

Ident-No: ARALDITE 2012 RESIN(E)/HARZ

Version 5
Revision Date 07.07.2003

Print Date 21.01.2004

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

Product information

Trade name : ARALDITE 2012 RESIN(E)/HARZ

Company : Vantico Ltd.
Ickleton Road
CB2 4QA Duxford

Telephone : +441223832121
Telefax : +441223493322
Emergency telephone : +41 61 966 40 00
number

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Bisphenol A epoxy resin containing reactive diluent preparation

Hazardous components

| Chemical Name | CAS-No. | Symbol(s) | R-pharse(s) | 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 |
| butanedioldiglycidyl ether EC-No.: 219-371-7 | 2425-79-8 | Xn | R20/21 R36/38 R43 R52/53 | 3.00 - 9.00 |

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.
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.

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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 10, Environmentally hazardous liquids
Vantico

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

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

Engineering measures

- Ensure adequate ventilation, especially in confined areas.

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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
Remove and wash contaminated clothing before re-use.
- 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
- pH : 6
at (20 °C)
1:1 in water
- Thermal decomposition : > 200 °C
- Flash point : > 200 °C
Method: DIN 51758 (Pensky-Martens Closed Cup)
- Density : 1.17 g/cm³
at 25 °C
- Water solubility : at 20 °C
Note: practically insoluble
- Miscibility with water : immiscible
at 20 °C
- Viscosity, dynamic : 25 - 45 Pa.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.

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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

Further information : Epoxy resins with an average molecular weight of less than 700 may cause sensitization.

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

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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)

15. REGULATORY INFORMATION

Labelling according to EEC Directive

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Labelling required

Symbol(s): : Xi Irritant
N Dangerous for the environment

R-phrase(s) : 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.

S-phrase(s) : S28 After contact with skin, wash immediately with plenty of soap and water.
S37/39 Wear suitable gloves and eye/face protection.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Exceptional labelling of special preparations : Contains epoxy constituents. See information supplied by the manufacturer.

Hazardous components which must be listed on the label : butanedioldiglycidyl ether
EC-No.: 219-371-7
reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700)

National legislation

Notification status

: EINECS yes

: TSCA yes

: DSL yes

: AICS yes

: KECI (KR) yes

: JEX (JP) yes

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16. OTHER INFORMATION

List of R-phrases (Section 2)

| | |
|--------|---|
| R20/21 | Harmful by inhalation and in contact with skin. |
| 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. |
| R52/53 | Harmful 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 Vantico Ltd should take appropriate measures to ensure working practices are in accordance with the Control of Substances Hazardous to Health Regulations (COSHH). Araldite is a registered Trademark of Vantico Ltd. 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 Vantico's General Conditions of Sale.

Ident-No: ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR

Version 4
Revision Date 06.09.2003

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

Product information

Trade name : ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR

Company : Vantico Ltd.
Ickleton Road
CB2 4QA Duxford

Telephone : +441223832121
Telefax : +441223493322
Emergency telephone number : +41 61 966 40 00

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Formulated polyamine preparation

Hazardous components

| Chemical Name | CAS-No. | Symbol(s): | R-phrases(s) | Concentration [%] |
|--|------------|------------|----------------|-------------------|
| N(3-dimethylaminopropyl)-1,3-propylenediamine EC-No.: 234-148-4 | 10563-29-8 | C | R21/22 R34 R43 | 1.00 - 6.00 |
| triethylene glycol dimercaptan EC-No.: 239-044-2 | 14970-87-7 | Xn | R20/22 | 1.00 - 6.00 |
| 4-dimethylaminoethyl-1-methyl-4-piperazine EC-No.: 203-183-7 | 104-19-8 | T | R22 R24 R34 | 0.00 - < 3.00 |

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.

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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
Vantico

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

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

Engineering measures

- Ensure adequate ventilation, especially in confined areas.

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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 : viscous
- Form : liquid
- Colour : yellow
- Thermal decomposition : > 200 °C
- Flash point : > 100 °C
Method: estimated
- Vapour pressure : < 1 Pa
at 20 °C
- Density : 1.15 - 1.18 g/cm³
at 25 °C
- Water solubility : at 20 °C
Note: practically insoluble
- Miscibility with water : immiscible
at 20 °C
- Viscosity, dynamic : 20 - 40 Pa.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.

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Hazardous decomposition products : Carbon oxides. Burning produces obnoxious and toxic fumes.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50 rat
Dose: 2,300 mg/kg

Eye irritation : irritating
rabbit

Skin irritation : Moderate skin irritation
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: 070204
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

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Sea transport

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-phrases(s) | : R36/38 R43 | Irritating to eyes and skin. May cause sensitization by skin contact. |
| S-phrases(s) | : S26 S28 S37/39 | 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. |
| Hazardous components which must be listed on the label | : N(3-dimethylaminopropyl)-1,3-propylenediamine EC-No.: 234-148-4 4-dimethylaminoethyl-1-methyl-4-piperazine EC-No.: 203-183-7 | |

National legislation

Notification status

: EINECS yes

: TSCA no

: DSL no

Ident-No: ARALDITE 2012 HARDENER/HAERTER/DURCISSEUR

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: 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. |

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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 Vantico's General Conditions of Sale.