

MATERIAL SAFETY DATA SHEET

Prepared: JULY 2008 M.B. Zelek

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ACUTE HEALTH 3	FIRE 1	REACTIVITY 1	HAZARD RATING	LEAST - 0 SLIGHT - 1 MODERATE - 2 HIGH - 3 EXTREME - 4
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SECTION I	CURING AGENT - HARDENER PART - B
PRODUCT NAME	STONE-WELD - HARDENER Ingredient
CHEMICAL NAME	EPOXY CURING AGENT
CHEMICAL FAMILY	MIXED POLYAMINES

SECTION II-A	PRODUCT / INGREDIENT
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Number	Composition	CAS Number	Percent
P	HARDENER INGREDIENT, Adhesive	MIXTURE	
1	POLYOXYPROPYLAMINE MIXTURE	9046-10-0	58-65%
2	SURFACE ACTIVE AGENTS		0.04%
3	N-AMINOETHYLPIPERAZINE	140-31-8	9-14%
4	POLY AMINOAMIDE	68082-29-1	3-5%
5	BISPHENOL A	80057	5-8%
6	NONYL PHENOL	84852-15-3	5-11%
7	BENZYL ALCOHOL	100-51-6	2-4%

* SPECIFIC CHEMICAL IDENTITY AND / OR PROPORTION OF THIS COMPONENT IS BEING HELD AS TRADE SECRET INFORMATION.

SECTION II-B	TOXICITY DATA
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Number	Acute Oral LD50	Acute Dermal LD50	Acute Inhalation
P	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE
1	.22 G/KG (RAT)	.61 G/KG (RABBIT)	N.A.
2			RELATIVELY HARMLESS
3	2.0-5.0 g/kg (Rat)	.50-1 g/kg (Rabbit)	Less 2 MG/L (RAT)
4	Greater than 2,000 MG/KG		ODOR THRESHOLD, 200-300 ppm
5	N.A		N/A
6	.58 g/kg (Rat)	2.14 g/kg	N/A
7	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	N/A

SECTION III	HEALTH INFORMATION
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EYE CONTACT

CORROSIVE TO THE EYES AND MAY CAUSE SEVERE DAMAGE INCLUDING BLINDNESS. VAPORS MAY BE IRRITATING.

SKIN CONTACT

CORROSIVE TO THE SKIN. MAY CAUSE SKIN SENSITIZATION.

INHALATION

VAPORS/ MISTS MAY BE CORROSIVE TO UPPER RESPIRATORY TRACT. REPEATED EXPOSURE MAY RESULT IN LUNG DAMAGE. MAY BE TOXIC IF INHALED.

INGESTION

NOT EXPECTED TO BE A RELEVANT ROUTE OF EXPOSURE, HOWEVER, CORROSIVE AND MAY CAUSE SEVERE AND PERMANENT DAMAGE TO MOUTH, THROAT AND STOMACH.

SIGNS / SYMPTOMS

IRRITATION AS NOTED ABOVE. LUNG DAMAGE (SCARRING, BRONCHITIS, EMPHYSEMA) MAY BE EVIDENCED BY SHORTNESS OF BREATH, ESPECIALLY ON EXERTION, AND MAY BE ACCOMPANIED BY CHRONIC COUGH. SKIN SENSITIZATION (ALLERGY) MAY BE EVIDENCED BY RASHES, ESPECIALLY HIVES.

OTHER EFFECTS

SECTION IV

OCCUPATIONAL EXPOSURE LIMITS

	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	OSHA
Number					
P	NONE ESTABLISHED				
1		None established			
2					
3					
4		None established	50ppm TWA (8 hr)		500ppm TWA (9 HR) 1,000 ppm Ceiling
5		100 ppm/435 mg/m3			
6		None established			
7		None established			

* THE SKIN NOTATION INDICATES THE SUBSTANCE MAY BE ABSORBED THROUGH THE SKIN, MUCOUS MEMBRANES, OR EYES, BY DIRECT OR AIRBORNE EXPOSURE, AND SUGGESTS THAT APPROPRIATE MEASURES BE TAKEN TO PREVENT SUCH ABSORPTION.

SECTION V

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. RINSE CONTINUOUSLY WITH WATER WHILE ON WAY TO GET MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING OR SHOES, WIPE EXCESS FROM SKIN AND FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. USE SOAP IF READILY AVAILABLE, OR FOLLOW BY THOROUGHLY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION IF NECESSARY

INGESTION

DO NOT INDUCE VOMITING. GIVE ONE GLASS OF WATER UNLESS VICTIM IS DROWSY, CONVULSING, OR UNCONSCIOUS. SEEK MEDICAL ATTENTION IMMEDIATELY.

SECTION VI

SUPPLEMENTAL HEALTH INFORMATION

SECTION VII

PHYSICAL DATA

BOILING POINT Not determined	SPECIFIC GRAVITY 8.24 lbs. / gal
MELTING POINT N.A	SOLUBILITY (In Water) Partial
EVAPORATION RATE (n-Butyl Acetate = 1): Less 1	VAPOR PRESSURE Not Determined
APPEARANCE Mobile Yellow Liquid	VAPOR DENSITY Less 1

SECTION VIII

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD

T.C.C., F. Greater than 200

FLAMMABLE LIMITS

Lower: NA Upper: NA

EXTINGUISHING MEDIA

USE WATER FOR, "ALCOHOL" FOAM, DRY CHEMICAL OR CO2. WATER OR FOG MAY CAUSE FROTHING WHICH CAN BE VIOLENT, ESPECIALLY IF SPRAYED INTO CONTAINERS OF HOT OR BURNING LIQUID.

FIRE FIGHTING PROCEDURES & PRECAUTIONS

DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR, INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS

DELAYED LUNG DAMAGE (PULMONARY EDEMA) CAN BE EXPERIENCED AFTER EXPOSURE TO COMBUSTION PRODUCTS, SOMETIMES HOURS AFTER THE EXPOSURE. NITROGEN OXIDES AND NITROGEN CONTAINING ORGANIC COMPOUNDS MAY BE RELEASED UPON COMBUSTION.

SECTION IX

REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS

NITROGEN OXIDES, CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION. HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

SECTION X

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

DO NOT BREATHE VAPORS OR MISTS. IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE.

AVOID BREATHING VAPORS WHICH MAY BE PRODUCED UNDER SOME CONDITIONS SUCH AS HEATING OR APPLICATIONS OR UNCURED MATERIAL IN LARGE SURFACE AREAS. AVOID BREATHING AEROSOLS AND MISTS WHICH MAY BE FORMED BY VARIOUS METHODS OF APPLICATION.

PROTECTIVE CLOTHING

DO NOT GET IN EYES. WEAR CHEMICAL GOGGLES IF THERE IS POTENTIAL CONTACT WITH EYES. DO NOT GET ON SKIN, ON CLOTHING. WEAR CHEMICAL RESISTANT PROTECTIVE CLOTHING SUCH AS GLOVES, OUTER CLOTHING OR APRON, OVERSHOES AND A FACE-SHIELD SUITABLE TO POTENTIAL EXPOSURE.

ADDITIONAL PROTECTIVE MEASURES

USE VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS. EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR EMERGENCY USE.

SECTION XI

ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

DANGER. CORROSIVE, PREVENT ALL BODILY CONTACT WITH SPILLED MATERIAL. WEAR APPROPRIATE RESPIRATOR AND FULL BODY PROTECTIVE CLOTHING.

SECTION XII

SPECIAL PRECAUTIONS

STORE IN A COOL, DRY PLACE WITH ADEQUATE VENTILATION. KEEP AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN HAZARDOUS PRODUCT RESIDUES. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, APPLYING COSMETICS, OR USING TOILET FACILITIES.

SECTION XIII

TRANSPORTATION REQUIREMENTS

D.O.T. PROPER SHIPPING NAME

Corrosive Liquid, Basic, Organic N.O.S. Amines
 Hazard Class - 8, UN No. 3267, Modified Amines
 KEEP AWAY FROM FOODS

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ACUTE HEALTH 1	FIRE 0	REACTIVITY 0	HAZARD RATING	LEAST - 0 SLIGHT - 1 MODERATE - 2 HIGH - 3 EXTREME - 4
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SECTION I	EPOXY RESIN - PART - A
PRODUCT NAME	▶ STONE-WELD - COMPOUND Ingredient
CHEMICAL NAME	EPICHLOROHYDRIN BASED EPOXY RESINS
CHEMICAL FAMILY	EPOXY RESINS & DILUENTS

SECTION II-A	PRODUCT / INGREDIENT
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Number	Composition	CAS Number	Percent
P	COMPOUND INGREDIENT, Epoxy	MIXTURE	
1	Polymer of EPICHLORHYDRIN & BISPHENOL A	025085-99-8	73-82%
2	SURFACE ACTIVE AGENTS		1-2%
3	DEFOAMERS, Additives		1-2%
4	ALKYL GLYCIDYL ETHER (C12-C14)	068609-97-2	5-9%
5	SECRET INGREDIENT		3-7%
6	NONYL PHENOL	84852-15-3	4-6%

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SECTION II-B	TOXICITY DATA
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Number	Acute Oral LD50	Acute Dermal LD50	Acute Inhalation
P	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE
1	.11.4 G/KG (RAT)	20 ML/KG (RABBIT)	No death in Saturated air, 8 Hours *
2			
3			
4	15000 mg / kg (rat)	n.a.	70810 mg / m3 (rat, 4 hr)
5			
6	.58 g/kg (Rat)	2.14 g/kg	

* THIS INHALATION TEST MAY NOT BE RELEVANT DUE TO LOW VOLATILITY OF THE RESIN.

SECTION III	HEALTH INFORMATION
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EYE CONTACT

BASED ON PRODUCT TESTING, PRODUCT IS MODERATELY IRRITATING TO THE EYES.

SKIN CONTACT

MODERATELY IRRITATING TO THE EYES.

INHALATION

RELATIVELY LOW VOLATILITY, THIS PRODUCT IS NOT LIKELY TO BE AN INHALATION HAZARD, HOWEVER IF BREATHING BECOMES DIFFICULT, REMOVE TO FRESH AIR

INGESTION

CONSIDERED TO HAVE A LOW ORDER OF ACUTE ORAL TOXICITY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. DRINK SEVERAL GLASSES OF WATER. DO NOT INDUCE VOMITNG.

SIGNS / SYMPTOMS

IRRITATION AS NOTED. SKIN SENSITIZATION (ALLERGY) MAY BE EVIDENCED BY RASHES, ESPECIALLY HIVES.

OTHER EFFECTS

SECTION IV OCCUPATIONAL EXPOSURE LIMITS

Number	OSHA PEL	ACGIH/TLV	VAPOR PRESSURE 25 C mm Hg	Temp	OTHER Wt Percent
P					
1	NO OSHA NOR ACGIH LIMITS HAVE BEEN ESTABLISHED FOR THIS PRODUCT.			Believed to be relatively harmless	
2					
3					
4	100 PPM	100 PPM	23	68 F	5-9%
5					
6			<1 mm Hg		

* THE SKIN NOTATION INDICATES THE SUBSTANCE MAY BE ABSORBED THROUGH THE SKIN, MUCOUS MEMBRANES, OR EYES, BY DIRECT OR AIRBORNE EXPOSURE, AND SUGGESTS THAT APPROPRIATE MEASURES BE TAKEN TO PREVENT SUCH ABSORPTION.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. RINSE CONTINUOUSLY WITH WATER WHILE ON WAY TO GET MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING OR SHOES, WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED. LEATHER ARTICLES, INCLUDING SHOES, CANNOT BE DECONTAMINATED AND SHOULD BE DESTROYED.

INHALATION

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION IF NECESSARY

INGESTION

DO NOT INDUCE VOMITING. IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE QUANTITIES OF PRODUCT ARE INGESTED. HOWEVER, GET MEDICAL ADVICE.

SECTION VI SUPPLEMENTAL HEALTH INFORMATION

SECTION VII PHYSICAL DATA

BOILING POINT N.A.	SPECIFIC GRAVITY	9.31 lbs. / gal
MELTING POINT N.A.	SOLUBILITY (In Water)	NEGLIGIBLE
EVAPORATION RATE NOT AVAILABLE	VAPOR PRESSURE	.03 AT 77 DEG. C
APPEARANCE Mobile, viscous liquid	VAPOR DENSITY	NOT APPLICABLE

SECTION VIII FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD

T.C.C., F. NOT AVAIL

EXTINGUISHING MEDIA

USE WATER FOR, "ALCOHOL" FOAM, DRY CHEMICAL OR CO2.

FIRE FIGHTING PROCEDURES & PRECAUTIONS

DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR, INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS

SEE SECTION XII

SECTION IX **REACTIVITY**

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

CAN REACT VIGOROUSLY WITH STRONG OXIDIZING AGENTS, STRONG LEWIS OR MINERAL ACIDS, AND STRONG MINERAL AND ORGANIC BASES / ESPECIALLY PRIMARY AND SECONDARY ALIPHATIC AMINES.

HAZARDOUS DECOMPOSITION PRODUCTS

CARBON MONOXIDE, ALDEHYDES, ACIDS AND OTHER ORGANIC SUBSTANCES MAY BE FORMED DURING COMBUSTION OR ELEVATED (500 DEG. F) TEMPERATURE DEGRADATION.

SECTION X **EMPLOYEE PROTECTION**

RESPIRATORY PROTECTION

NOT ORDINARILY REQUIRED. IF DIFFICULTY IN BREATHING OCCURS, REMOVE PERSON TO FRESH AIR

AVOID CONTACT WITH EYES. WEAR SAFETY GLASSES OR GOGGLES AS APPROPRIATE. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR CHEMICAL-RESISTANT GLOVES AND OTHER CLOTHING AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT.

PROTECTIVE CLOTHING

ADDITIONAL PROTECTIVE MEASURES

SECTION XI **ENVIRONMENTAL PROTECTION**

SPILL OR LEAK PROCEDURES

WILL BURN ALTHOUGH NOT READILY IGNITABLE, BUT WILL NOT SUPPORT COMBUSTION. USE CAUTIOUS JUDGMENT WHEN CLEANING UP LARGE SPILLS.

SECTION XII **SPECIAL PRECAUTIONS**

STORE IN A COOL, DRY PLACE. KEEP AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN HAZARDOUS PRODUCT RESIDUES. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, APPLYING COSMETICS, OR USING TOILET FACILITIES.

SECTION XIII **TRANSPORTATION REQUIREMENTS**

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:

NOT REGULATED

D.O.T. PROPER SHIPPING NAME

NOT DETERMINED - KEEP AWAY FROM FOOD