

MATERIAL SAFETY DATA SHEET



Jubail Chemical Industries Company
P.O.Box - 10661
Jubail Industrial City -31961
Kingdom Of Saudi Arabia
Emergency Phone : 00966-3-3585002
Fax : 00966-3-3583192

Effective Date: 15.08.2005

Araldite® GY 257

Revision: 00

1. Product Identification

Trade Name : **Araldite® GY 257**
Chemical Family : Bisphenol A epoxy resin containing reactive diluent.
Product Type : Liquid Resin containing reactive diluent.

2. Composition / Information On Ingredients

Reaction Product : Bisphenol-A (Epichlorohydrin) Epoxy Resin (70 -78%)
Xi,N R36/38 , R43 ,R51/53
Containing reactive diluent o-cresyl glycidyl ether(22 -30 %)
Xi,N R38 , R43 ,R51/53 , R68

C.A.S Number : 25068-38-6 (Bisphenol-A (Epichlorohydrin) Epoxy Resin)
2210-79-9 (O- cresyl glycidyl ether)

Common Name : Bisphenol –A Epoxy resin

Exposure Limits : OSHA PEL : Not Established
ACGIH TLV: Not Established

Carcinogenicity : This chemical is not considered to be Carcinogenic by NTP, IARC or OSHA.

3. Hazards Identification

Irritating to eyes & skin.

Possible risks of irreversible effects.

May cause sensitization by skin contact.

Toxic to aquatic organism, may cause long-term effects in the aquatic environment.

Emergency Overview: Warning! Causes allergic skin reactions. May cause irritation.

4. First Aid Measures

Ingestion : If swallowed, give at least 3-4 glass of water but do not induce vomiting. If vomiting occurs, give water again. Do not give anything by mouth to an unconscious or convulsing person. Get Medical

attention. Have physician determine whether vomiting or stomach evacuation is necessary.

- Skin** : For skin contact, wash with large amounts of running water,(and soap), if available, for 15 minutes. Remove contaminated clothing and shoes. Get immediate medical attention. Discard or decontaminate clothing before re-use and destroy contaminated shoes.
- Inhalation** : If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
- Eyes** : For eyes contact, immediately flush eyes for 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire surface and lids with water. Get immediate medical attention.
- Overexposure effect** : Irritation, sensitization and dermatitis.
- Additional Information** : Promptly remove wet contaminated non-impervious clothing. Wash before reuse. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire fighting Measures

- Flash point** : 138°C (280°F) closed cup
- Fire Fighting Extinguishing Media** : Carbon dioxide, Foam, Dry Chemical & water spray.
(Do not use high volume water jet for safety reason)
- Fire Fighting Procedure** : Use self –contained breathing apparatus & protective suit.
- Hazardous Combustion Products** : Decomposition and combustion product may be toxic. Under conditions of incomplete combustion or pyrolysis, Phenolics and carbon dioxides may be evolved. The thermal decomposition products therefore should be treated as potentially hazardous substances and appropriate precautions should be taken.
- Fire & Explosion Hazards** : Non-flammable product.

6. Accidental Release Measures

- Personal Precaution** : Avoid all personal contact. Wear adequate personal protective equipment.
- Environmental Precautions** : Contain liquid to prevent contamination of soil, surface water or ground water. Flushings and wash waters must be contained and prevented from entering into soil, water ways and ground water. Large spills: Contain with dike.
- Methods of Cleaning up** : Cover and soak up with a suitable absorbent material, such as Sand. Shovel and collect in suitable and properly labeled containers. Dispose of according to applicable regulations. Disposal

consideration: Residual can be removed with solvent. Solvents are not recommended for cleanup unless the recommended exposure guidelines and safe handling practices for the specific solvent are followed. Residual product may be removed using steam or hot soapy water.

7. Handling and Storage

Precautions	:	Avoid contact with eyes, skin and clothing. Avoid breathing vapor, mist or spray. Use only with good ventilation. Promptly remove wet contaminated non-impervious clothing and wash before reuse. Destroy contaminated leather and absorbent shoes. Individuals should wash thoroughly after handling. Provide sufficient air exchange and /or exhaust in work rooms. Avoid formation of Aerosol. Handle and open container with care.
Storage information	:	Keep at temperature between 2 and 40 ° C, in a dry area in sealed containers. Keep containers closed to prevent moisture absorption and contamination.

8. Exposure Controls / Personal Protection

Personal Protective Equipment	:	Wear appropriate equipment to prevent eye or skin contact.
Skin protection	:	Wear impervious gloves and protective suit.
Respiratory Protection	:	Organic chemical cartridge respirator, if needed.
Eye protection	:	Wear splash-proof chemical goggles.
Engineering Controls	:	Good general mechanical ventilation and local exhaust.

9. Physical & Chemical properties

Color	:	Clear
Odor	:	Slight
Physical state	:	Liquid
Solubility in water	:	Insoluble at 20° C
Vapour pressure	:	1 Pa at 20 ° C
Specific Gravity	:	1.11-1.16 at 20° C
Flash Point	:	138 ° C

10. Stability and Reactivity

Condition to Avoid	:	Take necessary action to avoid static electricity discharge. Avoid strong acids or bases in bulk and elevated temperatures.
Stability	:	Stable under normal storage condition.
Incompatibility	:	Strong oxidizing agents.
Hazardous Decomposition	:	Carbon oxides. Burning produces obnoxious and toxic fumes.

Products

Hazardous Polymerization : Will not occur by itself, but masses of more than 0.5 kg of product, plus an aliphatic amine will cause irreversible polymerization with considerable heat build up.

11. Toxicological Information

Acute Oral effect(LD50) : (Rat) > 5,000 mg / kg.
Dermal Toxicity (LD50) : (Rabbit) > 6,000 mg/kg.
Sensitization : Causes sensitization (Guinea pig , dermal).
Skin Irritation : Irritating (Rabbit) dermal.
Eye Irritation : Irritating (Rabbit).
Mutagenicity : o-cresyl glycidyl ether is a direct acting mutagen in in- vitro test systems. Studies in vivo, including micronucleus test and assays in transgenic animals, showed no mutagenic activity.
Chronic Skin Exposure effect. : Prolonged or repeated exposure may cause skin irritation, even a Burn. May cause more severe response on covered skin (under clothing, gloves).

Mice receiving skin applications of the Diglycidyl Ether of Bisphenol A or essentially identical resins for two years have yielded very limited evidence of weak carcinogenicity. The published report on his study concludes that this resin product “is not a systemic carcinogen when applied to the skin of CF-1 mice” and the tumor data “was of no biological importance”. Based on all available data, IARC (International Agency for research on Cancer) has concluded in 1988 that DGEBA is not classified as a carcinogen.

12. Ecological Information

Biodegradability : Based on the stringent OECD test guidelines, this material can not be considered as readily biodegradable; however these results do not necessarily mean that the material is not biodegradable under environmental condition.
Fish Toxicity : Rainbow Trout : LC50 7.5 mg/l.
Invertebrate Toxicity : Water flea Daphnia magna: EC50 3.3 mg/l.

13. Disposal Considerations

Waste Disposal Method : Must be incinerated, when in compliance with local regulations. Do not dump into any sewers, on the ground, or into any water.
Container : Empty container can be land filled after cleaning, when in Compliance with the Environmental (Duty of care) regulation (1991)
Contaminated Packaging : Empty container must be disposed of as hazardous waste unless all remaining product adhering to the container walls has been removed. If the container is to be reconditioned, the reconditioning company

should be made aware of the nature of the original contents.

14. Transport Information

Land Transport

ADR:

UN No. : 3082
Class : 9
Classification Code : M6
Packaging group : III
Risk No. : 90
ADR /RID –labels : 9
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE
LIQUID, N.O.S.
Contains : BISPHENOL A EPOXY RESIN,
1,2-CRESYL GLYCIDYL ETHER

RID :

UN No. : 3082
Class : 9
Packaging group : III
Risk No. : 90
ADR /RID –labels : 9
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE
LIQUID, N.O.S.
Contains : BISPHENOL A EPOXY RESIN,
1, 2-CRESYL GLYCIDYL ETHER

Sea Transport

IMDG :

UN No. : 3082
Class : 9
Packaging group : III
Risk No. : 90
ADR /RID –labels : 9
MFAG , EMS : None
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE
LIQUID, N.O.S.
Contains : BISPHENOL A EPOXY RESIN,
1, 2-CRESYL GLYCIDYL ETHER

Air Transport

IATA-DGR :

UN No. : 3082
Class : 9
Packaging group : III

Packing instruction (Cargo : aircraft)	:	914	
Max.Qty / Pack.	:	999.00 L	(999.00 = No limit)
Packing instruction (Passenger aircraft)	:	914	
Max.Qty / Pack.	:	999.00 L	(999.00 = No limit)
ADR /RID –labels	:	9	
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S.	
Contains	:	BISPHENOL A EPOXY RESIN, 1, 2-CRESYL GLYCIDYL ETHER	

15. Regulatory information

Labelling according to EEC Directive

Labeling required

Symbol(s)	:	Xn N	Harmful Dangerous for the environment.
R-phrases(s)	:	R36/38 R40 R43 R51/53	Irritating to eyes and skin. Possible risks of irreversible effects. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment..
S-phrases(s)	:	S28 S37/39 S61	After contact with skin, wash immediately with plenty of soap and water. Wear suitable gloves and eye / face protection. Avoid release to the environment. Refer to special Instructions /Safety data sheets.
Exceptional labeling of Special preparations	:	Contains epoxy constituents.	
Hazardous components Which must be listed on the label	:	Reaction product: Bisphenol A-(epichlorohydrin); epoxy resin (number average molecular weight <700)	

16. Other Information

Disclaimer: The following supercedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be constructed as inducements to infringe any relevant patent. Under no circumstances shall seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and seller's sole liability for any claims shall be Buyer's purchase price. Data and result are based on controlled or lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

Note: Araldite® is a registered trademark of Huntsman LLC or an affiliate thereof.