

ARALDITE® AY 8683 US

Version 1.0 Revision Date: 08/26/2015 SDS Number: 400001012691 Date of last issue: -
Date of first issue: 08/26/2015

SECTION 1. IDENTIFICATION

Product name : ARALDITE® AY 8683 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
Telephone : Non-Emergency: (800) 257-5547
E-mail address of person responsible for the SDS : MSDS@huntsman.com
Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Adhesives

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Inhalation) : Category 3
Respiratory sensitization : Category 1
Skin sensitization : Category 1
Chronic aquatic toxicity : Category 3

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of

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the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves.

P285 In case of inadequate ventilation wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

P363 Wash contaminated clothing before reuse.

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 waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	3 - 7
4,4'-methylenedicyclohexyl diisocyanate	5124-30-1	1 - 3

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.
If symptoms persist, call a physician.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

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Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : No data is available on the product itself.

Specific extinguishing methods : No data is available on the product itself.

Further information : Standard procedure for chemical fires.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Not applicable for product as supplied.

Environmental precautions : No special environmental precautions required.

Methods and materials for containment and cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).
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 : For personal protection see section 8.
No special handling advice required.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.

Materials to avoid : No special restrictions on storage with other products.

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

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Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	TWA	0.005 ppm	ACGIH
		TWA	0.005 ppm 0.045 mg/m3	NIOSH REL
		ST	0.02 ppm 0.18 mg/m3	NIOSH REL
		TWA	0.005 ppm	OSHA P0
		STEL	0.02 ppm	OSHA P0
4,4'-methylenedicyclohexyl diisocyanate	5124-30-1	TWA	0.005 ppm	ACGIH
		C	0.01 ppm 0.11 mg/m3	NIOSH REL
		C	0.01 ppm 0.11 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection
Remarks : For prolonged or repeated contact use protective gloves.

Eye protection : Safety glasses

Skin and body protection : Protective suit

Hygiene measures : General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : amber, clear

Odor : slight

Odor Threshold : No data is available on the product itself.

pH : No data is available on the product itself.

Flash point : > 149 °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.

Upper explosion limit : No data is available on the product itself.

Lower explosion limit : No data is available on the product itself.

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Vapor pressure : No data is available on the product itself.

Relative vapor density : 1

Relative density : 1.02 - 1.06

Density : No data is available on the product itself.

Solubility(ies)

Water solubility : Water reactive

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.

Autoignition temperature : No data is available on the product itself.

Thermal decomposition : No data is available on the product itself.

Viscosity : No data is available on the product itself.

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.

Chemical stability : No decomposition if stored and applied as directed.

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

Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity**Ingredients:**

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate:

Acute oral toxicityIngredients : LD50 (Rat): 4,814 mg/kg
Method: OECD Test Guideline 401

4,4'-methylenedicyclohexyl diisocyanate:

Acute oral toxicityIngredients : LD50 (Rat, male and female): 18,200 mg/kg

Ingredients:

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate:

Acute inhalation toxicity : LC50 (Rat, male and female): 0.04 mg/l

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Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

4,4'-methylenedicyclohexyl diisocyanate:

Acute inhalation toxicity : LC50 (Rat, male and female): 0.43 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Ingredients:

4,4'-methylenedicyclohexyl diisocyanate:

Acute dermal toxicity : LD50 (Rat, male and female): > 7,000 mg/kg
Method: OECD Test Guideline 402

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

Skin corrosion/irritation**Product:**

Remarks: According to the classification criteria of the European Union, the product is not considered as being a skin irritant.

Serious eye damage/eye irritation**Product:**

Remarks: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Respiratory or skin sensitization**Product:**

Remarks: No data available

Assessment: No data available

Germ cell mutagenicity**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Genotoxicity in vitro : Concentration: 50 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Concentration: 28 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

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Concentration: 96 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : No data available

Carcinogenicity

No data available

Carcinogenicity - Assessment : No data available

Reproductive toxicity**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Effects on fertility : Species: Rat, male and female
Application Route: Inhalation
Target Organs: Respiratory Tract
Method: OECD Test Guideline 421

Ingredients:

4,4'-methylenedicyclohexyl diisocyanate:

Effects on fetal development : Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: NOAEL (No observed adverse effect level): 1 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects.

Reproductive toxicity - Assessment : No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Repeated dose toxicity**Ingredients:**

4,4'-methylenedicyclohexyl diisocyanate:

Species: Rat, male and female
NOEC: 3 mg/m³
Test atmosphere: dust/mist
Exposure time: 13 Weeks
Number of exposures: 6 h
Method: OECD Test Guideline 413

Repeated dose toxicity - : No data available

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Assessment

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**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Ingredients:**

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate:

Toxicity to fish : LC50: 1.8 mg/l
Exposure time: 48 h
Method: DIN 38412

4,4'-methylenedicyclohexyl diisocyanate:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 8.1 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.**Ingredients:**

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate:

Toxicity to daphnia and other : EC50: 83.7 mg/l

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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

Further information:
No data available

Persistence and degradability**Ingredients:**

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: Tested according to Directive 92/69/EEC.

4,4'-methylenedicyclohexyl diisocyanate:

Biodegradability : Inoculum: activated sludge
Concentration: 30 mg/l
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.D.

Biochemical Oxygen Demand (BOD) : No data available

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

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

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Bioaccumulative potential

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : No data available

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

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 : Not applicable

Additional ecological information - Product : There is no data available for this product.

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.**SECTION 14. TRANSPORT INFORMATION**

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International Regulation**TDG**

Not regulated as a dangerous good

IATA

Not regulated as a dangerous good

IMDG

Not regulated as a dangerous good

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

Not applicable for product as supplied.

Domestic regulation**SECTION 15. REGULATORY INFORMATION**

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

WHMIS Classification : D2B: Toxic Material Causing Other Toxic Effects
D2A: Very Toxic Material Causing Other Toxic Effects

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The ingredients of this product are reported in the following inventories:

CH INV : The mixture contains substances listed on the Swiss Inventory
: benzoyl chloride

TSCA : On TSCA Inventory
DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.
: Oxirane, methyl-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,4-butanediyl), 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimet

AICS : On the inventory, or in compliance with the inventory
NZIoC : Not in compliance with the inventory
: Oxirane, methyl-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,4-butanediyl), 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimet

ENCS : On the inventory, or in compliance with the inventory
ISHL : On the inventory, or in compliance with the inventory
KECI : Not in compliance with the inventory
: Oxirane, methyl-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,4-butanediyl), 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimet

PICCS : Not in compliance with the inventory

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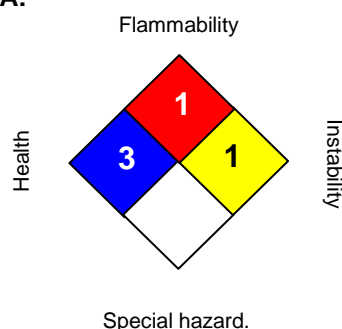
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: Oxirane, methyl-, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxy-1,4-butanediyl), 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimet

IECSC : Low volume exemption
 : Oxirane, methyl-, polymer with .alpha.-hydro.-omega.-hydroxypoly(oxy-1,4-butanediyl), 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimet

Inventories

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

SECTION 16. OTHER INFORMATION**Further information****NFPA:****HMIS III:**

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

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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.

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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