

Ident-No: ARALDITE SUPER CERAMIC RESINVersion 5
Revision Date 30.01.2004Print Date 28.02.2004
RS CHIP3 MSDS Date 01/01/07**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING****Product information**

Trade name : ARALDITE SUPER CERAMIC RESIN

Company : Huntsman Advanced Materials (Europe)BVBA
Everslaan 45
3078 Everberg / Belgium

Telephone : +41619661599
Telefax : +41619661589
Emergency telephone : +41 61 966 40 00 (in France ORFILA : +33(0)145425959)
number

Supplied by:
RS Components Ltd,
Birchington Road, Corby, Northants, NN17 9RS.
Tel: (01536) 402888

2. COMPOSITION/INFORMATION ON INGREDIENTS**Chemical nature**

Formulated bisphenol A epoxy resin
preparation

Hazardous components

Chemical Name	CAS-No.	Symbol(s):	R-phrases)	Concentration [%]
reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700)	25068-38-6	Xi, N	R36/38 R43 R51/53	80.00 - 92.00
bisphenol F-epoxy resin	9003-36-5	Xi, N	R36/38 R43 R51/53	4.00 - 10.00

3. HAZARDS IDENTIFICATION

Irritating to eyes and skin.
May cause sensitization by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Inhalation : Move to fresh air.
If symptoms persist, call a physician.

Eye contact : Rinse immediately with plenty of water for at least 15 minutes.
If eye irritation persists, consult a specialist.

Skin contact : Wash off with soap and plenty of water.
If skin irritation persists, call a physician.

Ingestion : Immediately give plenty of water (if possible charcoal slurry).
Do not induce vomiting.
Obtain medical attention.

Ident-No: ARALDITE SUPER CERAMIC RESINVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray.
Carbon dioxide (CO₂).
Foam.
Dry powder.
- Extinguishing media which must not be used for safety reasons : High volume water jet.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.
- Further information : Burning produces obnoxious and toxic fumes.
Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Keep away from sources of ignition - No smoking.
Avoid contact with skin, eyes and clothing.
Do not breathe vapours/dust.
- Environmental precautions : Prevent product from entering drains.
Do not contaminate surface water.
Avoid subsoil penetration.
- Methods for cleaning up : Soak up with inert absorbent material and dispose of as hazardous waste.

7. HANDLING AND STORAGE**Handling**

- Advice on safe handling : Irritant
Provide sufficient air exchange and/or exhaust in work rooms.
Avoid formation of aerosol.
Ensure adequate ventilation.
Handle and open container with care.

Storage

- Further information on storage conditions : Keep away from food, drink and animal feeding stuffs.
Keep container tightly closed.
Keep at temperatures between 2 and 40°C.
- Storage hazard class : Storage class 10, Environmentally hazardous liquids
- Huntsman Advanced Materials

Ident-No: ARALDITE SUPER CERAMIC RESINVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Control parameters	Update	Basis
------------	---------	--------------------	--------	-------

Engineering measures

No special precautions required.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.

Eye protection : Tightly fitting safety goggles.
Face-shield.

Hand protection : rubber or plastic gloves

Skin and body protection : Protective suit.
Safety shoes.Protective measures : Keep away from sources of ignition - No smoking.
Avoid contact with skin, eyes and clothing.**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form : liquid

Colour : colourless

Odour : slight

Boiling point : > 200 °C

Thermal decomposition : > 200 °C

Flash point : 176 °C
Method: DIN 51758 (Pensky-Martens Closed Cup)Density : 1.15 g/cm³
at 25 °CWater solubility : at 20 °C
Note: practically insolubleMiscibility with water : immiscible
at 20 °CViscosity, dynamic : 18 - 45 Pa.s
at 25 °C

Ident-No: ARALDITE SUPER CERAMIC RESINVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

10. STABILITY AND REACTIVITY

- Conditions to avoid : Note: Take necessary action to avoid static electricity discharge.
- Materials to avoid : Strong acids and strong bases.
Strong oxidizing agents.
- Hazardous decomposition products : Carbon oxides. Burning produces obnoxious and toxic fumes.

11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : LD50 rat
Dose: > 5,000 mg/kg
- Eye irritation : irritating
rabbit
- Skin irritation : irritating
rabbit
dermal
- Sensitization : Causes sensitization.
guinea pig
dermal

12. ECOLOGICAL INFORMATION**Ecotoxicity effects****Further information on ecology**

- Additional ecological information : Avoid subsoil penetration.
Prevent product from entering drains.
Do not contaminate surface water.

13. DISPOSAL CONSIDERATIONS

- Container : Empty containers can be landfilled after cleaning, when in compliance with the Environmental Protection (Duty of Care) Regulations 1991.
- Product : Waste Key Number: 070208
Must be incinerated, when in compliance with local regulations.

14. TRANSPORT INFORMATION**Land transport**

Ident-No: ARALDITE SUPER CERAMIC RESINVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

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

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

Sea transport**IMDG:**

UN-No: 3082
Class: 9
Packaging group: III
ADR/RID-Labels: 9
MFAG:
EmS: F-A S-F
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
contains: (BISPHENOL A EPOXY RESIN)

Air transport**IATA-DGR:**

UN/ID No.: UN 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)

Ident-No: ARALDITE SUPER CERAMIC RESINVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

15. REGULATORY INFORMATION**Labelling according to EEC Directive**

Labelling required

Symbol(s):	: Xi N	Irritant Dangerous for the environment
R-phrases(s)	: R36/38 R43 R51/53	Irritating to eyes and skin. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	: S2 S26 S28 S37/39 S46 S29	Keep out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap and water. Wear suitable gloves and eye/face protection. If swallowed, seek medical advice immediately and show this container or label. Do not empty into drains.
Exceptional labelling of special preparations	: Contains epoxy constituents. See information supplied by the manufacturer.	
Hazardous components which must be listed on the label	: reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700)	

National legislation**Notification status**

- : EINECS yes
- : TSCA yes
- : DSL yes
- : AICS yes

Ident-No: ARALDITE SUPER CERAMIC RESIN

Version 5
Revision Date 30.01.2004

Print Date 28.02.2004

: KECI (KR) yes

: JEX (JP) no

16. OTHER INFORMATION

List of R-phrases (Section 2)

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

The provision of Safety Data Sheets comes under Regulation 6 of CHIP (CHIP is the recognised abbreviation for the Chemicals Hazard Information and Packaging Regulations). This is an addition to the Health and Safety at Work Act 1974. Users of products supplied by Huntsman Advanced Materials should take appropriate measures to ensure working practices are in accordance with the Control of Substances Hazardous to Health Regulations (COSHH).

All information is based on results gained from experience and tests and is believed to be accurate but is given without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside our control. Users should always carry out sufficient tests to establish the suitability of any products for their intended applications. No statements shall be incorporated in any contract unless expressly agreed in writing nor construed as recommending the use of any product in conflict of any patent. All goods are supplied subject to Huntsman Advanced Materials General Conditions of Sale.

Ident-No: ARALDITE SUPER CERAMIC HARDENERVersion 5
Revision Date 30.01.2004Print Date 28.02.2004
RS CHIP3 MSDS Date 01/01/07**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING****Product information**

Trade name : ARALDITE SUPER CERAMIC HARDENER

Company : Huntsman Advanced Materials (Europe)BVBA
Everslaan 45
3078 Everberg / Belgium

Telephone : +41619661599
Telefax : +41619661589
Emergency telephone : +41 61 966 40 00 (in France ORFILA : +33(0)145425959)
number

Supplied by:
RS Components Ltd,
Birchington Road, Corby, Northants, NN17 9RS.
Tel: (01536) 402888

2. COMPOSITION/INFORMATION ON INGREDIENTS**Chemical nature**

Aliphatic polyamine adduct
preparation

Hazardous components

Chemical Name	CAS-No.	Symbol(s):	R-pharse(s)	Concentration [%]
triethylene glycol dimercaptan EC-No.: 239-044-2	14970-87-7	Xn	R20/22	5.00 - 10.00
N(3-dimethylaminopropyl)- 1,3-propylenediamine EC-No.: 234-148-4	10563-29-8	C	R21/22 R34 R43	1.00 - 5.00
4-dimethylaminoethyl-1- methyl-4-piperazine EC-No.: 203-183-7	104-19-8	T	R22 R24 R34	1.00 - 5.00

3. HAZARDS IDENTIFICATION

Irritating to eyes and skin.
May cause sensitization by skin contact.

4. FIRST AID MEASURES

Inhalation : Move to fresh air.
Call a physician immediately.

Eye contact : Rinse immediately with plenty of water for at least 15 minutes.
If eye irritation persists, consult a specialist.

Skin contact : Wash off with soap and plenty of water.
If skin irritation persists, call a physician.

Ingestion : Do not induce vomiting.
Immediately give plenty of water (if possible charcoal slurry).
Obtain medical attention.

Ident-No: ARALDITE SUPER CERAMIC HARDENERVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray.
Dry powder.
Carbon dioxide (CO₂).
Foam.
- Extinguishing media which must not be used for safety reasons : High volume water jet.
- Specific hazards during fire fighting : Burning produces obnoxious and toxic fumes.
Carbon oxides.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Do not breathe vapours/dust.
Avoid contact with skin, eyes and clothing.
Ensure adequate ventilation.
- Environmental precautions : Do not allow material to contaminate ground water system.
- Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE**Handling**

- Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Handle and open container with care.

Storage

- Further information on storage conditions : Keep away from food, drink and animal feeding stuffs.
Keep container tightly closed.
Keep at temperatures between 2 and 40°C.
- Storage hazard class : Storage class 12, Liquids, not dangerous
- Huntsman Advanced Materials

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Control parameters	Update	Basis
------------	---------	--------------------	--------	-------

Engineering measures

Ident-No: ARALDITE SUPER CERAMIC HARDENERVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

- | | |
|--------------------------|---|
| Respiratory protection | : In the case of hazardous fumes, wear self contained breathing apparatus. |
| Eye protection | : goggles |
| Hand protection | : rubber or plastic gloves |
| Skin and body protection | : long sleeved clothing |
| Hygiene measures | : Keep away from food, drink and animal feeding stuffs.
Wash hands before breaks and immediately after handling the product. |
| Protective measures | : Avoid contact with skin, eyes and clothing. |

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|------------------------|---|
| Form | : liquid |
| Colour | : light yellow |
| Odour | : slight |
| Thermal decomposition | : > 200 °C |
| Flash point | : 110 °C
Method: DIN 51758 (Pensky-Martens Closed Cup) |
| Density | : 1.16 g/cm ³
at 20 °C |
| Water solubility | : at 20 °C
Note: practically insoluble |
| Miscibility with water | : immiscible
at 20 °C |
| Viscosity, dynamic | : 15 - 35 mPa.s
at 25 °C |

10. STABILITY AND REACTIVITY

- | | |
|----------------------------------|--|
| Conditions to avoid | : Note: Take necessary action to avoid static electricity discharge. |
| Materials to avoid | : Strong acids and strong bases.
Strong oxidizing agents. |
| Hazardous decomposition products | : Carbon oxides. Burning produces obnoxious and toxic fumes. |

Ident-No: ARALDITE SUPER CERAMIC HARDENERVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50 rat Dose: > 5,000 mg/kg
Eye irritation	: irritating rabbit
Skin irritation	: irritating rabbit dermal
Sensitization	: Causes sensitization on guinea-pigs. guinea pig

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

Biodegradability : Result: Not readily biodegradable.

Ecotoxicity effects**Further information on ecology**Additional ecological information : Avoid subsoil penetration.
Prevent product from entering drains.
Do not contaminate surface water.**13. DISPOSAL CONSIDERATIONS**

Product	: Waste Key Number: 070208 Must be incinerated, when in compliance with local regulations.
Container	: Empty containers can be landfilled after cleaning, when in compliance with the Environmental Protection (Duty of Care) Regulations 1991.

14. TRANSPORT INFORMATION**Land transport**

ADR:

Regulation: Not dangerous goods

RID:

Regulation: Not dangerous goods

Sea transport

Ident-No: ARALDITE SUPER CERAMIC HARDENERVersion 5
Revision Date 30.01.2004

Print Date 28.02.2004

IMDG:

Regulation: Not dangerous goods

Air transport*IATA-DGR:*

Regulation: Not dangerous goods

15. REGULATORY INFORMATION**Labelling according to EEC Directive**

Labelling required

Symbol(s):	: Xi	Irritant
R-phrase(s)	: R36/38 R43	Irritating to eyes and skin. May cause sensitization by skin contact.
S-phrase(s)	: S2 S26 S28 S37/39 S46	Keep out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap and water. Wear suitable gloves and eye/face protection. If swallowed, seek medical advice immediately and show this container or label.
Hazardous components which must be listed on the label	: N(3-dimethylaminopropyl)-1,3-propylenediamine EC-No.: 234-148-4	

National legislation**Notification status**

: EINECS yes

: TSCA no

: DSL no

Ident-No: ARALDITE SUPER CERAMIC HARDENER

Version 5
Revision Date 30.01.2004

Print Date 28.02.2004

: AICS no

: KECI (KR) no

: JEX (JP) no

16. OTHER INFORMATION

List of R-phrases (Section 2)

R20/22	Harmful by inhalation and if swallowed.
R21/22	Harmful in contact with skin and if swallowed.
R22	Harmful if swallowed.
R24	Toxic in contact with skin.
R34	Causes burns.
R43	May cause sensitization by skin contact.

The provision of Safety Data Sheets comes under Regulation 6 of CHIP (CHIP is the recognised abbreviation for the Chemicals Hazard Information and Packaging Regulations). This is an addition to the Health and Safety at Work Act 1974. Users of products supplied by Huntsman Advanced Materials should take appropriate measures to ensure working practices are in accordance with the Control of Substances Hazardous to Health Regulations (COSHH).

All information is based on results gained from experience and tests and is believed to be accurate but is given without acceptance of liability for loss or damage attributable to reliance thereon as conditions of use lie outside our control. Users should always carry out sufficient tests to establish the suitability of any products for their intended applications. No statements shall be incorporated in any contract unless expressly agreed in writing nor construed as recommending the use of any product in conflict of any patent. All goods are supplied subject to Huntsman Advanced Materials General Conditions of Sale.