SAFETY DATA SHEET



ARALDITE® AW 136 US

Section 1. Identification

GHS product identifier Product code Other means of identification		ARALDITE® AW 136 US 00063839 Not available.	
Product type	÷	Liquid.	
Material uses	÷	Epoxy adhesive	
Supplier's details	:	Huntsman Advanced Materials Americas LLC P.O. Box 4980 The Woodlands, TX 77387 Non-Emergency phone: (800) 257-5547	Chemical TM Concepts Our expertise is your solution.
e-mail address of person responsible for this SDS	:	MSDS@huntsman.com	chemical-concepts.com 800.220.1966 410 Pike Road • Huntingdon Valley, PA 19006
Emergency telephone number (24h/7day)	:	Chemtrec: (800) 424-9300 or (703) 527-3887	

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2 Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 4.4% Percentage of the mixture consisting of ingredient(s) of unknown hazards to the
	aquatic environment: 4.4%
<u>GHS label elements</u>	
Hazard pictograms	
Signal word	: Warning
Hazard statements	 Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.

Section 2. Hazards identification

Precautionary statements	:	Wear protective gloves: > 8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL). Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.
Other hazards which do not	:	None known.

result in classification

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Ingredient name	%	CAS number
Bisphenol A epoxy resin	60 - 100	25068-38-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation. **Occupational exposure limits, if available, are listed in Section 8.**

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: 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. Get medical attention.
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.
Skin contact	Wash with plenty of soap and 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.
Most important symptoms/eff	
Potential acute health effects	-
Eye contact	: Causes serious eye irritation.

Section 4. First aid measures

Inhalation	: No known significant effects or critical hazards.
Skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Ingestion	: Irritating to mouth, throat and stomach.
<u>Over-exposure signs/symp</u>	<u>otoms</u>
Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.
Indication of immediate me	dical attention and special treatment needed, if necessary
Notes to physician	: No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Flash point	: Open cup: >149°C (>300.2°F)
Extinguishing media Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds
Special protective actions 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.

Section 6. Accidental release measures

Personal precautions, protecti	iv	e 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 spilled material. Avoid breathing vapor 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 the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
Methods and materials for containment and cleaning up	:	Stop leak if without risk. Move containers from spill area. Approach 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling	L	
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 vapor or mist. Avoid release to the environment. 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.
Conditions for safe storage, including any incompatibilities	:	Store between the following temperatures: 2 to 40°C (35.6 to 104°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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Appropriate engineering controls	 Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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.

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. : Safety eyewear complying with an approved standard should be used when a risk Eye/face protection assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. **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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL) **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. : Appropriate footwear and any additional skin protection measures should be Other skin protection selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. : Use a properly fitted, air-purifying or air-fed respirator complying with an approved **Respiratory protection** standard if a risk assessment indicates this is necessary. 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.

Thermal hazards : Not available.

Section 9. Physical and chemical properties

<u>Appearance</u>	
Physical state	: Liquid.
Color	: Black.
Odor	: mild
Odor threshold	: Not available.
рН	: Not available.
Melting point/Freezing point	: Not available.

Section 9. Physical and chemical properties

Boiling/condensation point	: Not available.
Flash point	: Open cup: >149°C (>300.2°F)
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.4
Solubility in water	: Not available.
Partition coefficient: n- octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
Bisphenol A epoxy resin	-	LC0 Inhalation Vapor LD50 Dermal		0.00001 ppm >2000 mg/kg
		LD50 Oral	Rat - Female	>2000 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Bisphenol A epoxy resin			Skin - Mild irritant Eyes - Mild irritant

Section 11. Toxicological information

Conclusion/Summary			
Skin	:	Bisphenol A epoxy resin	Irritating to skin.
Eyes	:	Bisphenol A epoxy resin	Irritating to eyes.
Respiratory	:	Bisphenol A epoxy resin	No additional information.

Sensitization

Product/ingredient name	Test	Route of exposure	Species	Result
Bisphenol A epoxy resin	-	skin	Mouse	Sensitizing

Mutagenicity

Product/ingredient name	Test	Result
Bisphenol A epoxy resin	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Positive
	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: +/-	Positive
	Experiment: In vivo Subject: Mammalian-Animal Cell: Germ	Negative
	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Bisphenol A epoxy resin	-	Rat - Male, Female Rat - Female Mouse - Male	15 mg/kg 1 mg/kg 0.1 mg/kg	2 years; 7 days per week 2 years; 5 days per week 2 years; 3 days per week	Negative - Dermal - NOEL Negative - Dermal -

Reproductive toxicity

Product/ingredient name	Test		Maternal toxicity	Fertility	Developmental effects
Bisphenol A epoxy resin	-	Rat - Male, Female	Negative	Negative	Negative

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Bisphenol A epoxy resin		Rat - Female Rabbit - Female Rabbit - Female	Negative - Oral Negative - Dermal Negative - Oral

Specific target organ toxicity (single exposure) Not available.

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely : Not available. routes of exposure

Potential acute health effects

Eye contact	:	Causes serious eye irritation.
Inhalation	:	No known significant effects or critical hazards.
Skin contact	:	Causes skin irritation. May cause an allergic skin reaction.
Ingestion	:	Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	1	No specific data.
Skin contact	:	Adverse symptoms may include the following: irritation redness
Ingestion	1	No specific data.
Delayed and immediate	effec	ts and also chronic effects from short and long term exposure
Short term exposure		
Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.
Long term exposure		
Potential immediate effects	- 1	Not available.
Potential delayed effects	:	Not available.

Potential chronic health effects

Product/ingredient name	Test	Endpoint	Species	Result
Bisphenol A epoxy resin	-	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg
		Sub-chronic NOEL	Rat - Male, Female	10 mg/kg
		Sub-chronic NOAEL Dermal	Mouse - Male	100 mg/kg
General	Once sensitized very low levels.	l, a severe allergic reaction may	occur when subse	quently exposed to
Carcinogenicity	No known signi	ficant effects or critical hazards.		

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Section 11. Toxicological information

Mutagenicity	1	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	No known significant effects or critical hazards.
Numerical measures of t	oxic	<u>sity</u>
Acute toxicity estimates	2	

Not available.

Other information : Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result	
Bisphenol A epoxy resin	EPA CFR	25068-38-6 500-033-5	72 hours Static	Algae	-	REACTION PRODUCT: BISPHENOL A- (EPICHLORHYDRIN);
						EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT < 700)
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test		48 hours Static	Daphnia		
	Unknown guidelines		3 hours Static	Bacteria		
	OECD 203 Fish, Acute Toxicity Test		96 hours Static	Fish		
	OECD 211 <i>Daphnia</i> <i>Magna</i> Reproduction Test		21 days Semi-static	Daphnia		

Persistence and degradability

Product/ingredient name	Test		Period	Result
Bisphenol A epoxy resin	OECD Derived from OECD 3 (Biodegradation Test)	01F	500-033-5	25068-38-6
Conclusion/Summary	: Bisphenol A epoxy resin Carbon black		iodegradable. le, inorganic substance	/ preparation.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Bisphenol A epoxy resin	Fresh water 4.83 days Fresh water 3.58 days Fresh water 7.1 days	-	Not readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	LogPow	BCF	Potential
Bisphenol A epoxy resin	3.242	31	low

Mobility in soil

Not available.

Other ecological information

BOD5	: Not determined.
COD	: Not determined.
тос	: Not determined.

Section 13. Disposal considerations

Disposal methods	: The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non- recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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 spilled
	material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

- **DOT** : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin). Marine pollutant
- **TDG** : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin). Marine pollutant
- **IMDG** : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin). Marine pollutant
- **IATA** : Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a epoxy resin)

Regulatory information	UN number	Classes	PG*	Label	Additional information

Section 14. Transport information

DOT Classification	UN3082 UN3082	9	111	Marine pollutants are only regulated for bulk and vessel shipments, per 49CFR171.4 (c) Exceptions. Except when all or part of the transportation is by vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car or aircraft.
				regulated as a dangerous good when transported by road or rail.
IMDG Classification	UN3082	9	111	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency</u> <u>schedules (EmS)</u> F-A S-F
IATA Classification	UN3082	9	III	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Passenger and</u> <u>Cargo Aircraft</u> Quantity limitation: 450 L Packaging instructions: 964 <u>Cargo Aircraft Only</u> Quantity limitation: 450 L Packaging instructions: 964

PG* : Packing group

Section 15. Regulatory information

		•				
Safety, health and environ	me	ental regulations spec	ific for the pro	oduct		
United States Regulation	<u>s</u>					
TSCA 8(b) inventory	:	All components are lis	sted or exempted	ed.		
TSCA 5(a)2 final significant new use rule (SNUR)	:	No ingredients listed.	No ingredients listed.			
TSCA 5(e) substance consent order	:	No ingredients listed.	lo ingredients listed.			
TSCA 12(b) export notification	:	No ingredients listed.	lo ingredients listed.			
SARA 311/312	:	Immediate (acute) he	alth hazard			
Clean Air Act - Ozone Depleting Substances (ODS)	:	This product does not	contain nor is	it manufactured v	vith ozone deplet	ing substances.
		Product name		Con	centration %	
SARA 313 Form R - Reporting requirements	:	barium-zinc-sulfate-sı	ılfide-	21.:	25	
		Ingredient name	<u>%</u>	<u>Section 304</u> CERCLA Hazardous Substance	<u>CERCLA</u> <u>Reportable</u> <u>Quantity</u> (Lbs)	<u>Product</u> <u>Reportable</u> <u>Quantity</u> (Lbs)
CERCLA Hazardous substances	:	barium-zinc-sulfate- sulfide-	21.25	Listed		
State regulations						
PENNSYLVANIA - RTK	:	Carbon black,				
California Prop 65	:	This product contains cancer, birth defects of warning under the sta	or other reprodu			
Canadian regulations						
CEPA DSL	:	At least one compone	ent is not listed.			
	en e	Class D-2B: Material classified in accordan DS contains all the in	ce with the ha	zard criteria of t	the Controlled F	
Brazil Regulations						
Classification system		Norma ARNT NRD 1	オフウト ウ・クヘイウ			

Classification system	:	Norma ABNT-NBR 14725-2:2012
used		

Section 15. Regulatory information

International lists	: Australia inventory (AICS): All components are listed or exempted.
	China inventory (IECSC): All components are listed or exempted.
	Japan inventory: Not determined.
	Korea inventory: All components are listed or exempted.
	Malaysia Inventory (EHS Register): Not determined.
	New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
	Philippines inventory (PICCS): At least one component is not listed. Taiwan inventory (CSNN): Not determined.

Section 16. Other information



The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection : Association (U.S.A.)



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Version	:	1

Indicates information that has changed from previously issued version.

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Notice to reader

Section 16. Other information

While 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.

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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