

ARALDITE® 2014 A US

Version 1.2 Revision Date: 02/07/2019 SDS Number: 400001014236 Date of last issue: 09/06/2017
Date of first issue: 08/25/2017

SECTION 1. IDENTIFICATION

Product name : ARALDITE® 2014 A US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980

The Woodlands,
TX 77387
United States of America (USA)

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

E-mail address of person responsible for the SDS : SDS@huntsman.com

Emergency telephone number : 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 in accordance with 29 CFR 1910.1200**

Skin irritation : Category 2
Serious eye damage : Category 1
Skin sensitisation : Category 1
Germ cell mutagenicity : Category 2
Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Cardio-vascular system)
Short-term (acute) aquatic hazard : Category 2
Long-term (chronic) aquatic hazard : Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.

ARALDITE® 2014 A US

Version 1.2 Revision Date: 02/07/2019 SDS Number: 400001014236 Date of last issue: 09/06/2017
 Date of first issue: 08/25/2017

H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H341 Suspected of causing genetic defects.
 H373 May cause damage to organs (Cardio-vascular system) through prolonged or repeated exposure if swallowed.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	30 - 50
barium sulfate	7727-43-7	30 - 50
1,4-bis(2,3-epoxypropoxy)butane	2425-79-8	1 - 2.5
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2451-62-9	1 - 2.5

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

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue:
1.2	02/07/2019	400001014236	09/06/2017
			Date of first issue: 08/25/2017

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

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : None known.
- Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

- Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being

ARALDITE® 2014 A US

Version 1.2 Revision Date: 02/07/2019 SDS Number: 400001014236 Date of last issue: 09/06/2017
 Date of first issue: 08/25/2017

used.

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

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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
barium sulfate	7727-43-7	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m ³	ACGIH
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2451-62-9	TWA	0.05 mg/m ³	ACGIH

Personal protective equipment

- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
- Hand protection
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: paste
Colour	: beige
Odour	: slight
Odour Threshold	: No data is available on the product itself.
pH	: No data is available on the product itself.
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: > 201 °F / > 94 °C Method: estimated, closed cup
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: 1.55
Density	: No data is available on the product itself.
Solubility(ies)	
Water solubility	: negligible
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Thermal decomposition	: No data is available on the product itself.

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

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

Viscosity
Viscosity, dynamic : ca. 100,000 mPa.s (77 °F / 25 °C)

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

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

Molecular weight : No data available

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

SECTION 10. STABILITY AND REACTIVITY

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

Chemical stability : Stable under normal conditions.

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

Conditions to avoid : None known.

Incompatible materials : None known.

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

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

Acute inhalation toxicity - Product : Acute toxicity estimate: 29.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

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

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

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Skin corrosion/irritation**Components:**

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

Species: Rabbit

Assessment: Mild skin irritant

Method: OECD Test Guideline 404

Result: Irritating to skin.

barium sulfate:

Species: human skin

Assessment: No skin irritation

Result: No skin irritation

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

Species: Rabbit

Method: OECD Test Guideline 404

Result: Skin irritation

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Species: Rabbit

Assessment: No skin irritation

Method: OECD Test Guideline 404

Result: No skin irritation

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

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

Species: Rabbit

Result: Irritating to eyes.

Assessment: Mild eye irritant

Method: OECD Test Guideline 405

barium sulfate:

Species: Rabbit

Result: No eye irritation

Assessment: No eye irritation

Method: OECD Test Guideline 405

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

Species: Rabbit

Result: Risk of serious damage to eyes.

Method: OECD Test Guideline 405

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Species: Rabbit

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation**Components:**

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

Exposure routes: Skin

Species: Mouse

Assessment: May cause sensitisation by skin contact.

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Method: OECD Test Guideline 429
Result: Causes sensitisation.

barium sulfate:
Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: Does not cause skin sensitisation.

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: May cause sensitisation by skin contact.

Assessment: No data available

Germ cell mutagenicity**Components:**

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

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

barium sulfate:
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

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

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Concentration: 1 - 100 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive
Remarks: Not classified due to data which are conclusive although insufficient for classification.

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Components:

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

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

Cell type: Somatic
Application Route: Oral
Dose: 0 - 5000 mg/kg
Method: OPPTS 870.5395
Result: negative

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

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

Test Type: unscheduled DNA synthesis assay
Species: Rat
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 486
Result: negative

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Genotoxicity in vivo : Cell type: Germ
Application Route: Oral
Method: OECD Test Guideline 483

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Result: positive

Cell type: Somatic
Application Route: Oral
Method: OECD Test Guideline 474
Result: positive

Components:

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

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Germ cell mutagenicity- Assessment : In vitro tests showed mutagenic effects

Germ cell mutagenicity- Assessment : No data available

Carcinogenicity**Components:**

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

Species: Rat, male and female
Application Route: Oral
Exposure time: 24 month(s)
Dose: 15 mg/kg
Frequency of Treatment: 7 days/week
Method: OECD Test Guideline 453
Result: negative

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

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

barium sulfate:

Species: Rat, male and female
Application Route: Oral
Exposure time: 104 weeks
Dose: 60 - 75 mg/kg
Method: OPPTS 870.4200
Result: negative

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue:
1.2	02/07/2019	400001014236	09/06/2017
			Date of first issue: 08/25/2017

Species: Mouse, male and female
Application Route: Oral
Dose: 160 - 200 mg/kg
Method: OPPTS 870.4200
Result: negative

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Species: Rat, male
Application Route: Oral
Exposure time: 99 weeks
Dose: 4.36 mg/kg
Frequency of Treatment: 24 hour
Method: OECD Test Guideline 451
Result: negative

Carcinogenicity - Assessment : No data available

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

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

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

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

Reproductive toxicity**Components:**

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

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Species: Rat, male
Application Route: Oral
Target Organs: Reproductive organs
Method: OECD Test Guideline 408

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Result: negative

Components:

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

Effects on foetal development : Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: No observed adverse effect level:
30 mg/kg body weight
Method: Other guidelines
Result: No teratogenic effects

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

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

Reproductive toxicity - Assessment : No data available

STOT - single exposure

No data available

STOT - repeated exposure**Components:**

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Exposure routes: Ingestion

Target Organs: Cardio-vascular system

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

Repeated dose toxicity**Components:**

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

Species: Rat, male and female

NOAEL: 50 mg/kg

Application Route: Ingestion

Exposure time: 14 Weeks

Number of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

NOEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Number of exposures: 5 d
Method: Subchronic toxicity

Species: Mouse, male
NOAEL: 100 mg/kg
Application Route: Skin contact
Exposure time: 13 Weeks
Number of exposures: 3 d
Method: Subchronic toxicity

barium sulfate:
Species: Rat
LOEC: \geq 104 mg/kg, 40 mg/m³
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 5 h
Number of exposures: 5 d
Method: Subchronic toxicity

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:
Species: Mouse, male and female
: < 100 mg/m³
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2,256 h
Number of exposures: 7 d
Method: Subchronic toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Ingestion: No data available

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

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

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

barium sulfate:

Toxicity to fish : LC50: 174 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

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

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 77 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Components:

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

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

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

barium sulfate:

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 14.5 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

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

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Components:

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

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

barium sulfate:

Toxicity to algae/aquatic plants : EC50: > 100 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

NOEC: > 1.15 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

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

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

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:
 Toxicity to algae/aquatic plants : EbC50 (Desmodesmus subspicatus (green algae)): 29 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 201

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

Toxicity to fish (Chronic toxicity) : No data available

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:
 Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.3 mg/l
 Exposure time: 21 d
 Test Type: semi-static test
 Test substance: Fresh water
 Method: OECD Test Guideline 211

barium sulfate:
 Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5.8 mg/l
 Exposure time: 21 d
 Test Type: semi-static test
 Test substance: Fresh water
 Method: OECD Test Guideline 211

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

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:
 Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l
 Exposure time: 3 h
 Test Type: static test
 Test substance: Fresh water

1,4-bis(2,3-epoxypropoxy)butane:
 Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l
 Exposure time: 3 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 209

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:
 Toxicity to microorganisms : IC50: > 100 mg/l
 Exposure time: 3 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : No data available

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment

Components:

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability**Components:**

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

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

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

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: > 0.5 - < 1 %
Exposure time: 44 d
Method: OECD Test Guideline 301B

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Components:

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

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

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

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Stability in water : Degradation half life(DT50): 6.66 d (77 °F / 25 °C) pH: 7
Method: OECD Test Guideline 111
Remarks: Fresh water

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential**Components:**

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

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

Components:

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

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

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

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

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Partition coefficient: n-octanol/water : log Pow: -0.8 (203 °F / 95 °C)
pH: 5 - 8

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

Method: OECD Test Guideline 107

Mobility in soil

Mobility : No data available

Components:

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

Distribution among : Koc: 445

environmental compartments

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

Distribution among : Koc: 12.59

environmental compartments Method: OECD Test Guideline 121

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Distribution among : Koc: 31.7

environmental compartments Method: OECD Test Guideline 121

Koc: 50.1

Method: OECD Test Guideline 121

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Components:

1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione:

Results of PBT and vPvB assessment : This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layerOzone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).Additional ecological information - Product : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

Global warming potential : No data available

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.2	02/07/2019	400001014236	Date of first issue: 08/25/2017

(GWP)

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

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

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA**

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

IMDG

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

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue:
1.2	02/07/2019	400001014236	09/06/2017
			Date of first issue: 08/25/2017

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

Not applicable for product as supplied.

National Regulations**DOT Classification**

UN/ID/NA number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN, BUTANEDIOLDIGLYCIDYL ETHER)
Class	: 9
Packing group	: III
Labels	: CLASS 9
ERG Code	: 171
Marine pollutant	: yes(BISPHENOL A EPOXY RESIN, BUTANEDIOLDIGLYCIDYL ETHER)
Remarks	: Above applies only to containers over 119 gallons or 450 liters. Not regulated if shipped in packages less than or equal to 119 gallons (450 liters).

Special precautions for user

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

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act**

SARA 311/312 Hazards	: Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitisation Germ cell mutagenicity Specific target organ toxicity (single or repeated exposure)
-----------------------------	---

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

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

California Prop. 65

WARNING: This product can expose you to chemicals including methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

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

ARALDITE® 2014 A US

Version 1.2	Revision Date: 02/07/2019	SDS Number: 400001014236	Date of last issue: 09/06/2017 Date of first issue: 08/25/2017
----------------	------------------------------	-----------------------------	---

Inventory

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

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

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

ENCS : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

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

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

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

Inventories

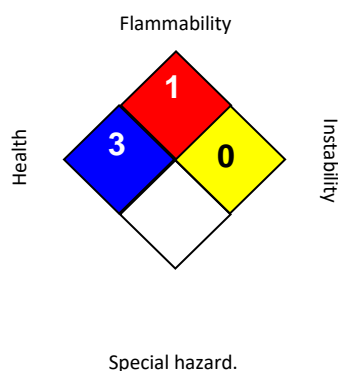
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

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

No substances are subject to a Significant New Use Rule.

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

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

SECTION 16. OTHER INFORMATION**Further information****NFPA 704:****HMIS® IV:**

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

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

ARALDITE® 2014 A US

Version	Revision Date:	SDS Number:	Date of last issue:
1.2	02/07/2019	400001014236	09/06/2017
			Date of first issue: 08/25/2017

Revision Date : 02/07/2019

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1
Limits for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average
OSHA Z-1 / TWA : 8-hour time weighted average

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.

The trademarks above are the property of Huntsman Corporation or an affiliate thereof.

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.



chemical-concepts.com

800.220.1966

410 Pike Road • Huntingdon Valley, PA 19006

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
Date of first issue: 04/12/2016

SECTION 1. IDENTIFICATION

Product name : ARALDITE® 2014 B US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980

The Woodlands,
TX 77387
United States of America (USA)

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

E-mail address of person responsible for the SDS : MSDS@huntsman.com

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

Recommended use of the chemical and restrictions on use

Recommended use : Hardener

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

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitisation : Category 1

Reproductive toxicity : Category 1B

Chronic aquatic toxicity : Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H360F May damage fertility.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
 Date of first issue: 04/12/2016

P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
Storage:
 P405 Store locked up.
Disposal:
 P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
barium sulfate	7727-43-7	30 - 50
Fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine	68082-29-1	20 - 30
Polyaminoamide	ACCN # 255120	5 - 10
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	10563-29-8	5 - 9.65
2,2'-iminodi(ethylamine)	111-40-0	3 - 5
4,4'-isopropylidenediphenol	80-05-7	1 - 2.5
Triethylenetetramine	112-24-3	1 - 2.5
N-[2-(1-piperazinyl)ethyl]ethylenediamine	24028-46-4	0.1 - 1

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

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue:
1.3	05/14/2018	400001012585	09/06/2017
			Date of first issue: 04/12/2016

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : None known.
- Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue:
1.3	05/14/2018	400001012585	09/06/2017
			Date of first issue: 04/12/2016

Carbon dioxide (CO₂)
Carbon monoxide
Nitrogen oxides (NO_x)

- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
 Date of first issue: 04/12/2016

technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
barium sulfate	7727-43-7	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m ³	ACGIH
2,2'-iminodi(ethylamine)	111-40-0	TWA	1 ppm	ACGIH

Personal protective equipment

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : paste
- Colour : grey
- Odour : slight

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

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

pH : No data is available on the product itself.

Freezing point : No data is available on the product itself.

Melting point : No data is available on the product itself.

Boiling point : No data is available on the product itself.

Flash point : > 199 °F / > 93 °C
Method: estimated, closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Flammability (liquids) : No data is available on the product itself.

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

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

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

Relative vapour density : No data is available on the product itself.

Relative density : 1.57

Density : No data is available on the product itself.

Solubility(ies)
Water solubility : < 0.1 g/l (68 °F / 20 °C)

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

Auto-ignition temperature : No data is available on the product itself.

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

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

Viscosity
Viscosity, dynamic : thixotropic

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

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

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
Date of first issue: 04/12/2016

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

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.
Chemical stability : No decomposition if stored and applied as directed.
Possibility of hazardous reactions : No decomposition if stored and applied as directed.
Conditions to avoid : No data available
Incompatible materials : No data available
Hazardous decomposition products : None known.
Hazardous decomposition products : carbon monoxide
carbon dioxide
Nitrogen oxides

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

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

Acute inhalation toxicity - Product : Assessment: The substance or mixture has no acute inhalation toxicity

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

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

Skin corrosion/irritation**Product:**

Result: Skin irritation

Remarks: Extremely corrosive and destructive to tissue.

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

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation**Product:**

Remarks: Causes sensitisation.

Assessment: No data available

Germ cell mutagenicity**Components:**

barium sulfate:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

4,4'-isopropylidenediphenol:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Result: negative

Triethylenetetramine:

Genotoxicity in vitro : Concentration: 0 - 200 µg/L
Metabolic activation: negative
Method: OECD Test Guideline 482
Result: negative

Components:

2,2'-iminodi(ethylamine):

Genotoxicity in vivo : Cell type: Somatic
Application Route: Oral
Dose: 85 - 850 mg/kg
Method: OECD Test Guideline 474
Result: negative

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Application Route: Oral

Result: negative

4,4'-isopropylidenediphenol:

Genotoxicity in vivo

: Method: OECD Test Guideline 474

Result: negative

Triethylenetetramine:

Genotoxicity in vivo

: Application Route: Intraperitoneal injection

Dose: 0 - 600 mg/kg

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity**Components:**

barium sulfate:

Species: Rat, male and female

Application Route: Oral

Exposure time: 104 weeks

Dose: 60 - 75 mg/kg

Method: OPPTS 870.4200

Result: negative

Species: Mouse, male and female

Application Route: Oral

Dose: 160 - 200 mg/kg

Method: OPPTS 870.4200

Result: negative

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:

Species: Mouse, male

Application Route: Dermal

Exposure time: 20 month(s)

Frequency of Treatment: 3 daily

Result: negative

2,2'-iminodi(ethylamine):

Species: Mouse, male

Application Route: Dermal

Dose: 56.3 mg/kg

Frequency of Treatment: 3 daily

Result: negative

4,4'-isopropylidenediphenol:

Species: Rat, male and female

Application Route: Oral

Exposure time: 103 weeks

Frequency of Treatment: 7 daily

Result: negative

Triethylenetetramine:

Species: Mouse, male

Application Route: Dermal

Dose: 42 mg/kg

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
Date of first issue: 04/12/2016

Frequency of Treatment: 3 days/week
Method: OECD Test Guideline 451
Result: negative

Species: Mouse, male
Application Route: Dermal
Exposure time: 104 weeks
Dose: 16.8 mg/kg
Frequency of Treatment: 3 days/week
Method: OECD Test Guideline 451

Carcinogenicity - Assessment : No data available

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

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

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

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

Reproductive toxicity**Components:**

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 422
Result: Animal testing did not show any effects on fertility.

2,2'-iminodi(ethylamine):

Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: No observed adverse effect level:
30 mg/kg wet weight
Method: OECD Test Guideline 421
Result: positive

4,4'-isopropylidenediphenol:

Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
Date of first issue: 04/12/2016

Effects on foetal development : Species: Rat, male and female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 15 mg/kg body weight
Developmental Toxicity: No observed adverse effect level: 15 mg/kg body weight
Embryo-foetal toxicity: No observed adverse effect level: 15 mg/kg body weight
Method: OECD Test Guideline 422
Result: No effects on fertility and early embryonic development were detected.

2,2'-iminodi(ethylamine): Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 100 mg/kg body weight
Method: OECD Test Guideline 421
Result: No adverse effects

4,4'-isopropylidenediphenol: Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: < 160 mg/kg body weight
Method: OECD Test Guideline 416
Result: No teratogenic effects

Triethylenetetramine: Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: > 750 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Species: Rabbit
Application Route: Dermal
General Toxicity Maternal: No observed adverse effect level: 125 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:
Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

4,4'-isopropylidenediphenol:
Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.

STOT - single exposure**Components:**

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

2,2'-iminodi(ethylamine):
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

4,4'-isopropylidenediphenol:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

No data available

Repeated dose toxicity**Components:**

barium sulfate:
Species: Rat
LOEC: \geq 104 mg/kg, 40 mg/m³
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 5 h
Number of exposures: 5 d
Method: Subchronic toxicity

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:
Species: Rat, male and female
NOEC: 550 ppm
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 3 Weeks
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Mouse, male
NOAEL: \geq 56.3 mg/kg/d
Application Route: Skin contact
Exposure time: 20 h
Number of exposures: 3 d
Method: Chronic toxicity

2,2'-iminodi(ethylamine):
Species: Rat, male and female
NOEC: 70 - 80 mg/m³
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 360 h
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
NOAEL: 114 mg/kg/d
Application Route: Skin contact

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Exposure time: 9,600 h
Number of exposures: 6 d
Method: Chronic toxicity

4,4'-isopropylidenediphenol:
Species: Dog, male and female
NOEC: 75 mg/kg, 10 mg/m³
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2,160 h
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
LOAEL: 600 mg/kg
Application Route: Ingestion
Exposure time: 672 h
Number of exposures: 7 d
Method: Subchronic toxicity

Triethylenetetramine:
Species: Rat, male and female
NOAEL: 50 mg/kg/d
Application Route: Ingestion
Exposure time: 26 Weeks
Number of exposures: 7 d
Method: Subchronic toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
Date of first issue: 04/12/2016

Neurological effects

No data available

Further information**Product:**

Remarks: No data available

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

barium sulfate:

Toxicity to fish : LC50: 174 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

2,2'-iminodi(ethylamine):

Toxicity to fish : LC50: 430 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.

4,4'-isopropylidenediphenol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l
Exposure time: 96 h

Triethylenetetramine:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 330 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: Fish Acute Toxicity Test

Components:

barium sulfate:

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 14.5 mg/l
Exposure time: 48 h
Test Type: static test

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Test substance: Fresh water
Method: OECD Test Guideline 202

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 9.2 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

2,2'-iminodi(ethylamine):
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 32 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water

4,4'-isopropylidenediphenol:
Toxicity to daphnia and other aquatic invertebrates : EC50: 3.9 - 10.2 mg/l
Exposure time: 48 h

(Ceriodaphnia dubia (Water flea)):

Triethylenetetramine:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 31.1 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

Components:

barium sulfate:
Toxicity to algae : EC50: > 100 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

NOEC: > 1.15 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:
Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 21 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

2,2'-iminodi(ethylamine):
Toxicity to algae : EbC50 (Selenastrum capricornutum (green algae)): 1,164 mg/l
Exposure time: 72 h
Test Type: static test

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Test substance: Fresh water
Method: OECD Test Guideline 201

4,4'-isopropylidenediphenol:
Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 2.5 - 3.1 mg/l
Exposure time: 96 h

Triethylenetetramine:
Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 20 mg/l
Exposure time: 72 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 201

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

Components:

2,2'-iminodi(ethylamine):
Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 28 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 210

4,4'-isopropylidenediphenol:
Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.016 mg/l
Exposure time: 444 d
Test Type: flow-through test
Test substance: Fresh water
Method: Fish Life Cycle Toxicity
Remarks: Toxic to aquatic organisms.

Components:

barium sulfate:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5.8 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

2,2'-iminodi(ethylamine):
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5.6 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.20

Triethylenetetramine:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 1.9 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 202

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Components:

4,4'-isopropylidenediphenol:
M-Factor (Chronic aquatic toxicity) : 1

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:
Toxicity to microorganisms : EC50 (Pseudomonas putida): 181 mg/l
Exposure time: 16 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38 412 Part 8

Triethylenetetramine:
Toxicity to microorganisms : EC50 (activated sludge): 800 mg/l
Exposure time: 0.5 h
Test Type: static test
Test substance: Fresh water

Components:

2,2'-iminodi(ethylamine):
Toxicity to soil dwelling organisms : EC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 56 d
Method: OECD Test Guideline 222

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment
Acute aquatic toxicity - Product : This product has no known ecotoxicological effects.

Chronic aquatic toxicity - Product : Harmful to aquatic life with long lasting effects.

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability**Components:**

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:
Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: ISO Method, other

2,2'-iminodi(ethylamine):
Biodegradability : Inoculum: activated sludge

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Result: Readily biodegradable.
 Biodegradation: 87 %
 Exposure time: 21 d
 Method: OECD Test Guideline 301D

4,4'-isopropylidenediphenol:
 Biodegradability

: Result: Not readily biodegradable.
 Biodegradation: 1 - 2 %
 Exposure time: 28 d

Triethylenetetramine:
 Biodegradability

: Inoculum: activated sludge
 Result: Not readily biodegradable.
 Biodegradation: 0 %
 Exposure time: 162 d
 Method: OECD Test Guideline 301D

Inoculum: activated sludge
 Result: Not readily biodegradable.
 Biodegradation: 20 %
 Exposure time: 84 d
 Method: Inherent Biodegradability: Modified SCAS Test

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

Components:

2,2'-iminodi(ethylamine):
 Photodegradation

: Test Type: Air
 Rate constant: 500000
 Degradation (direct photolysis): 50 %

Impact on Sewage
 Treatment

: No data available

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
Date of first issue: 04/12/2016

Bioaccumulative potential**Components:**

2,2'-iminodi(ethylamine):
Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 0.3 - 6.3
Exposure time: 42 d
Test substance: Fresh water
Method: flow-through test
Remarks: Bioaccumulation is unlikely.

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:

Partition coefficient: n-
octanol/water : log Pow: 0.5

log Pow: -0.56 (77 °F / 25 °C)
pH: 11.6
Method: OECD Test Guideline 107

2,2'-iminodi(ethylamine):
Partition coefficient: n-
octanol/water : log Pow: -1.58 (68 °F / 20 °C)
pH: 7

Triethylenetetramine:
Partition coefficient: n-
octanol/water : log Pow: -2.65 (68 °F / 20 °C)
Method: OECD Test Guideline 117

Mobility in soil

Mobility : No data available

Components:

2,2'-iminodi(ethylamine):
Distribution among
environmental compartments : Koc: 19111
Triethylenetetramine:
Distribution among
environmental compartments : Koc: 1584.9 - 5012
Method: OECD Test Guideline 106

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

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

Hazardous to the ozone layer

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

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

- Waste from residues : The product should not be allowed to enter drains, water
courses or the soil.
Do not contaminate ponds, waterways or ditches with
chemical or used container.
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA**

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

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

Not applicable for product as supplied.

National Regulations**DOT Classification**

Not regulated as dangerous goods

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

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

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

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-isopropylidenediphenol	80-05-7	>= 1 - < 5 %
-----------------------------	---------	--------------

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

California Prop. 65

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

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

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

Inventories

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

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

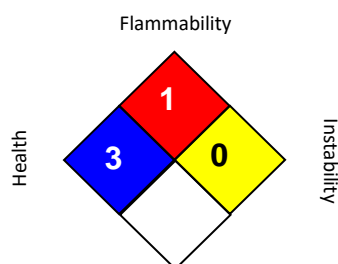
No substances are subject to a Significant New Use Rule.

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

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

ARALDITE® 2014 B US

Version 1.3 Revision Date: 05/14/2018 SDS Number: 400001012585 Date of last issue: 09/06/2017
 Date of first issue: 04/12/2016

SECTION 16. OTHER INFORMATION**Further information****NFPA 704:****HMIS® IV:**

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

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

Revision Date : 05/14/2018

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
 OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1
 Limits for Air Contaminants
 ACGIH / TWA : 8-hour, time-weighted average
 OSHA Z-1 / TWA : 8-hour time weighted average

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.

The trademarks above are the property of Huntsman Corporation or an affiliate thereof.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN

ARALDITE® 2014 B US

Version	Revision Date:	SDS Number:	Date of last issue: 09/06/2017
1.3	05/14/2018	400001012585	Date of first issue: 04/12/2016

PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE.



chemical-concepts.com

800.220.1966

410 Pike Road • Huntingdon Valley, PA 19006