safety Data Sheet

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

**IDENTITY (As Used on Label)**  
**Poly-Crete Resin: MD/SL, HF, and TF/WR all colors**

**COMMON NAME**  
 POLYOL-PIGMENT BLEND

HAZARD RATING 0 = Least 1 = Slight 2 = Moderate 3 = major 4 = Extreme	Health	1
	Flammability	1
	Reactivity	0
	Personal Protection	B

## SECTION II - PRODUCT COMPONENTS

CAS.#	OSHA PEL	ACGIH TLV
Water	7732-18-5	N.E. <sup>1</sup> N.E.
Polyester-ether polyol Blend	Proprietary2	N.E. N.E.
Glycol Ester Blend	Proprietary	N.E. N.E.
Rutile Titanium Dioxide	13463-67-7	10mg/m <sup>3</sup> 10mg/m <sup>3</sup>
Inorganic Iron Oxides	1309-37-1	10mg/m <sup>3</sup> 10mg/m <sup>3</sup>
Carbon Black	1333-86-4	3.5mg/m <sup>3</sup> (dust) .5mg/m <sup>3</sup> (dust)

<sup>1</sup>None Established.

<sup>2</sup>The manufacturer of the component states that they will provide additional information to a health professional in the event of a medical emergency.

T.S.C.A. Status - O.K. on all above components.

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	212°F	Specific Gravity (H2O = 1)	>1
Vapor Pressure (mm Hg)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	>1	Evaporation rate (Butyl Acetate = 1)	<1
Volatile Organic Compounds	0 g/L		
Solubility in Water	Dispersable		
Appearance and Odor	Viscous Liquid. Color varies upon desired shade. Faint Aromatic Odor.		

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	540°F	Flammable Limits	LEL N / A	UEL N / A
Extinguishing Media	Foam, CO <sub>2</sub> , dry chemical, water spray.			
Special Firefighting Procedures	Wear full protective equipment including self-contained breathing apparatus.			
Unusual Fire and Explosion Hazards	Combustion products may be toxic. Cool storage containers with water spray to prevent pressure build-up that may rupture the containers.			

## SECTION V - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	None known
Incompatibility (Materials to Avoid)	Strong Oxidants.		
Hazardous Decomposition or Byproducts	Burning will produce toxic fumes.		
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	Avoid contact with strong oxidizing agent.

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	No	Yes	Yes
Signs and Symptoms of Exposure	Irritation of skin..		
Health Hazards (Acute and Chronic)	ACUTE - Irritation of skin and dermatitis. CHRONIC - Repeated over-exposure may cause skin irritation, dermatitis and sensitization. Sensitized persons may experience rapid irritation of skin upon exposure.		
NOTE: Persons with lung disorders or who are sensitized should not use this product.			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	No	No	No
Medical Conditions Generally Aggravated by Exposure	Allergy, skin disorders.		
Emergency and First Aid Procedures	EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary. SKIN - Promptly wash with soap and water. Do not wash with solvents. Seek medical advice if irritation develops or persists. INHALATION - Not a likely route of entry. Although this product is not known to cause respiratory problems, if breathing is difficult remove to fresh air and provide oxygen INGESTION - Get medical attention immediately. Never give liquids to an unconscious or convulsing person.		

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type)	Provide adequate exhaust ventilation; use a NIOSH approved respirator if PELs/TLVs are exceeded.		
Ventilation	Local Exhaust	If needed.	Special None known.
	Mechanical	Adequate exhaust ventilation must exhaust away from applicator.	
Protective Gloves	Natural Rubber or Neoprene		Eye Protection Splash goggles or face shield.
Other Protective Clothing or Equipment	Use rubber apron, face shield and appropriate, clothing to prevent contact with skin. Launder contaminated clothing before reuse. Discard contaminated leather shoes and canvas sneakers. Protective skin creams may help, but gloves must still be worn. Clean-up with soap and water. An eye wash station or an adequate supply of clean water must be available at work area.		
Work/Hygienic Practices	Enforce careful handling to prevent splashing. Wash thoroughly after use.		

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled	Wear protective equipment to prevent exposure. Stop spill and dike to prevent spreading. Cover spill with absorbent materials and collect into containers. Clean contaminated area with detergent and water or a steam cleaner for best results.		
Waste Disposal Method:	Dispose in accordance with Federal, State and Local requirements.		
Precautions to be Taken in Handling and Storing	Keep containers tightly closed when not in use.		
Other Precautions	None known.		
Prepared by	Samet Dy - Urethane Chemist		

**PLEASE NOTE** \*The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.\*



95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

# Material Safety Data Sheet

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

**IDENTITY (As Used on Label)** Poly-Crete Hardener: MD/SL, HF, and TF/WR

**COMMON NAME** Aromatic Isocyanate Blend

HAZARD RATING	Health	2
0 = Least	Flammability	1
1 = Slight	Reactivity	1
2 = Moderate	Personal Protection	G
3 = High		
4 = Extreme		

## SECTION II - PRODUCT COMPONENTS

	CAS.#	OSHA PEL	ACGIH TLV
Polyisocyanate based on MDI	Trade Secret <sup>1</sup>	NE <sup>2</sup>	NE
4,4-Diphenylmethane Diisocyanate	101-68-8	0.02 ppm	0.005 ppm

<sup>1</sup>The manufacturer of the component states that they will provide additional information to a health professional in the event of a medical emergency.

<sup>2</sup>None Established

T.S.C.A. Status - O.K. on all above components.

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	392°F	Specific Gravity (H <sub>2</sub> O = 1)	1.24
Vapor Pressure (mm Hg)	<10-5 @77F	Melting Point	NE
Vapor Density (AIR = 1)	8.5	Evaporation rate (Butyl Acetate = 1)	NE
Volatile Organic Compounds	0 g/L		
Solubility in Water	Reacts slowly with water to liberate CO <sub>2</sub> gas		
Appearance and Odor	Dark Amber liquid. Faint Aromatic odor.		

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	>400°F	Flammable Limits	LEL	UEL
			NA	NA

Extinguishing Media Dry Chemicals, CO<sub>2</sub>, Universal Type Foam, Water Fog

Special Firefighting Procedures

Wear full protective equipment including self-contained breathing apparatus. Water spray may be useful in minimizing vapors and cooling containers exposed to heat and flame. Avoid spreading burning liquid with H<sub>2</sub>O used for cooling purposes.

Unusual Fire and Explosion Hazards

MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. At temperatures greater than 400F, polymeric MDI can polymerize and decompose which can cause pressure build-up in containers. Explosive rupture is possible. Cold water can cool fire-exposed containers.

## SECTION V - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	Keep containers closed when not in use.
Incompatibility (Materials to Avoid)	Water, amines, strong bases, alcohols. copper alloys and aluminum, zinc.		
Hazardous Decomposition or Byproducts	Fire: Carbon monoxide, oxides of Nitrogen, traces of HCN, MDI vapors or aerosols.		
Hazardous Polymerization	May Occur	X	Conditions to Avoid Contact with moisture, other materials which react with isocyanates, or temperatures above 400 F may cause polymerization.
	Will Not Occur		

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	YES	Yes

Signs and Symptoms of Exposure Irritation and redness of skin and eyes. Breathing difficulty.

Health Hazards (Acute and Chronic) ACUTE Inhalation-can cause nasal and respiratory irritation, dizziness, headache, nausea.

Also, runny nose, sore throat, coughing, chest discomfort and reduced lung function. CHRONIC Inhalation-isocyanate sensitization can develop

which can persist for weeks or years. Overexposure can cause lung damage which may be permanent. ACUTE Skin-isocyanates react with skin

protein and cause irritation. CHRONIC Skin-prolonged contact can cause reddening, swelling, scaling, rash, blistering and skin sensitization. ACUTE

Eye-tearing, reddening, swelling if untreated, corneal damage can result.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	NO	NO	NO

Medical Conditions Generally Aggravated by Exposure

Respiratory disorders (asthma, bronchitis, emphysema, bronchial hyperactivity), skin allergies, eczema.

Emergency and First Aid Procedures

EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.

Skin - remove contaminate clothing. Clean affected area with mild soap and water. If irritation or redness develops, seek medical attention.

INHALATION - move person away from source of exposure and into fresh air. If person is not breathing, give artificial respiration and seek medical attention immediately. If breathing difficulty develops, give oxygen and seek medical attention immediately.

Ingestion-DO NOT INDUCE VOMITING. Give 1 to 2 cups of milk or water to drink. Do not give anything by mouth to an unconscious person.

**\*\*NOTE\*\* PERSONS WITH LUNG DISORDERS OR WHO ARE SENSITIZED SHOULD NOT USE THIS PRODUCT.**

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type) Use NIOSH approved respirator as outlined in 30CFR 11 and 29CFR 1910.134

effective for solvent and diisocyanate vapors. Use SCBA or air-supplied respirators when TLV/PEL is exceeded.

Ventilation	Local Exhaust	Use in confined areas.	Special	Sensitized persons must not inhale vapors
	Mechanical	Must be sufficient to maintain area below established TLV/PEL.		

Protective Gloves Neoprene rubber gloves. Eye Protection Splash proof goggles.

Other Protective Clothing or Equipment

Use other protective equipment such as rubber aprons and a face shield if danger of splashing is possible.

Eye wash station or clear water must be readily available. ENFORCE GOOD HYGIENE PRACTICES. No smoking or open lights in work area. Exposure to liquid, vapors, mists or fumes must be minimized. Use air supplied respirators in enclosed areas and when PEL/TLV is higher than established level.

Work/Hygienic Practices Launder contaminated clothing before use. Dispose contaminated leather shoes

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. Absorb isocyanates with sawdust or another absorbent, shovel into unsealed containers, transport to a well-ventilated area. Decontaminate floor area.

Waste Disposal Method

Incineration in accordance with local, state, and federal regulations.

Precautions to be Taken in Handling and Storing Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Do not breathe aerosols or vapors. This material can cause asthmatic sensitization upon single exposure.

Other Precautions Exposure to vapors of heated MDI can be extremely dangerous.

Prepared by Samet Dy - Urethane Chemist

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# Material Safety Data Sheet

95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

IDENTITY (As Used on Label) Poly-Crete Aggregate: MD, TC, SL, HF, TF, and WR

COMMON NAME Sand/Cement Aggregate

HAZARD RATING	Health	3
0 = Least	Flammability	0
1 = Slight	Reactivity	0
2 = Moderate	Personal Protection	G
3 = High		
4 = Extreme		

## SECTION II - PRODUCT COMPONENTS

CAS.#	OSHA PEL	ACGIH TLV
Crystalline Silica (Quartz) <sup>1</sup>	14808-60-7	10mg/m <sup>3</sup> 0.05 mg/m <sup>3</sup>
		%SiO <sub>2</sub> +2
Portland Cement	65997-15-1	10mg/m <sup>3</sup> 10mg/m <sup>3</sup>
		Total Dust Total Dust
Calcium/Magnesium Hydroxide	39445-23-3	15mg/m <sup>3</sup> 10mg/m <sup>3</sup>
		Total Dust Total Dust

<sup>1</sup>Crystalline silica can be a lung injury and cancer hazard. Do not breathe dust. May cause delayed lung injury. Long term exposure can cause silicosis, a respiratory disease which can result in a delayed, disabling, and sometimes fatal lung injury. Crystalline silica inhaled from occupational sources can from occupational sources can cause cancer in humans. Risk of injury is dependent on the duration and level of exposure.

T.S.C.A. Status - O.K.

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	4,000°F	Specific Gravity (H <sub>2</sub> O = 1)	>1
Vapor Pressure (mm Hg)	N/A	Melting Point	3,000°F
Vapor Density (AIR = 1)	N/A	Evaporation rate (Butyl Acetate = 1)	N/A
Volatile Organic Compounds	0 g/L		
Solubility in Water	INSOLUBLE		
Appearance and Odor	Naturally rounded sand. Various sizes. No odor.		

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	N/A	Flammable Limits	LEL	UEL
			N/A	N/A
Extinguishing Media	N/A			
Special Firefighting Procedures				
N/A				
Unusual Fire and Explosion Hazards				
N/A				

## SECTION V - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	NONE KNOWN.
Incompatibility (Materials to Avoid)	Hydrofluoric Acid and powerful oxidizing agents.		
Hazardous Decomposition or Byproducts	NONE KNOWN.		
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	NONE KNOWN.

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	NO	NO
Signs and Symptoms of Exposure	Shortness of breath and reduced pulmonary function.		
Health Hazards (Acute and Chronic)	ACUTE - NO SYMPTOMS. CHRONIC - excessive inhalation of dust may result in respiratory disease such as silicosis, pulmonary fibrosis, etc. The IARC has evaluated in Vol.42 (monographs) that there is "sufficient evidence for the Carcinogenicity of crystalline silica dust to experimental animal" and "limited evidence" with respect to humans.		
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	Yes (Respirable Silica)	YES*Level 2A Grouping	NO
Medical Conditions Generally Aggravated by Exposure	Lung disorders and persons subject to eye irritation.		
Emergency and First Aid Procedures	EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary. SKIN - PROMPTLY wash with soap and water. DO NOT wash with solvents. Seek medical advice if irritation develops or persists. INHALATION - Move person to fresh area if effects occur. If needed, give oxygen or artificial respiration to improve breathing. Consult physician. INGESTION - Expected to be slightly toxic by ingestion. If swallowed, induce vomiting immediately as directed by a physician. Get medical attention immediately. Never give liquids to an unconscious or convulsing person. OTHER HEALTH EFFECTS - Medical conditions which may be aggravated by exposure to this product include, conjunctivitis of the eye, dermatitis of the skin, asthma and respiratory diseases.Sensitization may occur by skin contact. <b>**NOTE**</b> persons with lung disorders or who are sensitized should not use this product		

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type): Atmospheric levels should be maintained below the exposure limits listed in section II by using engineering controls. Provide adequate exhaust ventilation and/or NIOSH approved cartridge respirator.				
Ventilation	Local Exhaust	To meet PEL requirements.	Special	None Known.
	Mechanical	Adequate to meet PEL requirements.		
Protective Gloves	Recommended.		Eye Protection	Recommended
Other Protective Clothing or Equipment	Use adequate ventilation and dust collection. To minimize exposure, wear a respirator approved for silica dust when using, handling, storing or disposing of this product. Refer to the most recent standards of ANSI (Z88.2), OSHA (29 CFR 1910.134), MSHA (30 CFR Parts 56 and 57), and NIOSH Respirator Decision Logic. Maintain, clean and fit test respirators in accordance with OSHA regulations.			

Work/Hygienic Practices Avoid creating and breathing dust.

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled	Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Silica may be in the air without a visible dust cloud. Avoid creation of respirable dust
Waste Disposal Method	Dispose waste material in a sanitary land fill or as regulated by local, state and federal regulations.
Precautions to be Taken in Handling and Storing	Avoid creation of respirable dust. Take precaution against bag breakage.
Other Precautions	None Known.
Prepared by	Samet Dy - Urethane Chemist
PLEASE	"The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use."
NOTE	



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Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

IDENTITY (As Used on Label) **Poly-Crete HF Accelerator**

COMMON NAME Polyol Cross-Linker/Urethane Reaction Promoter

HAZARD RATING	Health	2
0 = Least	Flammability	1
1 = Slight	Reactivity	0
2 = Moderate	Personal Protection	G
3 = High		
4 = Extreme		

## SECTION II - PRODUCT COMPONENTS

Modified Polyol	CAS.#	OSHA PEL	ACGIH TLV
Trade Secret <sup>1</sup>		NE <sup>2</sup>	NE
Water	7732-18-5	NE	NE

<sup>1</sup>The manufacturer of these component states that they will provide additional information to a health professional in the event of an emergency.

<sup>2</sup>Not Established

T.S.C.A. Status - O.K. on all components

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## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	at 760mm Hg	N/A	Specific Gravity (H2O = 1)	1.03
Vapor Pressure (mm Hg)		N/A	Melting Point	N/A
Vapor Density (AIR = 1)		N/A	Evaporation rate (Butyl Acetate = 1)	N/A
Solubility in Water	100% Soluble	Volatile Organic Compounds (VOC) = 0 grams/liter		
Appearance and Odor	Clear liquid. Mild odor.			

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	400°F	Flammable Limits	LEL	UEL
			N/A	N/A

Extinguishing Media Water Fog, Foam, CO2 or Dry Chemical

Special Firefighting Procedures

Wear full protective equipment including self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

Combustion products may be toxic. Cool storage containers with water spray to prevent pressure build-up that may rupture the containers. Never use welding or cutting torch on or near drum (even empty) because product (even just empty) can ignite explosively.

## SECTION V - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	Exposure to moisture and temperatures >80°F
Incompatibility (Materials to Avoid)	Avoid moisture to protect product quality		
Hazardous Decomposition or Byproducts	CO and CO2		
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	NONE KNOWN.

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	YES	YES	YES

Signs and Symptoms of Exposure Irritation of skin.

Health Hazards (Acute and Chronic)

ACUTE - Irritation of skin.

CHRONIC - repeated overexposure may cause severe skin irritation, dermatitis and sensitization.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	NO	NO	NO

Medical Conditions Generally Aggravated by Exposure

Allergy, skin disorders.

Emergency and First Aid Procedures

EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.

SKIN- Promptly wash with soap and water. Do not wash with solvents. Seek medical advice if irritation develops or persists.

INHALATION- Move person to fresh air if effects occur. If needed, give oxygen or artificial respiration to improve breathing. Consult physician.

INGESTION - Get medical attention immediately. Never give liquids to an unconscious or convulsing person.

**\*\*NOTE\*\* PERSONS WITH LUNG DISORDERS OR WHO ARE SENSITIZED SHOULD NOT USE THIS PRODUCT.**

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type)

Provide adequate exhaust ventilation; use a NIOSH - approved respirator if PELs/TLVs are exceeded.

Ventilation	Local Exhaust	If needed.	Special	None Known.
	Mechanical	Adequate exhaust ventilation must exhaust AWAY from applicator.		

Protective Gloves Natural or Neoprene gloves. Eye Protection Splash goggles or face shield.

Other Protective Clothing or Equipment

Use rubber apron, face shield and appropriate clothing to prevent contact with skin. Launder contaminated clothing before reuse. Discard contaminated leather shoes and canvas sneakers. Protective skin creams help cleaning with soap and water, gloves must still be worn. An eye wash station and adequate supply of clean water must be available at work area.

Work/Hygienic Practices Enforce careful handling to prevent splashing. Wash thoroughly after use.

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Wear protective equipment to prevent exposure. Stop spill and dike to prevent spreading. Cover spill with absorbent materials and collect into containers. Clean contaminated area with detergent and water or a steam cleaner for best results.

Waste Disposal Method

Dispose in accordance with Federal, State and Local requirements.

Precautions to be Taken in Handling and Storing

Keep containers tightly closed when not in use.

Other Precautions None Known.

Prepared by Samet A Dy - Urethane Chemist

**PLEASE NOTE** \*The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.\*



# Material Safety Data Sheet

95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

IDENTITY (As Used on Label) **Dur-A-Glaze #4 RESIN/ Bio-Pruf®**

COMMON NAME Epoxy Resin

HAZARD RATING	Health	1
0 = Least	Flammability	1
1 = Slight	Reactivity	0
2 = Moderate	Personal Protection	G
3 = High		
4 = Extreme		

## SECTION II - PRODUCT COMPONENTS

	CAS.#	OSHA PEL	ACGIH TLV
Diglycidyl Ether Bisphenol A Epoxy Resin	25085-99-8	N.E. <sup>1</sup>	N.E.
Aliphatic Glycidyl Ether Diluent	68609-97-2	N.E.	N.E.
Film Additives	Proprietary <sup>2</sup>	N.E.	N.E.

<sup>1</sup>Not Established

<sup>2</sup>The manufacturer of these component states that they will provide additional information to a health professional in the event of an emergency.

T.S.C.A. Status - O.K. on all above components.

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## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	N/A	Specific Gravity (H2O = 1)	>1
Vapor Pressure (mm Hg)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation rate (Butyl Acetate = 1)	N/A
Volatile Organic Compounds (VOC)	0 g/L		
Solubility in Water	None		
Appearance and Odor	Viscous liquid. Mild characteristic odor.		

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	485°F	Flammable Limits	LEL	UEL
			N/A	N/A

Extinguishing Media Foam, CO<sub>2</sub>, Dry Chemical, Water Spray.

Special Firefighting Procedures

Firefighters should wear full emergency equipment with self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

Cool fire - exposed containers with cold water spray to prevent pressure build - up that may rupture the container. Combustion products may be toxic.

## SECTION V - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	Excess heating over long periods of time degrades the resin.
Incompatibility (Materials to Avoid)	Uncontrolled reaction with amines.		
Hazardous Decomposition or Byproducts	Fire- Carbon Monoxide, Carbon Dioxide, Nitrogen Oxide, Aldehydes.		
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	Uncontrolled reaction with amines.

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	YES	YES	YES

Signs and Symptoms of Exposure Irritation on skin.

Health Hazards (Acute and Chronic)

ACUTE - Irritation on skin and dermatitis.

CHRONIC - Repeated overexposure will cause severe skin irritation, dermatitis and sensitization.

Sensitized persons may experience rapid irritation of skin upon exposure.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	NO	NO	NO

Medical Conditions Generally Aggravated by Exposure

Allergy, skin disorders.

Emergency and First Aid Procedures

EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.

SKIN - PROMPTLY wash with soap and water. DO NOT wash with solvents. Seek medical advice if irritation develops or persists.

INHALATION - Move person to fresh air if effects occur. If needed, give oxygen or artificial respiration to improve breathing. Consult physician.

INGESTION - Get medical attention immediately. Never give liquids to an unconscious or convulsing person.

Note: Persons with lung disorders or who are sensitized should not use this product.

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type)

Provide adequate exhaust ventilation; use a NIOSH - approved respirator if PELS/TLVS are exceeded.

Ventilation	Local Exhaust	If needed.	Special	None known.
	Mechanical	Adequate exhaust ventilation must exhaust AWAY from applicator.		

Protective Gloves Natural or Neoprene gloves. Eye Protector Splash goggles or face shield.

Other Protective Clothing or Equipment

Use rubber apron, face shield and appropriate clothing to prevent contact with skin. Launder contaminated clothing before reuse. Discard contaminated leather shoes and canvas sneakers. Protective skin creams help cleaning with soap and water, gloves must be still be worn. An eye wash station or an adequate supply of clean water must be available at work area.

Work/Hygienic Practices Enforce careful handling to prevent splashing. Wash thoroughly after use.

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Wear protective equipment to prevent exposure. Stop spill and dike to prevent spreading. Cover spill with absorbent materials and collect into containers. Clean contaminated area with detergent and water or a steam cleaner for best results.

Waste Disposal Method

Dispose in accordance with Federal, State, and Local requirements.

Precautions to be Taken in Handling and Storing

Keep containers tightly closed when not in use.

Other Precautions NONE KNOWN.

Prepared by Samet Dy - Chemist

**PLEASE NOTE** "The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use."



# Material Safety Data Sheet

95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

**IDENTITY (As Used on Label)** Dur-A-Glaze #4 Hardener: Regular, Fast, Cold Cure, CR4, Damp-Primer, Water Clear

**COMMON NAME** Epoxy Resin Curatives

HAZARD RATING 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme	Health	3
	Flammability	1
	Reactivity	0
	Personal Protection	G

## SECTION II - PRODUCT COMPONENTS

	CAS.#	OSHA PEL	ACGIH TLV
Benzyl Alcohol	100-51-6	N.E. <sup>1</sup>	N.E.
3, Aminomethyl -3,5,5-Trimethyl	2855-13-2	N.E.	N.E.
1, 5 Pentanediamine, 2 Methyl	15520-10-2	N.E.	N.E.
N, Aminoethyl Piperazine	140-31-8	N.E.	N.E.
Diglycidyl Ether Bisphenol A Epoxy Resin	25085-99-8	N.E.	N.E.
Salicylic Acid	69-72-7	N.E.	N.E.
1, 5 Pentanediamine, 2 Methyl	15520-10-2	N.E.	N.E.
Benzene-1,3-Dimethaneamine	1477-550	N.E.	N.E.
Phenol	108-95-2	N.E.	N.E.
Triphenyl phosphite	101-02-0	N.E.	N.E.

<sup>1</sup>None Established

T.S.C.A. Status - O.K. on all above components.

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	485°F	Specific Gravity (H <sub>2</sub> O = 1)	<1
Vapor Pressure (mm Hg)	0.02	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation rate (Butyl Acetate = 1)	N/A
Volatile Organic Compounds (VOC)	0 g/l		
Solubility in Water	Partially soluble.		
Appearance and Odor	Pale yellow colored liquid. Amine odor.		

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	220°F	Flammable Limits	LEL	UEL
			N/A	N/A
Extinguishing Media	Dry chemicals, carbon dioxide, foam, water spray.			
Special Firefighting Procedures				
Firefighters should wear full emergency equipment with self-contained breathing apparatus. Irritating gases may be generated by fire.				
Unusual Fire and Explosion Hazards				
Cool exposed containers with cold water spray to prevent pressure buildup that may rupture the containers.				

## SECTION V - REACTIVITY DATA

Stability	Unstable	Conditions to Avoid
	Stable	
Incompatibility (Materials to Avoid)	Strong oxidizers and acids.	
Hazardous Decomposition or Byproducts	By Fire- carbon monoxide, carbon dioxide, aldehydes, nitrogen.	
Hazardous Polymerization	May Occur	Conditions to Avoid
	Will Not Occur	

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	YES	YES	YES
Signs and Symptoms of Exposure	Irritation on skin.		
Health Hazards (Acute and Chronic)			
Note: Persons with lung disorders or who are sensitized should not use this product.			
ACUTE - Irritation on skin and dermatitis.			
CHRONIC - Repeated overexposure will cause severe skin irritation, dermatitis and sensitization. Sensitized persons may experience rapid irritation of skin upon exposure.			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	NO	NO	NO
Medical Conditions Generally Aggravated by Exposure	Allergy, skin disorders.		
Emergency and First Aid Procedures			
EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.			
SKIN - PROMPTLY wash with soap and water. DO NOT wash with solvents. Seek medical advice if irritation develops or persists.			
INHALATION - Move person to fresh air if effects occur. If needed, give oxygen or artificial respiration to improve breathing. Consult physician.			
INGESTION - Get medical attention immediately. Never give liquids to an unconscious or convulsing person.			

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type)			
Provide adequate exhaust ventilation; use a NIOSH approved respirator if PELs/TLVs are exceeded.			
Ventilation	Local Exhaust	If needed.	Special None known.
	Mechanical	Adequate exhaust ventilation must exhaust AWAY from applicator.	
Protective Gloves	Natural or Neoprene gloves.		Eye Protection Splash goggles or face shield.
Other Protective Clothing or Equipment			
Use rubber apron, face shield and appropriate clothing to prevent contact with skin. Launder contaminated clothing before reuse. Discard contaminated leather shoes and canvas sneakers. Protective skin creams help cleaning with soap and water, gloves must be still be worn. An eye wash station or an adequate supply of clean water must be available at work area.			
Work/Hygenic Practices Enforce careful handling to prevent splashing. Wash thoroughly after use.			

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled	
Wear protective equipment to prevent exposure. Stop spill and dike to prevent spreading. Cover spill with absorbent materials and collect into containers. Clean contaminated area with detergent and water or a steam cleaner for best results.	
Waste Disposal Method	
Dispose in accordance with Federal, State, and Local requirements.	
Precautions to be Taken in Handling and Storing	
Keep containers tightly closed when not in use.	
Other Precautions	NONE KNOWN.
Prepared by	Samet Dy - Chemist

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# Material Safety Data Sheet

95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

IDENTITY (As Used on Label) **Armor Top Resin**

COMMON NAME **Blocked Cycloaliphatic Diamine**

HAZARD RATING	Health	3
0 = Least	Flammability	1
1 = Slight	Reactivity	0
2 = Moderate	Personal Protection	G
3 = High		
4 = Extreme		

## SECTION II - PRODUCT COMPONENTS

CAS.#	OSHA PEL	ACGIH TLV
Blocked Cycloaliphatic Diamine	Proprietary	N.E. <sup>1</sup>

<sup>1</sup>None Established

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	N.E.	Specific Gravity (H2O = 1)	0.8-0.9
Vapor Pressure (mm Hg)	N.E.	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation rate (Butyl Acetate = 1)	N/A

Volatile Organic Compounds = Zero grams/liter

Solubility in Water **Minimal, Reacts slowly with water**

Appearance and Odor **Pale yellow colored liquid. Amine odor.**

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	171°F	Flammable Limits	LEL	UEL
			N/A	N/A

Extinguishing Media **Dry chemicals, carbon dioxide, foam, water spray.**

Special Firefighting Procedures

Firefighters should wear full emergency equipment with self-contained breathing apparatus. Irritating gases may be generated by fire.

Cool exposed containers with cold water spray to prevent pressure buildup that may rupture the containers.

## SECTION V - REACTIVITY DATA

Stability	Unstable	Conditions to Avoid
	Stable	X <b>Keep container closed when not in use, protect from moisture.</b>

Incompatibility (Materials to Avoid) **Strong oxidizers, alkaline materials and acids. Avoid moisture prior to use**

Hazardous Decomposition or Byproducts **By Fire- carbon monoxide, carbon dioxide, aldehydes, nitrogen.**

Hazardous Polymerization	May Occur	Conditions to Avoid
	Will Not Occur	X <b>Decomposition products from hydrolysis in water isophorone diamine and isobutyraldehyde</b>

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	YES	YES	YES

Signs and Symptoms of Exposure **Irritation on skin.**

Health Hazards (Acute and Chronic) **Note: Persons with lung disorders or who are sensitized should not use this product.**

ACUTE - Irritation on skin and dermatitis. Corrosive

CHRONIC - Repeated overexposure will cause severe skin irritation, dermatitis and sensitization.

Sensitized persons may experience rapid irritation of skin upon exposure.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	NO	NO	NO

Medical Conditions Generally Aggravated by Exposure

**Allergy, skin disorders.**

Emergency and First Aid Procedures

EYES - **CORROSIVE:** Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.

SKIN - **CORROSIVE;** PROMPTLY wash with soap and water. DO NOT wash with solvents. Seek medical adv irritation develops or persists.

INHALATION - Move person to fresh air if effects occur. If needed, give oxygen or artificial respiration to improve breathing. Consult physician.

INGESTION - Get medical attention immediately. Never give liquids to an unconscious or convulsing person.

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type)

Provide adequate exhaust ventilation; use a NIOSH - approved respirator if PELs/TLVs are exceeded.

Ventilation	Local Exhaust	If needed.	Special	None known.
	Mechanical	Adequate exhaust ventilation must exhaust AWAY from applicator.		

Protective Gloves **Natural or Neoprene gloves.** Eye Protection **Splash goggles or face shield.**

Other Protective Clothing or Equipment

Use rubber apron, face shield and appropriate clothing to prevent contact with skin. Launder contaminated clothing before reuse. Discard contaminated leather shoes and canvas sneakers. Protective skin creams help cleaning with soap and water, gloves must be still be worn. An eye wash station or an adequate supply of clean water must be available at work area.

Work/Hygienic Practices **Enforce careful handling to prevent splashing. Wash thoroughly after use.**

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Wear protective equipment to prevent exposure. Stop spill and dike to prevent spreading. Cover spill with absorbent materials and collect into containers. Clean contaminated area with detergent and water or a steam cleaner for best results.

Waste Disposal Method

Dispose in accordance with Federal, State, and Local requirements.

Precautions to be Taken in Handling and Storing

**Keep containers tightly closed when not in use.**

Other Precautions **NONE KNOWN.**

Prepared by **Samet Dy - Urethane Chemist**

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# Material Safety Data Sheet

95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

**IDENTITY (As Used on Label)** Armor Top Hardener

**COMMON NAME** Aliphatic Polyisocyanate Resin Solution

HAZARD RATING	Health	2
0 = Least	Flammability	2
1 = Slight	Reactivity	1
2 = Moderate	Personal Protection	G
3 = High		
4 = Extreme		

## SECTION II - PRODUCT COMPONENTS

	CAS.#	OSHA PEL	ACGIH TLV
Homopolymer of HDI	28182-81-2	N.E. <sup>1</sup>	N.E.
Hexamethylene Diisocyanate (HDI) <sup>2</sup>	822-06-0	N.E.	0.005ppm
Dipropylene glycol monomethyl ether acetate	88917-22-0	N.E.	N.E.
Methyl-1,3-dioxolan-2-one	108-32-7	N.E.	N.E.

<sup>1</sup>not established

<sup>2</sup>Residual monomer content is less than 0.5% based on resin solids at the time of manufacture

T.S.C.A. Status - O.K. on all above components.

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	DPMA	392°F	Specific Gravity (H <sub>2</sub> O = 1)	1.11
Vapor Pressure (mm Hg)	HDI	4.7 x 10 <sup>-7</sup>	Melting Point	N/A
Vapor Density (AIR = 1)	DPMA	6.6	Evaporation rate (Butyl Acetate = 1)	0.015

Volatile Organic Compounds (VOC) = 74 grams/liter

Solubility in Water NOT SOLUBLE.

Appearance and Odor Clear, mild ester-like odor.

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	186°F	Flammable Limits	LEL	UEL
			1.21 vol%	5.35 vol%
			N/A	

Extinguishing Media Dry Chemicals, CO<sub>2</sub>, Universal Type Foam.

Special Firefighting Procedures

Wear full protective equipment including self-contained breathing apparatus. During a fire, HDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO<sub>2</sub> evolved).

Unusual Fire and Explosion Hazards

Spills of this on hot fibrous insulations may lead to lowering of the autoignition temperatures resulting in possible spontaneous combustion

## SECTION V - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	Keep containers closed when not in use. Avoid static discharge. Flammable vapors released at elevated temps.

Incompatibility (Materials to Avoid) Avoid oxidizers and phosphorus-containing materials.

Hazardous Decomposition or Byproducts Fire may yield carbon monoxide and/or carbon dioxide.

Hazardous Polymerization	May Occur	X	Conditions to Avoid
	Will Not Occur		Contact with moisture or other materials which react with isocyanates or temperatures above 400F.

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	YES	Yes

Signs and Symptoms of Exposure Irritation and redness of skin and eyes. Breathing difficulty

Health Hazards (Acute and Chronic)

ACUTE - prolonged skin exposure can cause irritation, dermatitis. Inhalation of vapors can cause nasal and respiratory irritation, dizziness, headache, nausea.

CHRONIC - prolonged or repeated exposure to vapors may cause lung damage as well as increased sensitivity.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	NO	NO	NO

Medical Conditions Generally Aggravated by Exposure

Asthma and other respiratory disorders(bronchitis, emphysema, hyperreactivity), skin allergies, eczema.

Emergency and First Aid Procedures

EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.

Skin - remove contaminate clothing. Clean affected area with mild soap and water. If irritation or redness develops, seek medical attention

INHALATION- move person away from source of exposure and into fresh air. If person is not breathing, give artificial respiration and seek medical attention immediately. If breathing difficulty develops, give oxygen and seek medical attention immediately.

**\*\*NOTE\*\* PERSONS WITH LUNG DISORDERS OR WHO ARE SENSITIZED SHOULD NOT USE THIS PRODUCT.**

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type)

Use NIOSH approved respirator as outlined in 30CFR11 and 29CFR 1910.134

effective for solvent and diisocyanate vapors. Use SCBA or air-supplied respirators when TLV/PEL is exceeded.

Ventilation	Local Exhaust	Use in confined areas.	Special	Explosion proof fans when needed.
	Mechanical	Must be sufficient to maintain area below established TLV/PEL.		

Protective Gloves Neoprene rubber gloves. Eye Protection Splash proof goggles.

Other Protective Clothing or Equipment

Use other protective equipment such as rubber aprons and a face shield if danger of splashing is possible.

Eye wash station or clear water must be readily available. ENFORCE GOOD HYGIENE PRACTICES. No smoking or open lights in work area. Exposure to liquid, vapors, mists or fumes must be minimized. Use air supplied respirators in enclosed areas and when PEL/TLV is higher than established level.

Work/Hygienic Practices Launder contaminated clothing before use. Dispose contaminated leather shoes

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Shut off and eliminate all ignition sources. Keep people away. Add sand, earth or other absorbent to spill area. Ventilate confined spaces. Open windows and doors, minimize breathing vapors and skin contact. Keep spill out of sewers by diking. Observe precautions for volatile, flammable vapors from absorbed material.

Waste Disposal Method

Incineration in accordance with local, state, and federal regulations.

Precautions to be Taken in Handling and Storing Keep containers tightly closed when not in use and away from excessive heat and flame. DO NOT pressurize, cut, weld, solder, drill or grind the containers.

Other Precautions Store in an OSHA approved area for flammable materials.

Prepared by Samet Dy - Urethane Chemist

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# Material Safety Data Sheet

95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

**IDENTITY (As Used on Label)** Armor Top Colorant: all colors

**COMMON NAME** Liquid Colorant Additive for Urethane

HAZARD RATING	Health	1
0 = Least	Flammability	2
1 = Slight	Reactivity	0
2 = Moderate	Personal Protection	G
3 = High		
4 = Extreme		

## SECTION II - PRODUCT COMPONENTS

COMPONENTS	CAS.#	OSHA PEL	ACGIH TLV
Dipropylene glycol monomethyl ether acetate	88917-22-0	NE <sup>1</sup>	NE
Titanium Dioxide	13463-67-7	15mg/m <sup>3</sup> (Dust)	10mmg/m <sup>3</sup>
Red Iron Oxide	1332-37-2	10mg/m <sup>3</sup>	5mg/m <sup>3</sup>
Yellow Iron Oxide	51274-00-1	NE	NE
Carbon Black	1333-86-4	3.5mg/m <sup>3</sup> (dust)	3.5mg/m <sup>3</sup> (dust)

<sup>1</sup>not established

T.S.C.A. Status - O.K. on all above components.

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	DPMA	392°F	Specific Gravity (H <sub>2</sub> O = 1)	1.11
Vapor Pressure (mm Hg)	77°F	0.05	Melting Point	N/A
Vapor Density (AIR = 1)	DPMA	6.6	Evaporation rate (Butyl Acetate = 1)	0.015

Volatile Organic Compounds (VOC) = 74 grams/liter

Solubility in Water NOT SOLUBLE.

Appearance and Odor Clear, mild ester-like odor.

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	186°F	Flammable Limits	LEL	UEL
			1.21 vol%	5.35 vol%

Extinguishing Media Dry Chemicals, CO<sub>2</sub>, Universal Type Foam.

Special Firefighting Procedures

Wear full protective equipment including self-contained breathing apparatus. During a fire, HDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO<sub>2</sub> evolved).

Unusual Fire and Explosion Hazards

Spills of this on hot fibrous insulations may lead to lowering of the autoignition temperatures resulting in possible spontaneous combustion

## SECTION V - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	Keep containers closed when not in use. Avoid static discharge. Flammable vapors released at elevated temps.

Incompatibility (Materials to Avoid) Avoid oxidizers and phosphorus-containing materials.

Hazardous Decomposition or Byproducts Fire may yield carbon monoxide and/or carbon dioxide.

Hazardous Polymerization	May Occur	X	Conditions to Avoid
	Will Not Occur		Contact with moisture or other materials which react with isocyanates or temperatures above 400F.

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	YES	Yes

Signs and Symptoms of Exposure Irritation and redness of skin and eyes. Breathing difficulty.

Health Hazards (Acute and Chronic)

ACUTE - prolonged skin exposure can cause irritation, dermatitis. Inhalation of vapors can cause nasal and respiratory irritation, dizziness, headache, nausea.

CHRONIC - prolonged or repeated exposure to vapors may cause lung damage as well as increased sensitivity.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	NO	NO	NO

Medical Conditions Generally Aggravated by Exposure

Asthma and other respiratory disorders(bronchitis, emphysema, hyperreactivity), skin allergies, eczema.

Emergency and First Aid Procedures

EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.

Skin - remove contaminate clothing. Clean affected area with mild soap and water. If irritation or redness develops, seek medical attention.

INHALATION- move person away from source of exposure and into fresh air. If person is not breathing, give artificial respiration and seek medical attention immediately. If breathing difficulty develops, give oxygen and seek medical attention immediately.

**\*\*NOTE\*\* PERSONS WITH LUNG DISORDERS OR WHO ARE SENSITIZED SHOULD NOT USE THIS PRODUCT.**

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type) Use NIOSH approved respirator as outlined in 30CFR11 and 29CFR 1910.134

effective for solvent and diisocyanate vapors. Use SCBA or air-supplied respirators when TLV/PEL is exceeded.

Ventilation	Local Exhaust	Use in confined areas.	Special	Explosion proof fans when needed.
	Mechanical	Must be sufficient to maintain area below established TLV/PEL.		

Protective Gloves Neoprene rubber gloves. Eye Protection Splash proof goggles.

Other Protective Clothing or Equipment

Use other protective equipment such as rubber aprons and a face shield if danger of splashing is possible.

Eye wash station or clear water must be readily available. ENFORCE GOOD HYGIENE PRACTICES. No smoking or open lights in work area. Exposure to liquid, vapors, mists or fumes must be minimized. Use air supplied respirators in enclosed areas and when PEL/TLV is higher than established level.

Work/Hygienic Practices Launder contaminated clothing before use. Dispose contaminated leather shoes

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Shut off and eliminate all ignition sources. Keep people away. Add sand, earth or other absorbent to spill area. Ventilate confined spaces. Open windows and doors, minimize breathing vapors and skin contact. Keep spill out of sewers by diking. Observe precautions for volatile, flammable vapors from absorbed material.

Waste Disposal Method

Incineration in accordance with local, state, and federal regulations.

Precautions to be Taken in Handling and Storing Keep containers tightly closed when not in use and away from excessive heat and flame. DO NOT pressurize, cut, weld, solder, drill or grind the containers.

Other Precautions Store in an OSHA approved area for flammable materials.

Prepared by Samet Dy - Urethane Chemist

### PLEASE

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### NOTE



# Material Safety Data Sheet

95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838

Date Prepared 8/2/2010

## SECTION I - IDENTIFICATION

IDENTITY (As Used on Label) **Armor Top Grit**

COMMON NAME WHITE ALUMINUM OXIDE

HAZARD RATING

0 = Least  
1 = Slight  
2 = Moderate  
3 = High  
4 = Extreme

Health 0

Flammability 0

Reactivity 0

Personal Protection G

## SECTION II - PRODUCT COMPONENTS

CAS.#

OSHA PEL

ACGIH TLV

Aluminum Oxide 1344-28-1 5 mg/m<sup>3</sup> (resp) 10 mg/m<sup>3</sup>

Other Oxides (Total) (SiO<sub>2</sub>+Fe<sub>2</sub>O<sub>3</sub>+Na<sub>2</sub>O+MgO+TiO<sub>2</sub>)=1%

T.S.C.A. Status - O.K. on above component.

**\*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300\***

## SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	N/A	Specific Gravity (H <sub>2</sub> O = 1)	3.95
Vapor Pressure (mm Hg)	N/A	Melting Point	2070
Vapor Density (AIR = 1)	N/A	Evaporation rate (Butyl Acetate = 1)	N/A

Volatile Organic Compounds (VOC) = Zero grams/liter

Solubility in Water INSOLUBLE

Appearance and Odor Granular, White, Odorless

## SECTION IV - FIRE and EXPLOSION HAZARD DATA

Flash Point (Closed Cup Method)	N/A	Flammable Limits	LEL	UEL
			N/A	N/A

Extinguishing Media N/A

Special Firefighting Procedures

None Known.

Unusual Fire and Explosion Hazards

None Known.

## SECTION V - REACTIVITY DATA

Stability	Unstable	Conditions to Avoid
	Stable	

Incompatibility (Materials to Avoid) None known.

Hazardous Decomposition or Byproducts None Known.

Hazardous Polymerization	May Occur	Conditions to Avoid
	Will Not Occur	

## SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry: Inhalation? Yes Skin? Ingestion? Eyes

Signs and Symptoms of Exposure Temporary Inhalation Discomfort.

Health Hazards (Acute and Chronic)

ACUTE - None known other than possible temporary discomfort due to inhalation of dust concentration.

CHRONIC - Potential chronic respiratory distress/irritation. Can aggravate pre-existing lung conditions.

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?  
NO NO NO

Medical Conditions Generally Aggravated by Exposure  
None Known.

Emergency and First Aid Procedures

EYES - hold eyes apart and flush with clean water for 15 minutes. If irritation or redness develops and persists seek medical attention.

INHALATION - For inhalation discomfort move person to fresh air.

## SECTION VII - CONTROL MEASURES

Respiratory Protection (Specify Type)

Provide adequate exhaust ventilation; use a NIOSH - approved respirator if PELs/TLVs are exceeded.

Ventilation	Local Exhaust	If necessary.	Special	None Known
	Mechanical	Adequate for dusty environments		

Protective Gloves Wear gloves Eye Protector Safety goggles, do not wear contact lenses.

Other Protective Clothing or Equipment

NONE KNOWN.

Work/Hygienic Practices Avoid unnecessary formation of dust.

## SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Non - Skid Grit may be swept or vacuumed for normal disposal.

Waste Disposal Method

Non - Skid Grit is not a hazardous waste under U.S. Federal RCRA regulations.

Precautions to be Taken in Handling and Storing

Same as given in Section VII (ventilation, gloves, and goggles.)

Other Precautions Dry powders can build static charges when subjected to friction.

Prepared by Samet Dy - Urethane Chemist

**PLEASE NOTE** "The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND use."

<b>DUR-A-FLEX® Inc.</b>		<b>Material Safety Data Sheet</b>		
95 Goodwin Street, East Hartford, CT., 06108 (860) 528-9838		Date Prepared	8/2/2010	
<b>SECTION I - IDENTIFICATION</b>		HAZARD RATING	Health	3
IDENTITY (As Used on Label) Flintshot, Qrok, 290 Flour, 1/4 NJ, 1/2 NJ, F-70, Q28 all colors, Q11 all colors		0 = Least	Flammability	0
COMMON NAME: Natural Sands/Quartz/Color Quartz		1 = Slight 2 = Moderate 3 = High 4 = Extreme	Reactivity	0
<b>SECTION II - PRODUCT COMPONENTS</b>		OSHA PEL	ACGIH TLV	
Crystalline Silica (Quartz) <sup>1</sup>	CAS.# 14808-60-7	10mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	
		%SiO2+2		
Titanium Dioxide Pigment	13463-67-7	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>	
Iron Oxide Pigment	1309-37-1	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>	
Kaolin Clay	1332-58-7	15mg/m <sup>3</sup>	2mg/m <sup>3</sup>	
Chromium Oxide Green (trivalent chromium) <sup>2</sup>	1308-38-9	1.0mg/m <sup>3</sup>	0.5mg/m <sup>3</sup>	
<sup>1</sup> Crystalline silica can be a lung injury and cancer hazard. Do not breathe dust. May cause delayed lung injury. Long term exposure can cause silicosis, a respiratory disease which can result in a delayed, disabling, and sometimes fatal lung injury. Crystalline silica inhaled from occupational sources can from occupational sources can cause cancer in humans. Risk of injury is dependent on the duration and level of exposure. A single exposure will not result in serious and adverse effects.				
<sup>2</sup> In Green quartz ONLY. This product only 1-3ppm (0.0003%) leachable hexavalent chromium. Trivalent chromium is not specifically listed as a possible carcinogen. It is regulated under SARA III, 40CFR Part 372, Section 313.				
T.S.C.A. Status - O.K.				
<b>*FOR SPILL, LEAK, FIRE, OR ACCIDENT, CALL CHEMTREC 24-HOUR EMERGENCY NUMBER 1-800-424-9300*</b>				
<b>SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS</b>				
Boiling Point	4046°F	Specific Gravity (H2O = 1)	2.65	
Vapor Pressure (mm Hg)	N/A	Melting Point	2930°F	
Vapor Density (AIR = 1)	N/A	Evaporation rate (Butyl Acetate = 1)	N/A	
Volatile Organic Compounds	0 g/L			
Solubility in Water	INSOLUBLE			
Appearance and Odor	Naturally rounded sand. Various sizes. No odor.			
<b>SECTION IV - FIRE and EXPLOSION HAZARD DATA</b>				
Flash Point (Closed Cup Method)	N/A	Flammable Limits	LEL	UEL
			N/A	N/A
Extinguishing Media	Compatible with all extinguishing media. Use any media appropriate for the surrounding fire.			
Special Firefighting Procedures	N/A			
Unusual Fire and Explosion Hazards	N/A			
<b>SECTION V - REACTIVITY DATA</b>				
Stability	Unstable	Conditions to Avoid		
	Stable	X	NONE KNOWN.	
Incompatibility (Materials to Avoid)	Hydrofluoric Acid and powerful oxidizing agents.			
Hazardous Decomposition or Byproducts	NONE KNOWN.			
Hazardous Polymerization	May Occur	Conditions to Avoid		
	Will Not Occur	X	NONE KNOWN.	

<b>SECTION VI - HEALTH HAZARD DATA</b>			
Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	NO	NO
Signs and Symptoms of Exposure	Shortness of breath and reduced pulmonary function.		
Health Hazards (Acute and Chronic)			
ACUTE - NO SYMPTOMS.			
CHRONIC - excessive inhalation of dust may result in respiratory disease such as silicosis, pulmonary fibrosis, etc. The IARC has evaluated in Vol.42 (monographs) that there is "sufficient evidence for the Carcinogenicity of crystalline silica dust to experimental animal" and "limited evidence" with respect to humans.			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	Yes (Respirable Silica)	YES*Level 2A Grouping	NO
Medical Conditions Generally Aggravated by Exposure			
Lung disorders and persons subject to eye irritation.			
Emergency and First Aid Procedures			
EYES - Flush with water, holding lids open for 15 minutes or more. Call physician for advice if necessary.			
SKIN - PROMPTLY wash with soap and water. DO NOT wash with solvents. Seek medical advice if irritation develops or persists.			
INHALATION - Move person to fresh area if effects occur. If needed, give oxygen or artificial respiration to improve breathing. Consult physician.			
INGESTION - Expected to be slightly toxic by ingestion. If swallowed, induce vomiting immediately as directed by a physician. Get medical attention immediately. Never give liquids to an unconscious or convulsing person.			
OTHER HEALTH EFFECTS - Medical conditions which may be aggravated by exposure to this product include, conjunctivitis of the eye, dermatitis of the skin, asthma and respiratory diseases. Sensitization may occur by skin contact. <b>**NOTE**</b> persons with lung disorders or who are sensitized should not use this product.			
<b>SECTION VII - CONTROL MEASURES</b>			
Respiratory Protection (Specify Type): Atmospheric levels should be maintained below the exposure limits listed in section II by using engineering controls. Provide adequate exhaust ventilation and/or NIOSH approved cartridge respirator.			
Ventilation	Local Exhaust	To meet PEL requirements.	Special None Known.
	Mechanical	Adequate to meet PEL requirements.	
Protective Gloves	Recommended.	Eye Protection	Recommended
Other Protective Clothing or Equipment			
Use adequate ventilation and dust collection. To minimize exposure, wear a respirator approved for silica dust when using, handling, storing or disposing of this product. Refer to the most recent standards of ANSI (Z88.2), OSHA (29 CFR 1910.134), MSHA (30 CFR Parts 56 and 57), and NIOSH Respirator Decision Logic. Maintain, clean and fit test respirators in accordance with OSHA regulations.			
Work/Hygienic Practices	Avoid creating and breathing dust.		
<b>SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE</b>			
Steps to be Taken in Case Material is Released or Spilled			
Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Silica may be in the air without a visible dust cloud. Avoid creation of respirable dust			
Waste Disposal Method			
Dispose waste material in a sanitary land fill or as regulated by local, state and federal regulations.			
Precautions to be Taken in Handling and Storing			
Avoid creation of respirable dust. Take precaution against bag breakage.			
Other Precautions	None Known.		
Prepared by	Samet Dy - Urethane Chemist		
<b>PLEASE</b>	"The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, Dur-A-Flex, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use."		
<b>NOTE</b>			