



---

# Annex B

---



**SAFETY DATA SHEET** according to EC directive 93/112/EC

vanti

**Ident-No: 000000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

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

#### Product information

Trade name : ARALDITE 420 A/B

Company : Vantico Ltd.  
Ickleton Road  
CB2 4QA Duxford

Telephone : +441223832121  
Telefax : +441223493322  
Emergency telephone : +41 61 696 51 51  
number

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

#### Chemical nature

Formulated epoxy resin  
preparation

#### Hazardous components

Chemical Name	CAS-No.	Symbol(s)	R-phrase(s)	Concentration [%]
reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700)	25068-38-6	Xi, N	R36/38 R43 R51/53	85.00 - 95.00

### 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).

### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray.  
Dry powder.

1/6



**SAFETY DATA SHEET** according to EC directive 93/112/EC



**Ident-No: 000000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

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. Store at room temperature in the original container.

Storage hazard class : Storage class 10, Environmentally hazardous liquids  
Vantico Ltd.

**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.

**Personal protective equipment**

Respiratory protection : In the case of hazardous fumes, wear self contained breathing apparatus.



**SAFETY DATA SHEET** according to EC directive 93/112/EC

**vanti**

**Ident-No: 00000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

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 : paste  
Colour : yellow  
Odour : slightly  
Thermal decomposition : > 200 °C  
Flash point : > 100 °C  
Method: DIN 51758 (Pensky-Martens Closed Cup)  
Density : 1.1 - 1.2 g/cm<sup>3</sup>  
at 25 °C  
Water solubility : at 20 °C  
Note: practically insoluble  
Miscibility with water : immiscible  
Viscosity, dynamic : 100 - 300 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.  
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

3/6



**SAFETY DATA SHEET** according to EC directive 93/112/EC

**vanti**

**Ident-No: 000000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

	rabbit
Skin irritation	: irritating rabbit dermal
Sensitization	: Causes sensitization on guinea-pigs. 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

#### ADR:

UN-No:	3082
Class:	9
Item:	11 c
Risk No.:	90
ADR/RID-Labels:	9
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
contains:	BISPHENOL A EPOXY RESIN

#### RID:

4/6



**SAFETY DATA SHEET** according to EC directive 93/112/EC

**vanti**

**Ident-No: 000000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

UN-No: 3082  
Class: 9  
Item: 11 c  
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:**  
Regulation: Not dangerous goods

**Air transport**

**IATA-DGR:**  
UN/ID No.: UN 3082  
Class: 9  
Packaging group: III  
Packing instruction (cargo aircraft): 914  
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**

Labelling required

Symbol(s): : Xi Irritant

R-phrase(s) : R36/38 Irritating to eyes and skin.  
R43 May cause sensitization by skin contact.

S-phrase(s) : S28 After contact with skin, wash immediately  
S37/39 with plenty of soap and water.  
Wear suitable gloves and eye/face  
protection.

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)



**SAFETY DATA SHEET** according to EC directive 93/112/EC

**vanti**

**Ident-No: 000000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

National legislation

Notification status

#### 16. OTHER INFORMATION

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).

Redux 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.



SAFETY DATA SHEET according to EC directive 93/112/EC

vanti

Ident-No: 000000000139558100 ARALDITE 420 A/B

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

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

### Product information

Trade name : ARALDITE 420 A/B  
Company : Vantico Ltd.  
Ickleton Road  
CB2 4QA Duxford  
Telephone : +441223832121  
Telefax : +441223493322  
Emergency telephone : +41 61 696 51 51  
number

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### Chemical nature

Modified aliphatic polyamine  
preparation

### Hazardous components

Chemical Name	CAS-No.	Symbol(s)	R-phrase(s)	Concentration [%]
trioxatridecanediamine	4246-51-9	C	R34 R43	65.00 - 77.00

## 3. HAZARDS IDENTIFICATION

May cause sensitization by skin contact.  
Causes burns.

## 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).

## 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray.  
Dry powder.  
Carbon dioxide (CO<sub>2</sub>).  
Foam.

1/6





**SAFETY DATA SHEET** according to EC directive 93/112/EC



**Ident-No: 00000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

- Extingulshing 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. Store at room temperature in the original container.
- Storage hazard class : Storage class 8, Corrosive substances  
Vantico Ltd.

**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.
- 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



SAFETY DATA SHEET according to EC directive 93/112/EC

vanti

Ident-No: 000000000139558100 ARALDITE 420 A/B

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

- 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 : violet
- Thermal decomposition : > 200 °C
- Flash point : > 100 °C  
Method: DIN 51758 (Pensky-Martens Closed Cup)
- Density : 0.95 - 1.05 g/cm<sup>3</sup>  
at 25 °C
- Water solubility : at 20 °C  
Note: practically insoluble
- Miscibility with water : immiscible
- Viscosity, dynamic : 0.8 - 1.6 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.
- Hazardous decomposition products : Carbon oxides.  
Nitrogen oxides. Burning produces obnoxious and toxic fumes.

### 11. TOXICOLOGICAL INFORMATION

- Acute oral toxicity : LD50 rat  
Dose: approx. 3,300 mg/kg
- Eye irritation : Corrosive  
rabbit



**SAFETY DATA SHEET** according to EC directive 93/112/EC

**vanti**

**Ident-No: 000000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

Skin irritation : Corrosive  
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

Product : Waste Key Number: 55352  
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:

UN-No: 2735  
Class: 8  
Item: 53 c  
Risk No.: 80  
ADR/RID-Labels: 8  
Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S.  
contains: TRIOXATRIDECANEDIAMINE

#### RID:

UN-No: 2735  
Class: 8  
Item: 53 c  
Risk No.: 80  
ADR/RID-Labels: 8  
Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S.  
contains: TRIOXATRIDECANEDIAMINE

### Sea transport

4/6



SAFETY DATA SHEET according to EC directive 93/112/EC

vanti

Ident-No: 000000000139558100 ARALDITE 420 A/B

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

**IMDG:**

UN-No: 2735  
Class: 8  
Packaging group: III  
ADR/RID-Labels: 8  
MFAG: 320  
EmS: 8-05  
Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S.  
contains: (TRIOXATRIDECANEDIAMINE)

**Air transport**

**IATA-DGR:**

UN/ID No.: UN 2735  
Class: 8  
Packaging group: III  
Packing instruction (cargo aircraft): 820  
ADR/RID-Labels: 8  
Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S.  
contains: (TRIOXATRIDECANEDIAMINE)

**15. REGULATORY INFORMATION**

**labelling according to EEC Directive**

**Labelling required**

Symbol(s): : C Corrosive

R-phrase(s) : R34 Causes burns.  
R43 May cause sensitization by skin contact.

S-phrase(s) : S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/39 Wear suitable protective clothing and eye/face protection.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

Hazardous components which must be listed on the label : trioxatridecanediamine

**National legislation**



**SAFETY DATA SHEET** according to EC directive 93/112/EC

**vanti**

**Ident-No: 000000000139558100 ARALDITE 420 A/B**

Version 1  
Revision Date 04.11.2001

Print Date 12.11.2001

**Notification status**

#### **16. OTHER INFORMATION**

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).

Redux 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.

6/6



INTENTIONALLY BLANK