SAFETY DATA SHEET



ARALDITE® 1641 B

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : ARALDITE® 1641 B

Product code : 00049929

Product description :

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use : Hardener for adhesive systems

1.3 Details of the supplier of the safety data sheet

Supplier: Huntsman Advanced Materials (Europe)BVBA

Everslaan 45

3078 Everberg / Belgium Tel.: +41 61 299 20 41 Fax: +41 61 299 20 40

e-mail address of person responsible for this SDS

: Global_Product_EHS_AdMat@huntsman.com

1.4 Emergency telephone number

Supplier

Telephone number : EUROPE: +32 35 75 1234

France ORFILA: +33(0)145425959

ASIA: +65 6336-6011 China: +86 20 39377888 Australia: 1800 786 152 New Zealand: 0800 767 437 USA: +1/800/424.9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Xi; R41, R38

R43

Human health hazards: Risk of serious damage to eyes. Irritating to skin. May cause sensitisation by skin

contact.

See Section 16 for the full text of the R phrases or H statements declared above. See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard symbol or symbols



Indication of danger : Irritant

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SECTION 2: Hazards identification

: R41- Risk of serious damage to eyes. **Risk phrases**

R38- Irritating to skin.

R43- May cause sensitisation by skin contact.

Safety phrases S24- Avoid contact with skin.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek

medical advice.

S37/39- Wear suitable gloves and eye/face protection.

Hazardous ingredients

: oleic acid, polyalkylamine polymer

Supplemental label

elements

: Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant

: Not applicable.

fastenings

Tactile warning of danger : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : Not available.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

			Classification		
Product/ingredient name	Identifiers	%	67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	Туре
oleic acid, polyalkylamine polymer		60-100	Xi; R41, R38 R43	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317	[1]
			See section 16 for the full text of the R- phrases declared above	See Section 16 for the full text of the H statements declared above.	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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SECTION 3: Composition/information on ingredients

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders

: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact: Severely irritating to eyes. Risk of serious damage to eyes.

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects

may be delayed following exposure.

Skin contact: Irritating to skin. May cause sensitisation by skin contact.

Ingestion: Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

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SECTION 4: First aid measures

Skin contact: Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : Symptomatic treatment and supportive therapy as indicated. Following severe

exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing

media

: None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products

 Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides

5.3 Advice for firefighters

Special precautions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

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SECTION 6: Accidental release measures

Small spill

: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

See Section 1 for emergency contact information.
 See Section 8 for information on appropriate personal protective equipment.
 See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

: Storage temperature: 5 to 25°C (41 to 77°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Storage hazard class Huntsman Advanced Materials

: Storage class 12, Liquids, not dangerous

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific : Not available.

solutions

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SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

procedures

Recommended monitoring : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls

: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Material of gloves for long term application (BTT>480min):

: butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL)

Material of gloves for short term/splash application (10min<BTT<480min): : nitrile rubber

(BTT = Break Through Time)

Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers. Additional information can be found for instance at www.gisbau.de.

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SECTION 8: Exposure controls/personal protection

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid. Colour Blue. **Odour** Amine-like. **Odour threshold** Not available. pН Not available. Melting point/freezing point : Not available. Initial boiling point and boiling Not available. range

: Closed cup: >100°C [Estimated] Flash point

Not available. **Evaporation rate** Flammability (solid, gas) Not available. Not applicable. **Burning time Burning rate** Not applicable.

Upper/lower flammability or

explosive limits

Not available.

: <0.1 kPa [20°C] Vapour pressure Not available. Vapour density Relative density Not available.

Solubility(ies)

Water solubility Slightly soluble

> 20 deg C : Not available.

Partition coefficient: noctanol/water (LogK_{ow})

Auto-ignition temperature : Not available. : >200°C **Decomposition temperature**

Viscosity Not available. **Explosive properties** Not available. Oxidising properties : Not available.

9.2 Other information

: 0.67 g/cm³ [25°C (77°F)] **Density**

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SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials: No specific data.

10.6 Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products

should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Irritation/Corrosion

Conclusion/Summary

Skin: No additional information.Eyes: No additional information.Respiratory: No additional information.

<u>Sensitiser</u>

Conclusion/Summary: No additional information.

Mutagenicity
Carcinogenicity
Reproductive tox

Reproductive toxicity

Teratogenicity

Information on the likely routes of exposure

: Not available.

Potential acute health effects

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects

may be delayed following exposure.

Ingestion: Irritating to mouth, throat and stomach.

Skin contactEye contactEye contactSeverely irritating to eyes. Risk of serious damage to eyes.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No specific data.Ingestion: No specific data.

Skin contact: Adverse symptoms may include the following:

irritation redness

Eye contact: Adverse symptoms may include the following:

pain or irritation watering redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

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SECTION 11: Toxicological information

Potential immediate

: Not available.

effects

Potential delayed effects: Not available.

Long term exposure

Potential immediate

effects

: Not available.

Potential delayed effects: Not available.

Potential chronic health effects

Conclusion/Summary : Not available.

General Once sensitized, a severe allergic reaction may occur when subsequently exposed

to very low levels.

Carcinogenicity : No known significant effects or critical hazards. : No known significant effects or critical hazards. Mutagenicity : No known significant effects or critical hazards. **Teratogenicity** : No known significant effects or critical hazards. **Developmental effects Fertility effects** : No known significant effects or critical hazards.

: Not available. Other information

SECTION 12: Ecological information

12.1 Toxicity

12.2 Persistence and degradability

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition

: Not available.

coefficient (Koc)

Mobility Not available.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

12.7 Other ecological information

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

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SECTION 13: Disposal considerations

Methods of disposal

: The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste : Yes. European waste catalogue (EWC)

Waste code	Waste designation
07 02 04*	other organic solvents, washing liquids and mother liquors

Packaging

Methods of disposal

: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions

: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	14.1 UN number	14.2 UN proper shipping name
ADR/RID	Not regulated.	-
IMDG	Not regulated.	-
IATA	Not regulated.	-

	14.3 Transport hazard class(es)	•	14.5 Environmental hazards	14.6 Special precautions for user	Additional information
ADR/RID	-	-	No.	Not available.	-
IMDG	-	-	No.	Not available.	-
IATA	-	-	No.	Not available.	-

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

: Not applicable.

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable.

on the manufacture, placing on the market and

use of certain dangerous substances, mixtures and

articles

Other EU regulations

Europe inventory : All components are listed or exempted.

Black List Chemicals : Not listed : Not listed **Priority List Chemicals** : Not listed Integrated pollution

prevention and control

list (IPPC) - Air

Integrated pollution prevention and control list (IPPC) - Water

: Not listed

National regulations

References : 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.

International regulations

Chemical Weapons

Convention List Schedule I

Chemicals

: Not listed

Chemical Weapons Convention List Schedule II

Chemicals

: Not listed

Chemical Weapons Convention List Schedule III

Chemicals

: Not listed

15.2 Chemical Safety

: This product contains substances for which Chemical Safety Assessments are still

required. **Assessment**

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.

1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Irrit. 2, H315 Eve Dam. 1, H318 Skin Sens. 1, H317

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SECTION 16: Other information

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Eye Dam. 1, H318	Calculation method Calculation method Calculation method

Full text of abbreviated H

statements

: H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

Full text of classifications

[CLP/GHS]

: Eye Dam. 1, H318 Skin Irrit. 2, H315 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

SKIN CORROSION/IRRITATION - Category 2

Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1 : R41- Risk of serious damage to eyes.

Full text of abbreviated R phrases

R38- Irritating to skin.

R43- May cause sensitisation by skin contact.

Full text of classifications

[DSD/DPD]

: Xi - Irritant

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revision

Date of previous issue

: No previous validation.

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Notice to reader

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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.

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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