

P.O. Box 4980
The Woodlands, TX 77387-4980

8 am to 5 pm Phone: (800) 257-5547
24-Hour Emergency Phone: (800) 328-8501
International Emergency Phone: (409) 727-0831
Asia Pacific Emergency Phone: (65) 6336-6011

Effective Date: 4/6/10

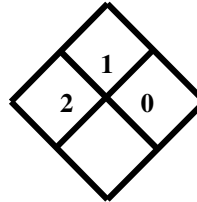
Material Safety Data Sheet

MSDS No: 5667

1. PRODUCT IDENTIFICATION

Trade Name: Araldite AY 557

Chemical Family: Epoxy



NFPA RATING

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

HMIS RATING

Synonyms:
Ren Rapid Resin

Intended Use or Product Type: Epoxy adhesive

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 Common Name: Bisphenol A diglycidyl ether polymer Concentration: 60.00 - 100.00 % 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 allergic skin reaction. May cause skin and eye irritation.

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.

Effective Date: 4/6/10

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: May cause 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:	254°C (489 °F)
Flash Point Method Used:	Closed Cup
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

Signal Word: Warning!

Precautions: Can cause allergic skin reaction and may cause mild skin and mild eye irritation. 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: 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

Effective Date: 4/6/10

Color:	Amber
Physical State:	Liquid
Solubility in Water:	Insoluble
Vapor Pressure:	< 1 mm Hg at 100°C (212 °F)
Specific Gravity:	1.15 - 1.17 (water = 1)
Boiling Point:	> 200°C (> 392 °F)
Decomposition Temperature:	> 200°C (> 392 °F)
Evaporation Rate:	Not Determined
Vapor Density:	Not Determined
VOC:	Negligible
pH:	Not Determined
Coefficient of water/oil:	Not Evaluated

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: Moderate sensitizer.

Carcinogenicity: Based on several dermal studies in mice, IARC had concluded in 1999 that diglycidyl ether of bisphenol A is not classifiable as a human carcinogen (Group 3) and has limited evidence of carcinogenicity in animals.

Skin Irritation: (rabbit) moderate irritation.

Eye Irritation: (rabbit) slight irritation.

Reproduction: For diglycidyl ether of bisphenol A- There were no treatment-related histologic changes noted nor effects on reproductive performance in rats at any oral dose tested.

Teratogenicity: For diglycidyl ether of bisphenol A- No adverse effects on embryonic or fetal development was observed in rabbits after dermal exposure.

Mutagenicity: For diglycidyl ether of bisphenol A- In vitro tests showed mutagenic effects which were not observed with in vivo tests.

Sub-Chronic: Diglycidyl ether of bisphenol A, applied to the skin of rats five times per week for approximately 13 weeks, caused no apparent systemic toxicity with the exception of decreased body weight and body weight gain.

12. ECOLOGICAL INFORMATION

Effective Date: 4/6/10

Biodegradability: (Modified Sturm method): ~12%**Fish Toxicity:** Rainbow Trout (96hr.): LC50 1.5 mg/l.
Zebra Fish (96hr.): LC50 2.4 mg/l**Invertebrate Toxicity:** Daphnia Toxicity (24 hr.): EC50 3.6 mg/l.**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:	Environmentally hazardous substance, liquid, n.o.s.
Technical Shipping Name (If n.o.s.):	Bisphenol A epoxy resin
Hazard Class:	9
ID Number:	UN 3082
Packing Group:	PG III
Marine Pollutant:	Marine Pollutant

IATA: Non-Bulk

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.
Technical Shipping Name (If n.o.s.):	Bisphenol A epoxy resin
Hazard Class:	9
ID Number:	UN 3082
Packing Group:	PG III
Marine Pollutant:	Marine Pollutant

IMDG: Non-Bulk

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.
Technical Shipping Name (If n.o.s.):	Bisphenol A epoxy resin
Hazard Class:	9
ID Number:	UN 3082
Packing Group:	PG III
Marine Pollutant:	Marine Pollutant

TDG: Non-Bulk

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.
Technical Shipping Name (If n.o.s.):	Bisphenol A epoxy resin
Hazard Class:	9
ID Number:	UN 3082
Packing Group:	PG III
Marine Pollutant:	Marine Pollutant

15. REGULATORY INFORMATION

Effective Date: 4/6/10

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 only chemicals that are currently listed 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

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 only chemicals currently listed 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

16. OTHER INFORMATION

MSDS No: 5667
Reason Issued: 4/10 update DOT/WHMIS
Approved By: Matt Austin

Effective Date: 4/6/10

Title: EHS Chemist**Other Information:** DLW (D10020030) [D01]

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Effective Date: 11/8/10

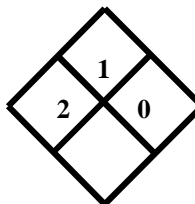
Material Safety Data Sheet

MSDS No: 5823

1. PRODUCT IDENTIFICATION

Trade Name: Hardener HY 557

Chemical Family: Mercaptan



NFPA RATING

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

HMIS RATING

Synonyms:
Ren Rapid Hardener

Intended Use or Product Type: Epoxy adhesive 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				
*	90-72-2	Phenol, 2,4,6-tris[(dimethylamino)methyl]- Common Name: 2,4,6-tris(Dimethylaminomethyl)phenol Concentration: 5.00 - 10.00 % by wt	NE	NE	NE	NE	TLV 5 ppm	NR	NR	NR
*	Confidential Concentration	Mercaptan-terminated Polymer 90.00 - 100.00 % 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.



Effective Date: 11/8/10

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:	> 149°C (> 300 °F)
Flash Point Method Used:	Open Cup
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

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: 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.

Effective Date: 11/8/10

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Amber
Odor:	Mercaptan
Physical State:	Liquid
Solubility in Water:	Slight
Viscosity:	Not Evaluated
Specific Gravity:	1.14 (water = 1)
Boiling Point:	Not Determined
Evaporation Rate:	< 0.01 (Butyl Acetate = 1)
Vapor Density:	Not Evaluated
VOC:	Negligible
pH:	Not Evaluated

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.

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:	Not Regulated
IATA: Non-Bulk	
Proper Shipping Name:	Not Regulated
IMDG: Non-Bulk	

Proper Shipping Name: Not Regulated
TDG: Non-Bulk
Proper Shipping Name: Not Regulated

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 only chemicals that are currently listed 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

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 only chemicals currently listed 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: Mercaptan-terminated Polymer
CAS Number: Confidential
Comment: Environmental Hazardous Substance

Effective Date: 11/8/10

Chemical Name: Phenol, 2,4,6-tris[(dimethylamino)methyl]-

Common Name: 2,4,6-tris(Dimethylaminomethyl)phenol

CAS Number: 90-72-2

Comment: Not on Pennsylvania Hazardous Substance List

16. OTHER INFORMATION

MSDS No: 5823
Reason Issued: 11/10 update

Other Information: DLW (D10020030) [D24]

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The information and recommendations contained herein are not intended to constitute performance information concerning the product, which is available in separate technical data sheets available from Huntsman upon request. Users are urged, and are urged to urge others who may come in contact with the product, to obtain and consult data sheets prior to purchase, use, transportation or storage of the product.

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