



SAFETY DATA SHEET
FLAME RETARDANT EPOXY RESIN 2002A

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME FLAME RETARDANT EPOXY RESIN 2002A
PRODUCT NO. EER2002A
APPLICATION Resin
SUPPLIER ELECTROLUBE. A division of
 HK WENTWORTH LTD
 KINGSBURY PARK, MIDLAND
 ROAD
 SWADLINCOTE
 DERBYSHIRE, DE11 0AN
 UNITED KINGDOM
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 +44(0)1283 550 177
 info@hkw.co.uk
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2 HAZARDS IDENTIFICATION

Irritating to eyes and skin.

May cause sensitisation by skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CLASSIFICATION Xi;R36/38. R43. R52/53.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification
EPOXY RESIN (Number average MW <= 700)	500-033-5	25068-38-6	10-30%	R43 Xi;R36/38 N;R51/53
Neodecanoic acid glycidyl ester	247-979-2	26761-45-5	1-5%	N;R51/53. R43.

The Full Text for all R-Phrases are Displayed in Section 16

COMPOSITION COMMENTS

Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels

4 FIRST-AID MEASURES

NOTES TO THE PHYSICIAN

Treat symptomatically

INHALATION

Move the exposed person to fresh air at once. Keep the affected person warm and at rest. Get prompt medical attention.

INGESTION

DO NOT INDUCE VOMITING! Rinse mouth thoroughly. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention immediately!

SKIN CONTACT

Rinse the skin immediately with lots of water. Get medical attention if any discomfort continues.

EYE CONTACT

Remove victim immediately from source of exposure. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

5 FIRE-FIGHTING MEASURES

FLAME RETARDANT EPOXY RESIN 2002A

EXTINGUISHING MEDIA

Fire can be extinguished using: Foam. Alcohol resistant foam. Dry chemicals, sand, dolomite etc.

SPECIAL FIRE FIGHTING PROCEDURES

Use water to keep fire exposed containers cool and disperse vapours.

6 ACCIDENTAL RELEASE MEASURES

SPILL CLEAN UP METHODS

Absorb in vermiculite, dry sand or earth and place into containers. Wear necessary protective equipment. Wash thoroughly after dealing with a spillage.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame.

STORAGE PRECAUTIONS

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT COMMENTS

WEL = Workplace Exposure Limits

PROTECTIVE EQUIPMENT



ENGINEERING MEASURES

Provide adequate general and local exhaust ventilation.

RESPIRATORY EQUIPMENT

No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION

Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

EYE PROTECTION

Use approved safety goggles or face shield.

OTHER PROTECTION

Wear appropriate clothing to prevent any possibility of skin contact.

HYGIENE MEASURES

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. When using do not eat, drink or smoke.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Viscous Liquid		
COLOUR	Black		
ODOUR	Characteristic		
SOLUBILITY	Insoluble in water		
RELATIVE DENSITY	1.8 @ 20 °c	VISCOSITY	7000,000 mPas 20
FLASH POINT (°C)	>100 CC (Closed cup).		

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions.

FLAME RETARDANT EPOXY RESIN 2002A

CONDITIONS TO AVOID

Avoid contact with acids and oxidising substances.

HAZARDOUS DECOMPOSITION PRODUCTS

Fire creates: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO2). Nitrous gases (NOx).

11 TOXICOLOGICAL INFORMATION

INHALATION

No specific health warnings noted.

INGESTION

May cause stomach pain or vomiting.

SKIN CONTACT

Irritating to skin. May cause allergic contact eczema. May cause sensitisation by skin contact.

EYE CONTACT

Irritating to eyes.

HEALTH WARNINGS

EYES, NOSE AND MOUTH. Repeated exposure may cause chronic eye irritation. SKIN. Mild dermatitis, allergic skin rash. Defatting, drying and cracking of skin.

ROUTE OF ENTRY

Ingestion. Skin and/or eye contact.

Name	EPOXY RESIN (Number average MW <= 700)
Toxic Dose 1 - LD 50	>5000 mg/kg (oral rat)
Toxic Dose 2 - LD 50	>20000 mg/kg (oral rat)

12 ECOLOGICAL INFORMATION

ECOTOXICITY

Dangerous for the environment if discharged into watercourses.

Name	EPOXY RESIN (Number average MW <= 700)
LC 50, 96 Hrs, FISH mg/l	3.1
EC 50, 48 Hrs, DAPHNIA, mg/l	1.4-1.7

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION

GENERAL

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

No transport warning sign required.

ROAD TRANSPORT NOTES

Not Classified

RAIL TRANSPORT NOTES

Not Classified.

SEA TRANSPORT NOTES

Not Classified.

AIR TRANSPORT NOTES

Not Classified.

ADR CLASS

Not classified for transportation.

MARINE POLLUTANT

No.

15 REGULATORY INFORMATION

SYMBOLS



Irritant

FLAME RETARDANT EPOXY RESIN 2002A

CONTAINS EPOXY RESIN (Number average MW <= 700)
Neodecanoic acid glycidyl ester

RISK PHRASES

R43	May cause sensitisation by skin contact.
R36/38	Irritating to eyes and skin.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY PHRASES

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37	Wear suitable gloves.
S24/25	Avoid contact with skin and eyes.
P5	Contains epoxy constituents. See information supplied by the manufacturer.

UK REGULATORY REFERENCES

Chemicals (Hazard Information & Packaging) Regulations.
The Control of Substances Hazardous to Health Regulations 1988.

ENVIRONMENTAL LISTING

Control of Pollution Act 1974. Control of Pollution (Special Waste Regulations) Act 1980. Rivers (Prevention of Pollution) Act 1961.

EU DIRECTIVES

Dangerous Substance Directive 67/548/EEC.
Dangerous Preparations Directive 1999/45/EC.
System of specific information relating to Dangerous Preparations. 2001/58/EC.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

APPROVED CODE OF PRACTICE

Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations.

GUIDANCE NOTES

Workplace Exposure Limits EH40.

16 OTHER INFORMATION

REVISION COMMENTS

Revised in accordance with CHIP3 and EU Directives 1999/45/EC and 2001/58/EC

ISSUED BY

Helen O'Reilly

REVISION DATE NOVEMBER 2008

REV. NO./REPL. SDS 4

GENERATED

SDS NO. 10864

RISK PHRASES IN FULL

R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



SAFETY DATA SHEET
FLAME RETARDANT EPOXY RESIN 2002B

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME FLAME RETARDANT EPOXY RESIN 2002B
PRODUCT NO. EER2002B
APPLICATION Resin
SUPPLIER ELECTROLUBE. A division of
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 info@hkw.co.uk
EMERGENCY TELEPHONE +44(0)1283 222 111 between 8.30 am - 5.00pm Mon - Fri

2 HAZARDS IDENTIFICATION

May cause sensitisation by skin contact.

Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

May cause cancer.

Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

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

Possible risk of irreversible effects.

CLASSIFICATION T;R39/23/24/25. Carc 2;R45. Xn;R48/20/21/22. Mut 3;R68. R43. N;R51/53.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification
4,4'-METHYLENEDIANILINE	202-974-4	101-77-9	60-80%	Carc. Cat. 2;R45 Muta. Cat. 3;R68 T;R39/23/24/25 Xn;R48/20/21/22 R43 N;R51/53
TETRAHYDROFURFURYL ALCOHOL	202-625-6	97-99-4	5-10%	Xi;R36
Polymeric MDA		25214-70-4	5-10%	Xn;R21/22.

The Full Text for all R-Phrases are Displayed in Section 16

COMPOSITION COMMENTS

Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels

4 FIRST-AID MEASURES

NOTES TO THE PHYSICIAN

Treat symptomatically

INHALATION

Move the exposed person to fresh air at once. Provide rest, warmth and fresh air. Get medical attention if any discomfort continues.

INGESTION

DO NOT INDUCE VOMITING! NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Provide rest, warmth and fresh air. Get medical attention immediately!

FLAME RETARDANT EPOXY RESIN 2002B

SKIN CONTACT

Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.

EYE CONTACT

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Fire can be extinguished using: Foam. Dry chemicals, sand, dolomite etc.

SPECIFIC HAZARDS

Fire creates: Vapours/gases/fumes of: Nitrous gases (NOx). Ammonia or amines. Carbon monoxide (CO).

6 ACCIDENTAL RELEASE MEASURES

SPILL CLEAN UP METHODS

Absorb in vermiculite, dry sand or earth and place into containers. Wear necessary protective equipment. Stop leak if possible without risk. DO NOT touch spilled material.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.

STORAGE PRECAUTIONS

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	Std	TWA - 8 hrs		STEL - 15 min		Notes
4,4'-METHYLENEDIANILINE	WEL	0.01 ppm(Sk)	0.08 mg/m3(Sk)			

WEL = Workplace Exposure Limit.

INGREDIENT COMMENTS

WEL = Workplace Exposure Limits

PROTECTIVE EQUIPMENT



ENGINEERING MEASURES

Provide adequate general and local exhaust ventilation. Observe Workplace Exposure Limits and minimise the risk of inhalation of vapours.

RESPIRATORY EQUIPMENT

No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION

Protective gloves must be used if there is a risk of direct contact or splash. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

EYE PROTECTION

Wear approved safety goggles.

OTHER PROTECTION

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

HYGIENE MEASURES

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

FLAME RETARDANT EPOXY RESIN 2002B

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Liquid		
COLOUR	Brown		
RELATIVE DENSITY	1.13 @ 20 °c	VISCOSITY	20,000 mPas @ 20 °c
FLASH POINT (°C)	91 CC (Closed cup).		

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions.

CONDITIONS TO AVOID

Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidisers.

HAZARDOUS DECOMPOSITION PRODUCTS

Fire creates: Acrid smoke/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Ammonia or amines. Nitrous gases (NO_x).

11 TOXICOLOGICAL INFORMATION

TOXIC DOSE 1 - LD 50 874 mg/kg (oral rat)

INHALATION

Toxic: danger of very serious irreversible effects through inhalation.

INGESTION

Toxic: danger of very serious irreversible effects if swallowed.

SKIN CONTACT

Toxic: danger of very serious irreversible effects in contact with skin. May cause sensitisation by skin contact.

EYE CONTACT

May cause severe irritation to eyes.

HEALTH WARNINGS

Known or suspected carcinogen for humans.

Irritation of nose and throat.

Name	TETRAHYDROFURFURYL ALCOHOL
Toxic Dose 1 - LD 50	25000 mg/kg (oral rat)

12 ECOLOGICAL INFORMATION

ECOTOXICITY

Dangerous for the environment if discharged into watercourses.

Name	TETRAHYDROFURFURYL ALCOHOL
EC 50, 48 Hrs, DAPHNIA, mg/l	8000

13 DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION



UK ROAD CLASS	6.1
PROPER SHIPPING NAME	4, 4'-DIAMINODIPHENYLMETHANE
UDF Phrase 1	Class 6.1: Toxic Substances

FLAME RETARDANT EPOXY RESIN 2002B

UN NO. ROAD	2651	UK ROAD PACK GR.	III
ADR CLASS NO.	6.1	ADR CLASS	Class 6.1:Toxic substances.
ADR PACK GROUP	III	HAZARD No. (ADR)	60
ADR LABEL NO.	6.1	HAZCHEM CODE	2Z
CEFIG TEC(R) NO.	61GT2-III	RID CLASS NO.	6.1
RID PACK GROUP	III	UN NO. SEA	2651
IMDG CLASS	6.1	IMDG PAGE NO.	9
IMDG PACK GR.	III	EMS	F-A, S-A
MFAG	See Guide	MARINE POLLUTANT	



UN NO. AIR	2651	AIR CLASS	6.1
AIR PACK GR.	III		

15 REGULATORY INFORMATION**SYMBOLS**

Toxic



Dangerous for the environment

CONTAINS

4,4'-METHYLENEDIANILINE

RISK PHRASES

R43	May cause sensitisation by skin contact.
R45	May cause cancer.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R68	Possible risk of irreversible effects.

SAFETY PHRASES

S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
S53	Avoid exposure - obtain special instructions before use.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
P11	Restricted to professional users.

UK REGULATORY REFERENCES

Chemicals (Hazard Information & Packaging) Regulations.

The Control of Substances Hazardous to Health Regulations 1988.

ENVIRONMENTAL LISTING

Rivers (Prevention of Pollution) Act 1961. Control of Pollution (Special Waste Regulations) Act 1980. Control of Pollution Act 1974.

EU DIRECTIVES

System of specific information relating to Dangerous Preparations. 2001/58/EC.

Dangerous Substance Directive 67/548/EEC.

Dangerous Preparations Directive 1999/45/EC.

FLAME RETARDANT EPOXY RESIN 2002B

APPROVED CODE OF PRACTICE

Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations.

GUIDANCE NOTES

Workplace Exposure Limits EH40.

16 OTHER INFORMATION

REVISION COMMENTS

Revised in accordance with CHIP3 and EU Directives 1999/45/EC and 2001/58/EC

ISSUED BY

Helen O'Reilly

REVISION DATE NOVEMBER 2008

REV. NO./REPL. SDS 3

GENERATED

SDS NO. 10865

RISK PHRASES IN FULL

R21/22	Harmful in contact with skin and if swallowed.
R36	Irritating to eyes.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R43	May cause sensitisation by skin contact.
R45	May cause cancer.
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R68	Possible risk of irreversible effects.

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