

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

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

1.1 Product identifier

Trade name : ARALDITE® 203 RESIN

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

Use of the : Adhesives
Substance/Mixture

1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe)BVBA
Address : Everslaan 45
3078 Everberg
Belgium
Telephone : +41 61 299 20 41
Telefax : +41 61 299 20 40

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

E-mail address to request full REACH registration number upon
EU member State Authority request :
REACH_Registration_Nr_AM@huntsman.com

1.4 Emergency telephone

Emergency telephone : Centres Antipoison et de Toxicovigilance:
ANGERS: 02 41 48 21 21
BORDEAUX: 05 56 96 40 80
LILLE: 0 825 812 822
LYON: 04 72 11 69 11
MARSEILLE 04 91 75 25 25
NANCY: 03 83 32 36 36
PARIS: 01 40 05 48 48
RENNES: 02 99 59 22 22
STRASBOURG: 03 88 37 37 37
TOULOUSE: 05 61 77 74 47
EUROPE: +32 35 75 1234
France ORFILA: +33(0)145425959
ASIA: +65 6336-6011
China: +86 20 39377888
+86 532 83889090
India: + 91 22 42 87 5333
Australia: 1800 786 152
New Zealand: 0800 767 437
USA: +1/800/424.9300

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Danger

Hazard Statements	:	H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H318	Causes serious eye damage.
		H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements	:	Prevention:	
		P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
		P273	Avoid release to the environment.
		P280	Wear eye protection/ face protection.
		P280	Wear protective gloves.
		Response:	
		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 or doctor/ physician.
		P362 + P364	Take off contaminated clothing and wash it before reuse.

Hazardous ingredients which must be listed on the label:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]

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

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)

2.3 Other hazards

None known.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version 1.1 Revision Date: 08.05.2015 MSDS Number: 400001009866

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

Chemical Name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (%)
4,4'-Methylenebis[N,N-bis(2,3-epoxypropyl)aniline]	28768-32-3 249-204-3 01-2119472303-45-0000	Skin Sens. 1B; H317 Aquatic Chronic 2; H411	>= 60 - <= 100
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6 500-033-5 01-2119456619-26-0001	Skin Sens. 1; H317 Aquatic Chronic 2; H411 Eye Irrit. 2; H319 Skin Irrit. 2; H315	>= 1 - <= 3
1,4-Bis(2,3-epoxypropoxy)butane	2425-79-8 219-371-7 01-2119494060-45-0003	Acute Tox. 4; H302, H312 Eye Dam. 1; H318 Skin Irrit. 2; H315 Skin Sens. 1; H317 Acute Tox. 4; H332 Aquatic Chronic 3; H412	>= 7 - <= 13

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

- If inhaled : Move to fresh air.
Keep patient warm and at rest.
If symptoms persist, call a physician.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Seek medical advice.
- If swallowed : Rinse mouth with water.
Do NOT induce vomiting.
Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

None known.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

4.3 Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Do not use a solid water stream as it may scatter and spread fire.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : No data is available on the product itself.

5.3 Advice for firefighters

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

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

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Do not allow contact with soil, surface or ground water.

6.3 Methods and material for containment and cleaning up

Methods for 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.

6.4 Reference to other sections

None

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- | | |
|---|--|
| Advice on safe handling | : Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations. |
| Advice on protection against fire and explosion | : Normal measures for preventive fire protection. |
| Hygiene measures | : Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday. |

7.2 Conditions for safe storage, including any incompatibilities

- | | |
|---|--|
| Requirements for storage areas and containers | : Keep containers tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. |
| Advice on common storage | : Strong bases

Strong oxidizing agents |
| Storage class (TRGS 510) | : 10, Combustible liquids |
| Other data | : No decomposition if stored and applied as directed. |

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Personal protective equipment

- | | |
|--------------------|---|
| Eye protection | : Safety glasses |
| Hand protection | |
| Material | : butyl-rubber |
| Break through time | : > 8 h
Nitrile rubber
Neoprene
10 - 480 min |
| Remarks | : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Skin and body protection	: Protective suit
Respiratory protection	: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: paste
Color	: blue
Odor	: slight
Flash point	: > 100 °C Method: closed cup
Density	: 1,25 g/cm ³ (20 °C)
Solubility(ies)	
Water solubility	: insoluble (20 °C)
Decomposition temperature	: > 200 °C
Viscosity	: No data is available on the product itself.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	: Stable under normal conditions.
---------------------	-----------------------------------

10.4 Conditions to avoid

Conditions to avoid	: None known.
---------------------	---------------

10.5 Incompatible materials

Materials to avoid	: Strong acids and strong bases Strong oxidizing agents
--------------------	--

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

10.6 Hazardous decomposition products

Burning produces obnoxious and toxic fumes., Carbon oxides, Nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Acute oral toxicity : LD50 (Mouse, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 401

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg
Method: OECD Test Guideline 420
GLP: yes

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

Acute oral toxicity : LD50 (Rat, male and female): 1.163 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity - Product : Acute toxicity estimate : > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3.000 mg/kg
Method: OECD Test Guideline 402

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

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

Acute dermal toxicity : LD50 (Rat, male and female): > 2.150 mg/kg
GLP: no

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Skin corrosion/irritation

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Species: Rabbit

Assessment: Mild skin irritant

Method: OECD Test Guideline 404

Result: Normally reversible injuries

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Species: Rabbit

Assessment: Mild skin irritant

Method: OECD Test Guideline 404

Result: Irritating to skin.

GLP: yes

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

Species: Rabbit

Assessment: No skin irritation

Method: OECD Test Guideline 404

Result: Based on Human Evidence

GLP: yes

Serious eye damage/eye irritation

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Species: Rabbit

Assessment: Mild eye irritant

Result: Normally reversible injuries

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Species: Rabbit

Assessment: Mild eye irritant

Method: OECD Test Guideline 405

Result: Irritating to eyes.

GLP: yes

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

Species: Rabbit

Assessment: Severe eye irritation

Method: OECD Test Guideline 405

Result: Irreversible effects on the eye

GLP: yes

Respiratory or skin sensitization

Ingredients:

2-Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(2-oxiranylmethyl)-]:

Routes of exposure: Skin

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Weak sensitiser

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane:

Routes of exposure: Skin

Species: Mouse

Method: OECD Test Guideline 429

Result: Causes sensitization.

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis-:

Routes of exposure: Skin

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Causes sensitization.

Assessment: No data available

Germ cell mutagenicity

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Genotoxicity in vitro : 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 471
Result: positive

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

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

: Concentration: 0 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive
GLP: no

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
GLP: yes

: Concentration: 1 - 100 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

GLP: yes

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Genotoxicity in vivo : Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Cell type: Germ
Application Route: Oral
Exposure time: 5 d
Method: OECD Test Guideline 483
Result: negative
GLP: yes

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Genotoxicity in vivo : Cell type: Germ
Application Route: Oral
Method: OECD Test Guideline 478
Result: negative
GLP: no

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

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

Genotoxicity in vivo : Cell type: Somatic
Application Route: Oral
Exposure time: 4 d
Dose: 187.5 - 750 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Carcinogenicity

Ingredients:

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Species: Rat, (male and female)
Application Route: Oral
Exposure time: 24 month(s)
Dose: 15 mg/kg
Frequency of Treatment: 7 daily

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Method: OECD Test Guideline 453
Result: negative

Species: Mouse, (male)
Application Route: Dermal
Exposure time: 24 month(s)
Dose: .1 mg/kg
Frequency of Treatment: 3 daily
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 daily
Method: OECD Test Guideline 453
Result: negative

Carcinogenicity - : No data available
Assessment

Reproductive toxicity

Ingredients:

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Effects on fetal development : Species: Rat, female
Application Route: Oral
General Toxicity Maternal: NOAEL (No observed adverse effect level): 90 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects.

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: NOAEL (No observed adverse effect level): 30 mg/kg body weight
Method: Other guidelines
Result: No teratogenic effects.
GLP: yes

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Result: No teratogenic effects.
GLP: yes

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

Reproductive toxicity - Assessment : No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Repeated dose toxicity

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Species: Rat, male and female

NOAEL (No observed adverse effect level): 50

Application Route: Ingestion

Exposure time: 13 WeeksNumber of exposures: 7 d

Method: Subchronic toxicity

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Species: Rat, male and female

NOAEL (No observed adverse effect level): 50 mg/kg

Application Route: Ingestion

Exposure time: 14 WeeksNumber of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

No-observed-effect level: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 WeeksNumber of exposures: 5 d

Method: Subchronic toxicity

Species: Mouse, male

NOAEL (No observed adverse effect level): 100 mg/kg

Application Route: Skin contact

Exposure time: 13 WeeksNumber of exposures: 3 d

Method: Subchronic toxicity

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

Species: Rat, male and female

NOAEL (No observed adverse effect level): 200 mg/kg

Application Route: Ingestion

Exposure time: 672 hNumber of exposures: 7 d

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Method: Subchronic toxicity

Repeated dose toxicity - : No data available
Assessment

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Ingestion: No data available

SECTION 12: Ecological information

12.1 Toxicity

Ingredients:

4,4'-methylenedibis[N,N-bis(2,3-epoxypropyl)aniline]:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 6 - < 8 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

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
GLP: no

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
GLP: no

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4,7 mg/l
Exposure time: 48 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 202

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,7 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: yes

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
GLP: no

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:
Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): > 11 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Toxicity to algae : 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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

GLP: no

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

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

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

Ingredients:

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Toxicity to fish (Chronic toxicity) : GLP: yes

Ingredients:

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,3 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

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

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Toxicity to bacteria : IC50 (Pseudomonas putida): > 10.000 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38 412 Part 8

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Toxicity to bacteria : IC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
GLP: no

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

Toxicity to bacteria : IC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209
GLP: no

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment
Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Remarks : No data available

Further information:
No data available

12.2 Persistence and degradability

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: > 9 - < 10 %
Exposure time: 29 - 30 d
Method: OECD Test Guideline 301B

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700):

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

Biochemical Oxygen Demand (BOD) : No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Chemical Oxygen Demand (COD)	: No data available
BOD/COD	: No data available
ThOD	: No data available
BOD/ThOD	: No data available
Dissolved organic carbon (DOC)	: No data available
Physico-chemical removability	: No data available
Stability in water	: No data available
Photodegradation	: No data available

12.3 Bioaccumulative potential

Ingredients:

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Bioaccumulation	: Bioconcentration factor (BCF): 31 GLP: no Remarks: Does not bioaccumulate.
-----------------	--

12.4 Mobility in soil

Mobility	: No data available
----------	---------------------

Ingredients:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Distribution among environmental compartments	: Koc: < 18. Method: OECD Test Guideline 121
---	--

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight $\leq$ 700):

Distribution among environmental compartments	: Koc: 445.
---	-------------

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

Distribution among environmental compartments	: Koc: 12,59. Method: OECD Test Guideline 121
---	---

Stability in soil	: No data available
-------------------	---------------------

12.5 Results of PBT and vPvB assessment

Assessment	: No data available
------------	---------------------

12.6 Other adverse effects

Environmental fate and pathways	: No data available
---------------------------------	---------------------

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Ozone-Depletion Potential : No data available

Additional ecological information : No data available

Global warming potential (GWP) : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	: Can be landfilled or incinerated, when in compliance with local regulations. Where possible recycling is preferred to disposal or incineration. 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

IATA

14.1 UN number	: UN 3082
14.2 UN proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (EPOXY RESIN)
14.3 Transport hazard class(es)	: 9
14.4 Packing group	: III
Labels	: Miscellaneous
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964

IMDG

14.1 UN number	: UN 3082
14.2 UN proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)
14.3 Transport hazard	: 9

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

class(es)

14.4 Packing group : III
Labels : 9
EmS Code : F-A, S-F

14.5 Environmental hazards

Marine pollutant : yes

ADR

14.1 UN number : UN 3082
14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

14.3 Transport hazard class(es) : 9

14.4 Packing group : III
Labels : 9

14.5 Environmental hazards

Marine pollutant : no

RID

14.1 UN number : UN 3082
14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

14.3 Transport hazard class(es) : 9

14.4 Packing group : III
Labels : 9

14.5 Environmental hazards

Marine pollutant : no

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

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

TSCA : On TSCA 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 : Not in compliance with the inventory

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

ISHL	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: 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), TSCA (USA)

15.2 Chemical Safety Assessment

SECTION 16: Other information

Full text of H-Statements

H302	: Harmful if swallowed.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Chronic aquatic toxicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitization

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,

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



Enriching lives through innovation

ARALDITE® 203 RESIN

Version	Revision Date:	MSDS Number:
1.1	08.05.2015	400001009866

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, 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.