

# MATERIAL SAFETY DATA SHEET

Prepared: July, 2008 M. B. Zelek

<b>24 HOUR EMERGENCY ASSISTANCE</b>  <b>CHEMTREC: 800-424-9300</b>	<b>AMERICAN SYNTHETICS COMPANY</b>  14255 N. 79th St. Scottsdale, AZ 85260 Ph 480.951-8400
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ACUTE HEALTH	FIRE	REACTIVITY	HAZARD RATING	LEAST - 0 SLIGHT - 1 MODERATE - 2 HIGH - 3 EXTREME - 4
2	1	1		

<b>SECTION I</b>	<b>CURING AGENT - HARDENER PART - B</b>
<b>PRODUCT NAME</b>	▶ <b>KNIFE-WELD - HARDENER Ingredient</b>
<b>CHEMICAL NAME</b>	<b>EPOXY CURING AGENT</b>
<b>CHEMICAL FAMILY</b>	<b>MIXED POLYAMIDE, POLYAMINES</b>

<b>SECTION II-A</b>	<b>PRODUCT / INGREDIENT</b>
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Number	Composition	CAS Number	Percent
<b>P</b>	<b>HARDENER INGREDIENT, Amines</b>	<b>MIXTURE</b>	
1	POLYOXYPROPYLAMINE	39423-51-3	<b>20-30%</b>
2	SURFACE ACTIVE AGENTS		<b>0.09%</b>
3	N-AMINOETHYLPIPERAZINE	140-31-8	<b>9-12%</b>
4	POLY AMINOAMIDE	68082-29-1	<b>16-20%</b>
5	BISPHENOL A	80057	<b>7-11%</b>
6	NONYL PHENOL	84582-15-3	<b>9-14%</b>
7	NON REACTIVE FILLERS		<b>20-33%</b>

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

<b>SECTION II-B</b>	<b>TOXICITY DATA</b>
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Number	Acute Oral LD50	Acute Dermal LD50	Acute Inhalation
<b>P</b>	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE
1	.22 G/KG (RAT)	.61 G/KG (RABBIT)	N.A.
2			RELATIVELY HARMLESS
3	2.15 G/KG (RAT)	880 MG/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	2.14 g/kg	N/A
7	N.A		N/A

<b>SECTION III</b>	<b>HEALTH INFORMATION</b>
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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	<b>NONE ESTABLISHED</b>				
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					

\* 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**

<b>BOILING POINT</b>	Not determined	<b>SPECIFIC GRAVITY</b>	8.73 lbs. / gal
<b>MELTING POINT</b>	N.A	<b>SOLUBILITY (In Water)</b>	Partial
<b>EVAPORATION RATE</b>	(n-Butyl Acetate = 1): Less 1	<b>VAPOR PRESSURE</b>	Not Determined
<b>APPEARANCE</b>	Thixotropic Paste	<b>VAPOR DENSITY</b>	Less 1

**SECTION VIII FIRE AND EXPLOSION HAZARDS**

**FLASH POINT AND METHOD**

T.C.C., F. Greater than 220

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

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<b>CHEMTREC: 800-424-9300</b>			14255 N. 79th St. Scottsdale, AZ 85260 Ph 480.951-8400		
<b>ACUTE HEALTH</b>	<b>FIRE</b>	<b>REACTIVITY</b>	<b>HAZARD RATING</b>		
1	0	0	LEAST - 0 SLIGHT - 1 MODERATE - 2 HIGH - 3 EXTREME - 4		

SECTION I		EPOXY RESIN - PART - A
<b>PRODUCT NAME</b>	▶ <b>KNIFE-WELD - COMPOUND</b> Ingredient	
<b>CHEMICAL NAME</b>	EPICHLOROHYDRIN BASED EPOXY RESINS	
<b>CHEMICAL FAMILY</b>	EPOXY	

SECTION II-A	PRODUCT / INGREDIENT		
Number	Composition	CAS Number	Percent
<b>P</b>	<b>COMPOUND INGREDIENT, Epoxy Resin</b>	<b>MIXTURE</b>	
1	Polymer of EPICHLORHYDRIN & BISPHENOL A	025085-99-8	66-79%
2	SURFACE ACTIVE AGENTS		2-4%
3	DEFOAMERS, Additives *		1-3%
4	ALKYL GLYCIDYL ETHER (C12-C14)	068609-97-2	11-18%
5	NON REACTIVE FILLERS		6-11%
* SPECIFIC CHEMICAL IDENTITY AND / OR PROPORTION OF THIS COMPONENT IS BEING HELD AS TRADE SECRET INFORMATION.			

SECTION II-B	TOXICITY DATA		
Number	Acute Oral LD50	Acute Dermal LD50	Acute Inhalation
<b>P</b>	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			
* 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	11-18%
5					

\* 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**

<b>BOILING POINT</b> N.A.	<b>SPECIFIC GRAVITY</b>	9.73 lbs. / gal
<b>MELTING POINT</b> N.A.	<b>SOLUBILITY (In Water)</b>	NEGLIGIBLE
<b>EVAPORATION RATE</b> NOT AVAILABLE	<b>VAPOR PRESSURE</b>	.03 AT 77 DEG. C
<b>APPEARANCE</b> Non Flowing Paste	<b>VAPOR DENSITY</b>	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.

**FLAMMABLE LIMITS**

Lower: NA Upper: NA

**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