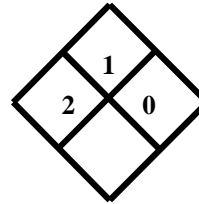


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Asia Pacific Emergency Phone: (65) 6336-6011

Effective Date: 2/24/09**Material Safety Data Sheet**

MSDS No: 11243

1. PRODUCT IDENTIFICATION**Trade Name:** Araldite LY 8601 US**Chemical Family:** Epoxy

NFPA RATING

Health:	2
Flammability:	1
Reactivity:	0
Personal Protection:	

HMIS RATING

Synonyms:

RenInfusion 8601
Resinfusion 8601 Resin
TDT 177-151 RESIN

Intended Use or Product Type: Low viscosity resin blend for RTM**2. COMPOSITION / INFORMATION ON INGREDIENTS**

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	25068-38-6	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane Bisphenol A diglycidyl ether polymer Concentration 60.00 - 100.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR
*	3101-60-8	Oxirane, [[4-(1,1-dimethylethyl)phenoxy]methyl]- Butylphenyl glycidyl ether Concentration 5.00 - 10.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR
*	6846-50-0	Propanoic Acid, 2-Methyl-, 2,2-Dimethyl-1-(1-Methylethyl)-1,3-Propanediyl Ester Trimethyl pentanediol diisobutyrate Concentration 5.00 - 10.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR
*	68609-97-2	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. C12 and C14 Alkyl Glycidyl Ethers Concentration 10.00 - 30.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

3. HAZARDS IDENTIFICATION

Emergency Overview: Causes skin and eye irritation. May cause allergic skin reaction.

Primary Route(s) of Entry: Dermal; heated product may produce inhalable vapors.

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes. Seek immediate medical attention.

Inhalation: Remove to fresh air. Seek immediate medical attention.

Eyes: Immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention.

Overexposure Effects: Causes skin and eye irritation. May cause allergic skin reaction.

Medical Conditions Aggravated by Exposure: Skin and eye conditions.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

5. FIRE FIGHTING MEASURES

Flash Point:	> 200°F (> 93 °C)
Flash Point Method Used:	Estimated
Flammable Limits in Air (Lower - % by volume):	Not established
Flammable Limits in Air (Upper - % by volume):	Not established

Fire Fighting Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

Fire Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

7. HANDLING AND STORAGE

Effective Date: 2/24/09

Signal Word: Warning!**Precautions:** Can cause skin irritation, eye irritation, and allergic skin reaction. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.**Other Handling Information:** Nuisance dust may be generated when sanding or sawing cured material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection: Impermeable gloves and protective clothing.**Respiratory Protection:** Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.**Eye Protection:** Wear splash-proof chemical goggles.**Engineering Controls:** General mechanical and local exhaust in accordance with ACGIH recommendations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Light Blue
Odor:	Epoxy
Physical State:	Liquid
Solubility in Water:	Insoluble
Vapor Pressure:	Not Determined
Specific Gravity:	1.1 (water = 1)
Boiling Point:	> 626°F (> 330 °C)
Evaporation Rate:	Not Determined
Vapor Density:	Not Determined
pH:	Not Determined
Coefficient of water/oil:	Not Determined

10. STABILITY AND REACTIVITY

Conditions to Avoid: Excessive heat for prolonged periods of time.**Stability:** Stable.**Incompatibility:** Strong oxidizers, acids and bases.**Hazardous Decomposition Products:** Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.**Hazardous Polymerization:** Will not occur.

11. TOXICOLOGICAL INFORMATION

Sensitization: Possible in susceptible individuals.**Skin Irritation:** Irritant.**Eye Irritation:** Irritant.

Effective Date: 2/24/09

12. ECOLOGICAL INFORMATION**13. DISPOSAL CONSIDERATIONS**

Waste Disposal Method: Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

14. TRANSPORT INFORMATION**DOT: Non-Bulk****Proper Shipping Name:**

Resin compounds, N.O.I.

IATA: Non-Bulk**Proper Shipping Name:**

Resin compounds, N.O.I.

IMDG: Non-Bulk**Proper Shipping Name:**

Resin compounds, N.O.I.

TDG: Non-Bulk**Proper Shipping Name:**

Resin compounds, N.O.I.

Department of Transportation: Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.

15. REGULATORY INFORMATION**US Federal Regulations:**

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

Resource Conservation and Recovery Act (RCRA): Not a hazardous waste under RCRA (40 CFR 261).

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.

TSCA Section 12(b) - Export Notification: This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

International Regulations:

Australian Inventory Status: This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

Canadian Inventory Status: This product contains components which are included on the Domestic Substances List (DSL) and the Non-Domestic Substances List (NDSL).

Effective Date: 2/24/09

Canadian WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. D2B

European Inventory Status (EINECS): This product contains only chemicals that are currently listed on the European Inventory of Existing Commercial Chemical Substances (EINECS).

Japanese Inventory Status: This product contains one or more chemicals currently not on the Japanese Ministry of International Trade and Industry List of Existing and New Chemical Substances.

State Regulations:

California Proposition 65: This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

Pennsylvania Right-to-Know: The following is required composition information:

Chemical Name: Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane

Common Name: Bisphenol A diglycidyl ether polymer

CAS Number: 25068-38-6

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Common Name: C12 and C14 Alkyl Glycidyl Ethers

CAS Number: 68609-97-2

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Oxirane, [[4-(1,1-dimethylethyl)phenoxy]methyl]-

Common Name: Butylphenyl glycidyl ether

CAS Number: 3101-60-8

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Propanoic Acid, 2-Methyl-, 2,2-Dimethyl-1-(1-Methylethyl)-1,3-Propanediyl Ester

Common Name: Trimethyl pentanediol diisobutyrate

CAS Number: 6846-50-0

Comment: Not on Pennsylvania Hazardous Substance List

16. OTHER INFORMATION

MSDS No: 11243

Reason Issued: update + WHMIS 2/09

Other Information: D10020030 (D24)

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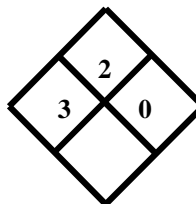


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Effective Date: 3/13/09**Material Safety Data Sheet**

MSDS No: 11245

1. PRODUCT IDENTIFICATION**Trade Name:** Aradur 8602 US**Made In:** U.S.A.**Chemical Family:** Amine

NFPA RATING

Health:	3*
Flammability:	2
Reactivity:	0
Personal Protection:	

HMIS RATING

Synonyms:

LST 8323 Hardener
Ren 8602
Resinfusion (TM) 8602 Hardener
TDT 177-152 Hardener

Intended Use or Product Type: resin hardener**2. COMPOSITION / INFORMATION ON INGREDIENTS**

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	102-71-6	Ethanol, 2,2',2''-nitrioltris- Triethanol amine Common Name: Concentration 1.00 - 5.00 % by wt	5 mg/m3	NE	NE	NE	NE	NR	NR	NR
*	110-85-0	Piperazine Piperazine Common Name: Concentration 1.00 - 5.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR
*	111-40-0	1,2-Ethanediamine, N-(2-aminoethyl)- Diethylenetriamine Common Name: Concentration 10.00 - 30.00 % by wt	1 ppm	NE	NE	NE	NE	NR	NR	NR
*	25154-52-3	Phenol, Nonyl- Nonyl Phenol Common Name: Concentration 10.00 - 30.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR
*	27136-73-8	1H-Imidazole-1-ethanol, 2-(heptadecenyl)-4,5-dihydro- Substituted imidazole Common Name:	NE	NE	NE	NE	NE	NR	NR	NR

Effective Date: 3/13/09

	Concentration	10.00 - 30.00 % by wt								
*	9046-10-0	Poly[Oxy(Methyl-1,2-Ethanediy)], .alpha.-(2-Aminomethylethyl)- .omega.-(2-Aminomethylethoxy)- Polyoxypropylenediamine	NE	NE	NE	NE	NE	NR	NR	NR
	Common Name: Concentration	30.00 - 60.00 % by wt								

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

3. HAZARDS IDENTIFICATION

Emergency Overview: Combustible. Corrosive - causes skin and eye burns. Can cause allergic respiratory reaction and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed.

Primary Route(s) of Entry: Dermal; heated product may produce inhalable vapors.

Acute Exposure: Corrosive. Causes skin and eye burns.

Chronic: Overexposure may have effects on kidney.

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes. Seek immediate medical attention.

Inhalation: Remove to fresh air. Seek immediate medical attention.

Eyes: Immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention.

Overexposure Effects: Corrosive - causes skin and eye burns. Can cause allergic respiratory reaction and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed.

Medical Conditions Aggravated by Exposure: Skin, eye and pulmonary conditions.

Additional Information: Referral to a physician is recommended if there is any question about the seriousness of any injury.

5. FIRE FIGHTING MEASURES

Flash Point: > 194°F (> 90 °C)

Flash Point Method Used: Estimated

Flammable Limits in Air (Lower - % by volume): Not established

Flammable Limits in Air (Upper - % by volume): Not established

Fire Fighting Extinguishing Media: Carbon dioxide, dry chemical, foam, water.

Effective Date: 3/13/09

Fire Fighting Equipment: Use self-contained breathing apparatus.

Fire and Explosion Hazards: Decomposition and combustion products may be toxic.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Remove spillage by absorbing in absorbent material.

7. HANDLING AND STORAGE

Signal Word: Danger!

Precautions: Combustible. Keep away from heat and flame. Corrosive - causes skin and eye burns. Can cause allergic respiratory reaction and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Avoid tasting or swallowing. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling. Notice! Overexposure may have effects on developing fetus.

Other Handling Information: Nuisance dust may be generated when sanding or sawing cured material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection: Wear impermeable gloves.

Respiratory Protection: Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.

Eye Protection: Wear splash-proof chemical goggles.

Engineering Controls: General mechanical and local exhaust in accordance with ACGIH recommendations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear Amber
Odor:	Amine
Physical State:	Liquid
Solubility in Water:	Moderate
Vapor Pressure:	Not Determined
Specific Gravity:	0.96 (water = 1)
Boiling Point:	Not Determined
Evaporation Rate:	Not Determined
Vapor Density:	Not Determined
VOC:	Negligible
pH:	Not Determined
Coefficient of water/oil:	Not Determined

10. STABILITY AND REACTIVITY

Conditions to Avoid: Excessive heat for prolonged periods of time.

Effective Date: 3/13/09

Stability: Stable.**Incompatibility:** Strong oxidizers, acids and bases.**Hazardous Decomposition Products:** Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.**Hazardous Polymerization:** Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral Effects (LD50): Component(s) are slightly toxic, 500 - 5000 mg/kg (rat).
Diethylenetriamine= 1080 - 2330 mg/kg (rat)**Acute Dermal Toxicity (LD50):** Component(s) are toxic, 200 - 1000 mg/kg (rabbit).
Diethylenetriamine= 672 - 1240 mg/kg (rabbit)**Sensitization:** May cause allergic skin reaction and respiratory sensitivity in some people.**Skin Irritation:** Corrosive. Causes burns.**Eye Irritation:** Corrosive. Causes burns.

12. ECOLOGICAL INFORMATION

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT: Non-Bulk

Proper Shipping Name:	Polyamines, liquid, corrosive, N.O.S.
Technical Shipping Name (If n.o.s.):	Polyoxypropylenediamine, Diethylene triamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG II
Label:	Corrosive

IATA: Non-Bulk

Proper Shipping Name:	Polyamines, liquid, corrosive, N.O.S.
Technical Shipping Name (If n.o.s.):	Polyoxypropylenediamine, Diethylene triamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG II
Label:	Corrosive

IMDG: Non-Bulk

Proper Shipping Name:	Polyamines, liquid, corrosive, N.O.S.
Technical Shipping Name (If n.o.s.):	Polyoxypropylenediamine, Diethylene triamine
Hazard Class:	8
ID Number:	UN 2735



Effective Date: 3/13/09

Packing Group:	PG II
Label:	Corrosive
TDG: Non-Bulk	
Proper Shipping Name:	Polyamines, liquid, corrosive, N.O.S.
Technical Shipping Name (If n.o.s.):	Polyoxypropylenediamine, Diethylene triamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG II
Label:	Corrosive

15. REGULATORY INFORMATION

US Federal Regulations:

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

Resource Conservation and Recovery Act (RCRA): Not a hazardous waste under RCRA (40 CFR 261) but handle with care due to corrosive effect on skin and eyes.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.

TSCA Section 12(b) - Export Notification: This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

International Regulations:

Australian Inventory Status: This product contains one or more chemicals currently not on the Australian Inventory of Chemical Substances.

Canadian Inventory Status: This product contains one or more chemicals currently not on the Canadian Domestic Substance List.

Canadian WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. D2B, E

European Inventory Status (EINECS): This product contains one or more chemicals currently not on the European Inventory of Existing Commercial Chemical Substances (EINECS) or Pre-market notified.

Japanese Inventory Status: This product contains one or more chemicals currently not on the Japanese Ministry of International Trade and Industry List of Existing and New Chemical Substances.

State Regulations:

California Proposition 65: This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

Effective Date: 3/13/09

Pennsylvania Right-to-Know: The following is required composition information:

Chemical Name: Poly[Oxy(Methyl-1,2-Ethanediy)], .alpha.-(2-Aminomethylethyl)-.omega.-(2-Aminomethylethoxy)-

Common Name: Polyoxypropylenediamine

CAS Number: 9046-10-0

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: 1,2-Ethanediamine, N-(2-aminoethyl)-

Common Name: Diethylenetriamine

CAS Number: 111-40-0

Comment: Hazardous Substance

Chemical Name: 1H-Imidazole-1-ethanol, 2-(heptadecenyl)-4,5-dihydro-

Common Name: Substituted imidazole

CAS Number: 27136-73-8

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: Phenol, Nonyl-

Common Name: Nonyl Phenol

CAS Number: 25154-52-3

Comment: Hazardous Substance

Chemical Name: Ethanol, 2,2',2''-nitrilotris-

Common Name: Triethanol amine

CAS Number: 102-71-6

Comment: Hazardous Substance

Chemical Name: Piperazine

Common Name: Piperazine

CAS Number: 110-85-0

Comment: Hazardous Substance

16. OTHER INFORMATION**MSDS No:** 11245**Reason Issued:** rename 3/09

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Effective Date: 3/13/09

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