

# SAFETY DATA SHEET

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## ARALDITE® LY 8605 US

Version 2.0      Revision Date: 10/23/2019      SDS Number: 400001011399      Date of last issue: 03/28/2019  
Date of first issue: 11/16/2017

Print Date 10/24/2019

### SECTION 1. IDENTIFICATION

Product name : ARALDITE® LY 8605 US

#### Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC  
Address : P.O. Box 4980  
The Woodlands,  
TX 77387  
United States of America (USA)

Telephone : Non-Emergency: (800) 257-5547

E-mail address of person responsible for the SDS : Global\_Product\_EHS\_AdMat@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

#### Recommended use of the chemical and restrictions on use

Recommended use : Epoxy resin solution



### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with 29 CFR 1910.1200

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitisation : Category 1

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 2

#### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

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P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P391 Collect spillage.

**Storage:**

Not available

**Disposal:**

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Concentration (% w/w)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	70 - 90
1,4-bis(2,3-epoxypropoxy)butane	2425-79-8	10 - 20

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

Both 25068-38-6 and 1675-54-3 can be used to describe the epoxy resin which is produced through the reaction of bisphenol A and epichlorohydrin

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Treat symptomatically.  
Get medical attention if symptoms occur.

If inhaled : Consult a physician after significant exposure.

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- If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : None known.
- Notes to physician : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides  
Halogenated compounds
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.



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### SECTION 6. ACCIDENTAL RELEASE MEASURES

- |   |   |
|---|---|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment.<br>Ensure adequate ventilation.<br>Refer to protective measures listed in sections 7 and 8.  |
| Environmental precautions   | : Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up               | : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).<br>Keep in suitable, closed containers for disposal.                             |

### SECTION 7. HANDLING AND STORAGE

- |   |  |
|---|--|
| Advice on protection against fire and explosion | : Normal measures for preventive fire protection.  |
| Advice on safe handling                         | : Avoid formation of aerosol.<br>Do not breathe vapours/dust.<br>Avoid exposure - obtain special instructions before use.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>To avoid spills during handling keep bottle on a metal tray.<br>Dispose of rinse water in accordance with local and national regulations.<br>Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. |
| Conditions for safe storage                     | : Keep container tightly closed in a dry and well-ventilated place.<br>Containers which are opened must be carefully resealed and kept upright to prevent leakage.<br>Keep in properly labelled containers.  |
| Materials to avoid                              | : Strong acids<br><br>Strong bases<br><br>Strong oxidizing agents<br><br>For incompatible materials please refer to Section 10 of this SDS.  |
| Recommended storage temperature                 | : 36 - 104 °F / 2 - 40 °C  |
| Further information on storage stability        | : Stable under normal conditions.  |

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

- |                          |   |
|--------------------------|---|
| Respiratory protection   | : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection. |
| Respiratory protection   | : In the case of vapour formation use a respirator with an approved filter.   |
| Hand protection          |   |
| Material                 | : butyl-rubber  |
| Break through time       | : > 8 h   |
| Material                 | : Solvent-resistant gloves (butyl-rubber)   |
| Material                 | : Nitrile rubber  |
| Break through time       | : 10 - 480 min  |
| Material                 | : Neoprene gloves   |
| Remarks                  | : The suitability for a specific workplace should be discussed with the producers of the protective gloves.   |
| Eye protection           | : Eye wash bottle with pure water<br>Tightly fitting safety goggles<br>Wear face-shield and protective suit for abnormal processing problems.   |
| Skin and body protection | : Impervious clothing<br>Choose body protection according to the amount and concentration of the dangerous substance at the work place.   |
| Hygiene measures         | : When using do not eat or drink.<br>When using do not smoke.<br>Wash hands before breaks and at the end of workday.  |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- |            |          |
|------------|----------|
| Appearance | : liquid |
| Colour     | : amber  |

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Odour	: epoxy-like
Odour Threshold	: No data is available on the product itself.
pH	: No data is available on the product itself.
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
Boiling point	: No data is available on the product itself.
Flash point	: > 284 °F / > 140 °C Method: closed cup
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: 1.14
Density	: 1.14 g/cm <sup>3</sup> (68 °F / 20 °C)
Solubility(ies)	
Water solubility	: negligible (68 °F / 20 °C)
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Thermal decomposition	: No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	: No data is available on the product itself.
Viscosity	: No data is available on the product itself.
Explosive properties	: No data is available on the product itself.



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Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

## SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No hazards to be specially mentioned.

Conditions to avoid : None known.

Incompatible materials : None known.

Hazardous decomposition products : No hazardous decomposition products are known.

Hazardous decomposition products : carbon dioxide

carbon monoxide

Halogenated compounds

## SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

**Acute toxicity**

Acute oral toxicity - Product : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

Acute inhalation toxicity - Product : Acute toxicity estimate: 10 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

**Skin corrosion/irritation****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Species: Rabbit

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Assessment: Mild skin irritant  
Method: OECD Test Guideline 404  
Result: Irritating to skin.

**Serious eye damage/eye irritation****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Species: Rabbit  
Result: Irritating to eyes.  
Assessment: Mild eye irritant  
Method: OECD Test Guideline 405

**Respiratory or skin sensitisation****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Exposure routes: Skin  
Species: Mouse  
Assessment: May cause sensitisation by skin contact.  
Method: OECD Test Guideline 429  
Result: Causes sensitisation.

1,4-bis(2,3-epoxypropoxy)butane:  
Exposure routes: Skin  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: May cause sensitisation by skin contact.

Assessment: No data available

**Germ cell mutagenicity****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: positive

Concentration: 0 - 5000 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: positive

1,4-bis(2,3-epoxypropoxy)butane:  
Genotoxicity in vitro : Concentration: 10 - 5000 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: positive  
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Concentration: 1 - 100 µg/L  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473



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Result: positive

Remarks: Not classified due to data which are conclusive although insufficient for classification.

### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Genotoxicity in vivo

: Cell type: Germ  
Application Route: Oral  
Method: OECD Test Guideline 478  
Result: negative

Cell type: Somatic

Application Route: Oral

Dose: 0 - 5000 mg/kg

Method: OPPTS 870.5395

Result: negative

1,4-bis(2,3-epoxypropoxy)butane:

Genotoxicity in vivo

: Test Type: In vivo micronucleus test  
Species: Mouse  
Cell type: Somatic  
Application Route: Oral  
Exposure time: 4 d  
Dose: 187.5 - 750 mg/kg  
Method: OECD Test Guideline 474  
Result: negative

Test Type: unscheduled DNA synthesis assay

Species: Rat

Cell type: Liver cells

Application Route: Oral

Method: OECD Test Guideline 486

Result: negative

### Components:

1,4-bis(2,3-epoxypropoxy)butane:

Germ cell mutagenicity-  
Assessment

: Weight of evidence does not support classification as a germ cell mutagen.

Germ cell mutagenicity-  
Assessment

: No data available

### Carcinogenicity

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female

Application Route: Oral

Exposure time: 24 month(s)

Dose: 15 mg/kg

Frequency of Treatment: 7 days/week

Method: OECD Test Guideline 453

Result: negative

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Species: Mouse, male  
Application Route: Dermal  
Exposure time: 24 month(s)  
Dose: 0.1 mg/kg  
Frequency of Treatment: 3 days/week  
Method: OECD Test Guideline 453  
Result: negative

Species: Rat, female  
Application Route: Dermal  
Exposure time: 24 month(s)  
Dose: 1 mg/kg  
Frequency of Treatment: 5 days/week  
Method: OECD Test Guideline 453  
Result: negative

Carcinogenicity - Assessment : No data available

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on fertility : Test Type: Two-generation study  
Species: Rat, male and female  
Application Route: Oral  
Dose: >750 milligram per kilogram  
General Toxicity - Parent: No-observed-effect level: 540 mg/kg body weight  
General Toxicity F1: No-observed-effect level: 540 mg/kg body weight  
Symptoms: No adverse effects  
Method: OECD Test Guideline 416  
Result: No effects on fertility and early embryonic development were detected.

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on foetal : Species: Rabbit, female

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development

Application Route: Dermal  
General Toxicity Maternal: No observed adverse effect level:  
30 mg/kg body weight  
Method: Other guidelines  
Result: No teratogenic effects

Species: Rabbit, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
60 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
180 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Reproductive toxicity - : No data available  
Assessment

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated dose toxicity****Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female

NOAEL: 50 mg/kg

Application Route: Ingestion

Exposure time: 14 Weeks

Number of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

NOEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 5 d

Method: Subchronic toxicity

Species: Mouse, male

NOAEL: 100 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 3 d

Method: Subchronic toxicity



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1,4-bis(2,3-epoxypropoxy)butane:  
Species: Rat, male and female  
NOAEL: 200 mg/kg  
Application Route: Ingestion  
Exposure time: 28 d  
Number of exposures: 7 d  
Method: Subacute toxicity

Repeated dose toxicity - Assessment : No data available

### Aspiration toxicity

No data available

### Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

### Toxicology, Metabolism, Distribution

No data available

### Neurological effects

No data available

### Further information

Ingestion: No data available

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.5 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

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1,4-bis(2,3-epoxypropoxy)butane:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 24 mg/l  
 Exposure time: 96 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 203

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.7 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Test substance: Fresh water

1,4-bis(2,3-epoxypropoxy)butane:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 75 mg/l  
 Exposure time: 24 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 202

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 9.4 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: EPA-660/3-75-009

1,4-bis(2,3-epoxypropoxy)butane:

Toxicity to algae/aquatic plants : EL50: > 160 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.3 mg/l  
 Exposure time: 21 d  
 Test Type: semi-static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : No data available

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### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water

1,4-bis(2,3-epoxypropoxy)butane:

Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment  
Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

### **Persistence and degradability**

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Biodegradability : Inoculum: Sewage (STP effluent)  
Concentration: 20 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

1,4-bis(2,3-epoxypropoxy)butane:

Biodegradability : Inoculum: activated sludge  
Concentration: 20 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 43 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

Biochemical Oxygen Demand (BOD) : No data available



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Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Stability in water : Degradation half life(DT50): 4.83 d (77 °F / 25 °C) pH: 4  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Degradation half life(DT50): 7.1 d (77 °F / 25 °C) pH: 9  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Degradation half life(DT50): 3.58 d (77 °F / 25 °C) pH: 7  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Photodegradation : No data available

Impact on Sewage Treatment : No data available

### **Bioaccumulative potential**

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Bioaccumulation : Bioconcentration factor (BCF): 31  
Remarks: Does not bioaccumulate.

#### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Partition coefficient: n-octanol/water : log Pow: 3.242 (77 °F / 25 °C)  
pH: 7.1  
Method: OECD Test Guideline 117

1,4-bis(2,3-epoxypropoxy)butane:

Partition coefficient: n-octanol/water : log Pow: -0.269 (77 °F / 25 °C)  
pH: 6.7  
Method: OECD Test Guideline 117

### **Mobility in soil**

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Mobility : No data available

### Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Distribution among : Koc: 445

environmental compartments

1,4-bis(2,3-epoxypropoxy)butane:

Distribution among : Koc: 12.59

environmental compartments Method: OECD Test Guideline 121

Stability in soil : No data available

### Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

### Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).

Additional ecological information - Product : An environmental hazard cannot be excluded in the event of  
unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : The product should not be allowed to enter drains, water  
courses or the soil.  
Do not contaminate ponds, waterways or ditches with  
chemical or used container.  
Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and  
national regulations.  
Dispose of contents/ container to an approved waste disposal

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plant.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### IATA

UN/ID No.	: UN 3082
Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN)
Class	: 9
Packing group	: III
Labels	: Class 9 - Miscellaneous dangerous substances and articles
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964
Environmentally hazardous	: yes

#### IMDG

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN)
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### DOT Classification

UN/ID/NA number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN)
Class	: 9
Packing group	: III
Labels	: Class 9 - Miscellaneous dangerous substances and articles
ERG Code	: 171
Marine pollutant	: yes(BISPHENOL A EPOXY RESIN, EPICHLORHYDRINE)



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Remarks : Above applies only to containers over 119 gallons or 450 liters. Not regulated if shipped in packages less than or equal to 119 gallons (450 liters).

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
1-chloro-2,3-epoxypropane	106-89-8	100	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 311/312 Hazards** : Skin corrosion or irritation  
Serious eye damage or eye irritation  
Respiratory or skin sensitisation

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

### California Prop. 65

WARNING: This product can expose you to chemicals including 4,4'-isopropylidenediphenol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### The components of this product are reported in the following inventories:

CH INV : The formulation contains substances listed on the Swiss Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

||NZIoC : Not in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

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TCSI : On the inventory, or in compliance with the inventory

TSCA : On the inventory, or in compliance with the inventory

### Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

### TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

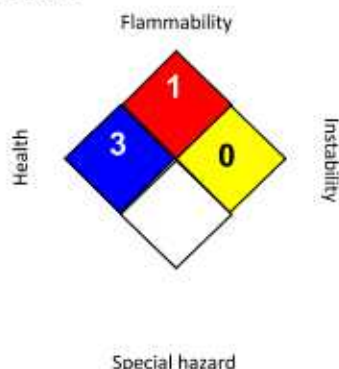
### US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

### Further information

#### NFPA 704:



#### HMIS® IV:

HEALTH		3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

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The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

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Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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**SECTION 1. IDENTIFICATION**

Product name : ARADUR® 8605 US

**Manufacturer or supplier's details**

Company name of supplier : Huntsman Advanced Materials Americas LLC  
Address : P.O. Box 4980  
The Woodlands,  
TX 77387

United States of America (USA)

Telephone : Non-Emergency: (800) 257-5547

E-mail address of person responsible for the SDS : Global\_Product\_EHS\_AdMat@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

**Recommended use of the chemical and restrictions on use**

Recommended use : Hardener

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with 29 CFR 1910.1200**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 2

Acute toxicity (Dermal) : Category 3

Skin corrosion : Category 1B

Serious eye damage : Category 1

Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Liver, Kidney, Adrenal gland, Heart, Blood)

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 2

**GHS label elements**

Hazard pictograms



Signal word

: Danger

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**Hazard statements** : H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H330 Fatal if inhaled.  
H373 May cause damage to organs (Liver, Kidney, Adrenal gland, Heart, Blood) through prolonged or repeated exposure if swallowed.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements** : **Prevention:**  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.  
**Response:**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
P314 Get medical advice/ attention if you feel unwell.  
P362 Take off contaminated clothing and wash before reuse.  
P391 Collect spillage.  
**Storage:**  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
**Disposal:**  
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

**Other hazards**  
None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
---------------	---------	-----------------------

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90 - 100

2,2'-dimethyl-4,4'-  
methylenebis(cyclohexylamine)

6864-37-5

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

### SECTION 4. FIRST AID MEASURES

- |   |  |
|---|--|
| General advice  | : Move out of dangerous area.<br>Consult a physician.<br>Show this safety data sheet to the doctor in attendance.<br>Symptoms of poisoning may appear several hours later.<br>Treat symptomatically.<br>Get medical attention if symptoms occur.   |
| If inhaled  | : Call a physician or poison control centre immediately.<br>If inhaled, remove to fresh air.<br>Get medical attention if symptoms occur.   |
| In case of skin contact                                     | : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.<br>Take victim immediately to hospital.<br>If on skin, rinse well with water.<br>If on clothes, remove clothes.   |
| In case of eye contact                                      | : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.<br>In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.<br>Continue rinsing eyes during transport to hospital.<br>Remove contact lenses.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist. |
| If swallowed  | : Keep respiratory tract clear.<br>Do NOT induce vomiting.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.<br>Take victim immediately to hospital.   |
| Most important symptoms and effects, both acute and delayed | : None known.  |
| Notes to physician  | : Treat symptomatically.   |

### SECTION 5. FIREFIGHTING MEASURES



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- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides  
 Nitrogen oxides (NOx)
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
 Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
 Ensure adequate ventilation.  
 Evacuate personnel to safe areas.  
 Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent product from entering drains.  
 Prevent further leakage or spillage if safe to do so.  
 If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Neutralise with acid.  
 Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
 Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.  
 Normal measures for preventive fire protection.
- Advice on safe handling : Avoid formation of aerosol.  
 Do not breathe vapours/dust.  
 Avoid contact with skin and eyes.  
 For personal protection see section 8.  
 Smoking, eating and drinking should be prohibited in the application area.  
 Provide sufficient air exchange and/or exhaust in work rooms.

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To avoid spills during handling keep bottle on a metal tray.  
Dispose of rinse water in accordance with local and national regulations.

- |  |   |
|--|---|
| Conditions for safe storage              | : Prevent unauthorized access.<br>Keep container tightly closed in a dry and well-ventilated place.<br>Containers which are opened must be carefully resealed and kept upright to prevent leakage.<br>Observe label precautions.<br>Keep in properly labelled containers. |
| Materials to avoid                       | : For incompatible materials please refer to Section 10 of this SDS.  |
| Further information on storage stability | : Stable under normal conditions.   |

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

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

- |                          |  |
|--------------------------|--|
| Respiratory protection   | : No personal respiratory protective equipment normally required.  |
| Respiratory protection   | : In the case of vapour formation use a respirator with an approved filter.  |
| Hand protection          |  |
| Remarks                  | : The suitability for a specific workplace should be discussed with the producers of the protective gloves.  |
| Eye protection           | : Eye wash bottle with pure water<br>Tightly fitting safety goggles<br>Wear face-shield and protective suit for abnormal processing problems.  |
| Skin and body protection | : Impervious clothing<br>Choose body protection according to the amount and concentration of the dangerous substance at the work place.  |
| Hygiene measures         | : Avoid contact with skin, eyes and clothing.<br>When using do not eat or drink.<br>When using do not smoke.<br>Wash hands before breaks and immediately after handling the product. |

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- |            |                |
|------------|----------------|
| Appearance | : liquid       |
| Colour     | : light yellow |

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Odour	: irritating
Odour Threshold	: No data is available on the product itself.
pH	: 11
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
Boiling point	: > 212 °F / > 100 °C
Flash point	: 286 °F / 141 °C Method: closed cup
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: 30.1266
Relative density	: 0.95
Density	: 0.95 g/cm3 (70 °F / 21 °C)
Solubility(ies)	
Water solubility	: slightly soluble
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Thermal decomposition	: No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	: No data is available on the product itself.
Viscosity	
Viscosity, dynamic	: 120 mPa.s (77 °F / 25 °C)



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Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.
Molecular weight	: 238.42 g/mol
Particle size	: No data is available on the product itself.

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: None known.
Incompatible materials	: Strong acids and strong bases Strong oxidizing agents  None known.
Hazardous decomposition products	: Burning produces noxious and toxic fumes.  Carbon oxides  Nitrogen oxides (NOx)  No hazardous decomposition products are known.
Hazardous decomposition products	: carbon dioxide  carbon monoxide  Nitrogen oxides

### SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

#### Acute toxicity

##### Components:

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Acute oral toxicity	: LD50 (Rat, male and female): 320 - 460 mg/kg
Components	Method: OECD Test Guideline 401

##### Components:

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Acute inhalation toxicity	: LC50 (Rat, male and female): 0.42 mg/l
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Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

**Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Acute dermal toxicity : LD50 (Rabbit, male and female): 200 - 400 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The component/mixture is toxic after single contact with skin.

Acute toxicity (other routes of administration) : No data available

**Skin corrosion/irritation****Product:**

Remarks: Causes skin burns.

**Serious eye damage/eye irritation****Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Species: Rabbit

Result: Corrosive

Exposure time: 24 h

Assessment: Corrosive

Method: OECD Test Guideline 405

**Respiratory or skin sensitisation****Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Test Type: Maximisation Test

Exposure routes: Skin

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

Assessment: No data available

**Germ cell mutagenicity****Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster lung cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro

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Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : No data available

**Carcinogenicity**

No data available

Carcinogenicity - Assessment : No data available

**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity****Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
Dose: 0, 15, 50 and 100 mg/kg/day  
Frequency of Treatment: 7 days/week  
General Toxicity - Parent: No observed adverse effect level: 15 mg/kg body weight  
General Toxicity F1: No observed adverse effect level: 15 mg/kg body weight  
Method: OECD Test Guideline 422

**Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Effects on foetal development : Species: Rat  
Application Route: Oral  
Dose: 5, 15 and 45 mg/kg bw /day  
Frequency of Treatment: 7 days/week



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General Toxicity Maternal: No observed adverse effect level: 5  
mg/kg body weightDevelopmental Toxicity: No observed adverse effect level: 45  
mg/kg body weight

Method: OECD Test Guideline 414

Result: No teratogenic effects

Reproductive toxicity - : No data available  
Assessment**STOT - single exposure**

No data available

**STOT - repeated exposure****Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Exposure routes: Ingestion

Target Organs: Liver, Kidney, Adrenal gland, Heart, Blood

Assessment: May cause damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity****Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Species: Rat, male and female

NOEC: 12 mg/m<sup>3</sup>

Application Route: Inhalation

Test atmosphere: vapour

Number of exposures: 5 days/week

Method: OECD Test Guideline 413

Species: Rat, male and female

NOAEL: 2.5 mg/kg

Application Route: oral (gavage)

Exposure time: 3 months

Number of exposures: 5 days/week

Dose: 2.5, 12, 60 mg/kg bw/day

Method: OECD Test Guideline 408

Target Organs: Liver, Blood, Kidney, Adrenal gland, Heart

Repeated dose toxicity - : No data available  
Assessment**Aspiration toxicity**

No data available

**Experience with human exposure**

General Information: No data available

Inhalation: No data available

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Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

### Toxicology, Metabolism, Distribution

No data available

### Neurological effects

No data available

### Further information

Ingestion: No data available

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Toxicity to fish - Product : LC50: 22 - 45 mg/l  
Exposure time: 96 h  
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates - Product : EC50: 15.2 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants - Product : EC50: 2.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

### Components:

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 4 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : No data available

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**Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Toxicity to microorganisms : EC20 (activated sludge): 160 mg/l

Exposure time: 30 min

Test Type: static test

Method: ISO 8192

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment  
Acute aquatic toxicity : No data available**Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

**Persistence and degradability****Components:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Biodegradability : Result: Not readily biodegradable.

Biodegradation: 0 %

Exposure time: 28 d

Method: OECD Test Guideline 301C

Inoculum: activated sludge

Result: Not biodegradable

Biodegradation: &lt; 1 %

Exposure time: 28 d

Method: OECD Test Guideline 302B

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available



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BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

### Bioaccumulative potential

#### Components:

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): < 60  
Exposure time: 28 d  
Test substance: Fresh water  
Method: flow-through test  
Remarks: Does not bioaccumulate.

#### Components:

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Partition coefficient: n-octanol/water : log Pow: 2.3 (73 °F / 23 °C)  
pH: 10  
Method: OECD Test Guideline 107

### Mobility in soil

Mobility : No data available

#### Components:

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine):

Distribution among environmental compartments : Koc: 1195  
Stability in soil : No data available

### Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

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### Hazardous to the ozone layer

- Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).
- Additional ecological  
information - Product : An environmental hazard cannot be excluded in the event of  
unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.
- Global warming potential  
(GWP) : No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

- Waste from residues : Can be landfilled or incinerated, when in compliance with local  
regulations.  
Where possible recycling is preferred to disposal or  
incineration.  
Send to a licensed waste management company.
- The product should not be allowed to enter drains, water  
courses or the soil.  
Do not contaminate ponds, waterways or ditches with  
chemical or used container.  
Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and  
national regulations.  
Dispose of contents/ container to an approved waste disposal  
plant.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.
- Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

**IATA**  
UN/ID No. : UN 2922

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Proper shipping name : Corrosive liquid, toxic, n.o.s.  
(cycloaliphatic polyamine)  
Class : 8  
Subsidiary risk : 6.1  
Packing group : II  
Labels : Class 8 - Corrosive substances, Division 6.1 - Toxic  
substances  
Packing instruction (cargo  
aircraft) : 855  
Packing instruction  
(passenger aircraft) : 851

### IMDG

UN number : UN 2922  
Proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S.  
(cycloaliphatic polyamine)  
Class : 8  
Subsidiary risk : 6.1  
Packing group : II  
Labels : 8 (6.1)  
EmS Code : F-A, S-B  
Marine pollutant : yes

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### DOT Classification

UN/ID/NA number : UN 2922  
Proper shipping name : CORROSIVE LIQUIDS, TOXIC, N.O.S.  
(cycloaliphatic polyamine)  
Class : 8  
Subsidiary risk : 6.1  
Packing group : II  
Labels : Class 8 - Corrosive substances, Division 6.1 - Toxic  
substances  
ERG Code : 154  
Marine pollutant : yes(cycloaliphatic polyamine)

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)



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Specific target organ toxicity (single or repeated exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation

### SARA 313

: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### The components of this product are reported in the following inventories:

DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
CH INV	: The formulation contains substances listed on the Swiss Inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory
TSCA	: On the inventory, or in compliance with the inventory

### Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

### TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

### US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

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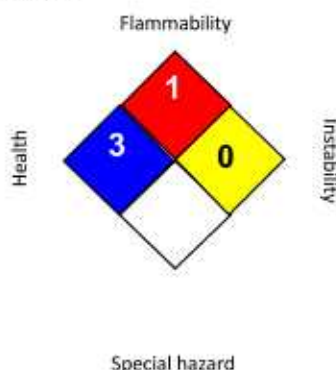
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### SECTION 16. OTHER INFORMATION

#### Further information

##### NFPA 704:



##### HMIS® IV:

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

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