Material Safety Data Sheet

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ARALDITE® 2011 RO US

1 . Product and company identification

Product name : **ARALDITE® 2011 RO US**
Material uses : Adhesive.
MSDS # : 00070875
Validation date : 8/22/2013.
Supplier/Manufacturer : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

E-Mail: MSDS@huntsman.com

In case of emergency : Chemtrec: (800) 424-9300 or (703) 527-3887

2 . Hazards identification

Physical state : Liquid.
Color : White.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : WARNING!

CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE DEVELOPMENTAL EFFECTS, BASED ON ANIMAL DATA.

Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not get on skin or clothing. Avoid contact with eyes. Avoid exposure during pregnancy. Wash thoroughly after handling.

See toxicological information (Section 11)

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3 . Composition/information on ingredients

Name	CAS number	%
Bisphenol A epoxy resin	25068-38-6, 25085-99-8	60 - 100
bisphenol A - epoxy resins, number average MW >700 - <1100	67924-34-9	13 - 30
dibutyl phthalate	84-74-2	7 - 13
Butylphenyl glycidyl ether	3101-60-8	3 - 7

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Notes to physician : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

5 . Fire-fighting measures

Flash point : Closed cup: 134°C (273.2°F)

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : 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.

6 . Accidental release measures

Personal precautions : 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 (see Section 8).

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).

Methods for 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.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Storage : 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.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
dibutyl phthalate	**ACGIH TLV (United States, 3/2012).** TWA: 5 mg/m³ 8 hours. **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³ 8 hours.

Recommended monitoring procedures : 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 appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Personal protection

Respiratory : 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.

Hands : 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.

Eyes : 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

8 . Exposure controls/personal protection

Skin : 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.

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.

9 . Physical and chemical properties

Appearance

Physical state : Liquid.

Color : White.

Odor : Not available.

pH : Not available.

Boiling/condensation point : Not available.

Melting/freezing point : Not available.

Flash point : Closed cup: 134°C (273.2°F)

Flammable limits : Not available.

Auto-ignition temperature : Not available.

Vapor pressure : Not available.

Specific gravity : Not available.

Partition coefficient: n-octanol/water (log Kow) : Not available.

Density : 1.13 to 1.22 g/cm³

Vapor density : Not available.

Evaporation rate (butyl acetate = 1) : Not available.

10 . Stability and reactivity

Chemical stability : The product is stable.

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

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

Conditions to avoid : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Acute toxicity

11 . Toxicological information

Product/ingredient name	Test	Endpoint	Species	Result
Bisphenol A epoxy resin	-	LC0 Inhalation Vapor	Rat - Male	0.00001 ppm
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rat - Male, Female	>2000 mg/kg
	OECD 420 Acute Oral Toxicity - Fixed Dose Method	LD50 Oral	Rat - Female	>2000 mg/kg
dibutyl phthalate	No official guidelines	LC50 Inhalation Dusts and mists	Rat - Male, Female	>15.68 mg/l
	No official guidelines	LD50 Dermal	Rabbit	>20000 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male, Female	6279 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Bisphenol A epoxy resin	OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit	Skin - Mild irritant
	OECD 405 Acute Eye Irritation/ Corrosion	Rabbit	Eyes - Mild irritant
dibutyl phthalate	OECD 405 Acute Eye Irritation/ Corrosion	Rabbit	Eyes - Non-irritant.
	OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit	Skin - Non-irritant.

Conclusion/ Summary

Skin	:	Bisphenol A epoxy resin	Irritating to skin.
		bisphenol A - epoxy resins, number average MW >700 - <1100	No additional information.
		dibutyl phthalate	Non-irritating to the skin.
		Butylphenyl glycidyl ether	No additional information.
Eyes	:	Bisphenol A epoxy resin	Irritating to eyes.
		bisphenol A - epoxy resins, number average MW >700 - <1100	No additional information.
		dibutyl phthalate	Non-irritating to the eyes.
		Butylphenyl glycidyl ether	No additional information.
Respiratory	:	Bisphenol A epoxy resin	No additional information.
		bisphenol A - epoxy resins, number average MW >700 - <1100	No additional information.
		dibutyl phthalate	No additional information.
		Butylphenyl glycidyl ether	No additional information.

Sensitizer

11 . Toxicological information

Product/ingredient name	Test	Route of exposure	Species	Result
Bisphenol A epoxy resin	OECD 429 Skin Sensitization: Local Lymph Node Assay	skin	Mouse	Sensitizing
dibutyl phthalate	OECD 406 Skin Sensitization	skin	Guinea pig	Not 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
dibutyl phthalate	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative
	Experiment: In vitro Subject: Yeast Metabolic activation: +/-	Negative
	Experiment: In vitro Subject: bacteria/yeast Metabolic activation: +/-	Negative
	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/ Summary : dibutyl phthalate — Not mutagenic in a standard battery of genetic toxicological tests.

Carcinogenicity

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Bisphenol A epoxy resin	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Male, Female	15 mg/kg	2 years; 7 days per week	Negative - Oral - NOAEL
	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Female	1 mg/kg	2 years; 5 days per week	Negative - Dermal - NOEL
	OECD 453	Mouse - Male	0.1 mg/kg	2 years; 3	Negative - Dermal -

11 . Toxicological information

	Combined Chronic Toxicity/ Carcinogenicity Studies			days per week	NOEL

Conclusion/Summary : dibutyl phthalate — In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

Carcinogenic class

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
dibutyl phthalate	A1	-	-	-	-	-

Reproductive toxicity

Product/ingredient name	Test	Species	Maternal toxicity	Fertility	Developmental effects
Bisphenol A epoxy resin	OECD 416 Two-Generation Reproduction Toxicity Study	Rat - Male, Female	Negative	Negative	Negative
dibutyl phthalate	No official guidelines	Rat - Male, Female	Positive	Positive	Positive

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Bisphenol A epoxy resin	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Oral
	EPA CFR	Rabbit - Female	Negative - Dermal
	OECD 414 Prenatal Developmental Toxicity Study	Rabbit - Female	Negative - Oral
dibutyl phthalate	No official guidelines	Mouse	Positive - Oral
	No official guidelines	Rat - Male, Female	Positive - Oral

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

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

Eye contact : Irritating to eyes.

Potential chronic health effects

11 . Toxicological information

Product/ingredient name	Test	Endpoint	Species	Result
Bisphenol A epoxy resin	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	Sub-chronic NOEL Dermal	Rat - Male, Female	10 mg/kg
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	Sub-chronic NOAEL Dermal	Mouse - Male	100 mg/kg
dibutyl phthalate	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Sub-chronic NOAEL Oral	Rat - Male, Female	152 mg/kg/d
	OECD 412 Repeated Dose Inhalation Toxicity: 28-day or 14-day Study	Sub-chronic NOEC Inhalation Dusts and mists	Rat - Male, Female	509 mg/m³

General : Contains material that may cause target organ damage, based on animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Target organs : Contains material which may cause damage to the following organs: the reproductive system.

Carcinogenicity : 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 : Contains material which may cause developmental abnormalities, based on animal data.

Fertility effects : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure

Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

12 . Ecological information

Environmental effects : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

12 . Ecological information

Product/ingredient name	Test	Endpoint		Exposure	Species	Result	
Bisphenol A epoxy resin	-	Acute	EC50	72 hours Static	Algae	9.4	mg/l
	OECD 202 *Daphnia* sp. Acute Immobilisation Test	Acute	EC50	48 hours Static	Daphnia	1.7	mg/l
	-	Acute	IC50	3 hours Static	Bacteria	>100	mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute	LC50	96 hours Static	Fish	1.5	mg/l
	OECD 211 *Daphnia Magna* Reproduction Test	Chronic	NOEC	21 days Semi-static	Daphnia	0.3	mg/l
dibutyl phthalate	No official guidelines	Acute	EC50	10 days Static	Algae	0.75	mg/l
	No official guidelines	Acute	EC50	24 hours	Bacteria	2.2	mg/l
	EPA OPPTS	Acute	EC50	48 hours Static	Daphnia	2.99	mg/l
	EPA OPPTS	Acute	LC50	96 hours Static	Daphnia	0.5	mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute	LC50	96 hours Static	Fish	0.48	mg/l
	No official guidelines	Chronic	NOEC	10 days Static	Algae	0.39	mg/l
	DIN DIN 38412 Part 27	Chronic	NOEC	30 minutes Static	Bacteria	>10	mg/l
	No official guidelines	Chronic	NOEC	10 days	Daphnia	0.1	mg/l
	No official guidelines	Chronic	NOECr	99 days	Fish	0.1	mg/l

Persistence and degradability

Product/ingredient name	Test	Period	Result
Bisphenol A epoxy resin	OECD Derived from OECD 301F (Biodegradation Test)	28 days	5 %
dibutyl phthalate	EPA OPPTS	21 days	>97 %
	EU EC C.4-C Biodegradation: Determination of the "Ready" Biodegradability: Carbon Dioxide Evolution Test	28 days	81 %

Conclusion/Summary : Bisphenol A epoxy resin — Not readily biodegradable.
dibutyl phthalate — Readily biodegradable

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
dibutyl phthalate	Fresh water 2.7 days	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Bisphenol A epoxy resin	3.242	31	low
dibutyl phthalate	4.46	<1	low

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

12 . Ecological information

Other ecological information

BOD5 : Not Determined

COD : Not Determined

TOC : Not Determined

13 . Disposal considerations

Waste disposal : 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.

14 . Transport information

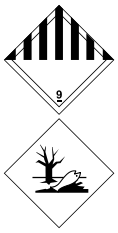
Proper shipping name

DOT : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, DIBUTYL PHTHALATE) Marine pollutant

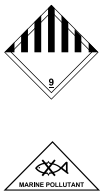
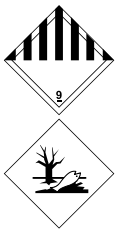
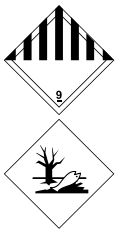
TDG : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, DIBUTYL PHTHALATE) Marine pollutant

IMDG : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, DIBUTYL PHTHALATE) Marine pollutant

IATA : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, DIBUTYL PHTHALATE) Marine pollutant

Regulatory information	UN number	Classes	PG*	Label	Additional information
DOT Classification	UN3082	9	III		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.

14 . Transport information

TDG Classification	UN3082	9	III		-
IMDG Class	UN3082	9	III		**Emergency schedules (EmS)** F-A, S-F
IATA-DGR Class	UN3082	9	III		**Passenger and Cargo Aircraft** Quantity limitation: 450 L Packaging instructions: 964 **Cargo Aircraft Only** Quantity limitation: 450 L Packaging instructions: 964

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Irritating material
Sensitizing material
Target organ effects

U.S. Federal regulations

TSCA 8(b) inventory : **United States inventory (TSCA 8b)**: All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard
Delayed (chronic) health hazard

	Product name	CAS number	Concentration %
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) :	dibutyl phthalate		8.4995

15 . Regulatory information

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

	Product name	CAS number	Concentration %
SARA 313 Form R - Reporting requirements :	dibutyl phthalate	84-74-2	8.4995

CERCLA Hazardous substances :

Components	Concentration %	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (Lbs)	Product Reportable Quantity (Lbs)
dibutyl phthalate	8.4995	Listed	10	118
1-chloro-2, 3-epoxypropane	0. 000668593426695	Listed	100	14956773

State regulations

PENNSYLVANIA - RTK : dibutyl phthalate

California Prop 65 : **WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive
dibutyl phthalate	No.	Yes.
1-chloro-2,3-epoxypropane	Yes.	Yes.

International regulations

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

CEPA DSL : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
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): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

16 . Other information

Label requirements : CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE DEVELOPMENTAL EFFECTS, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		0
Personal protection		

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

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

Date of printing : **8/22/2013.**

Date of issue : 8/22/2013.

Date of previous issue : 8/14/2013.

Version : 4

Indicates information that has changed from previously issued version.

Notice to reader

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.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS,

16 . Other information

WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.