

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

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

1.1 Product identifier

Trade name : ARADUR® 1953-2 BD

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

Use of the : Hardener
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

1.4 Emergency telephone number

Emergency telephone number : 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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin corrosion, Sub-category 1C H314: Causes severe skin burns and eye damage.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Serious eye damage, Category 1

H318: Causes serious eye damage.

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

:



Signal word

: Danger

Hazard statements

: H314
H317

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Precautionary statements

: **Prevention:**

P261

Avoid breathing mist or vapours.

P280

Wear protective gloves/ protective clothing/
eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do
NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off
immediately all contaminated clothing.
Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh
air and keep comfortable for breathing.
Immediately call a POISON
CENTER/doctor.

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.

Hazardous components which must be listed on the label:

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

trientine

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

ARADUR® 1953-2 BD

Version 1.0 Revision Date: 19.03.2018 SDS Number: 400001010612 Date of last issue: -
Date of first issue: 19.03.2018

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	10563-29-8 234-148-4 01-2119970376-29	Acute Tox. 4; H302 Skin Corr. 1A; H314 Skin Sens. 1B; H317	>= 5 - < 9,65
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8 292-588-2 01-2119487919-13	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 3 - < 5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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 : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
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.

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

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

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 : High volume water jet

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

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.
Evacuate personnel to safe areas.
Ensure adequate ventilation.
In case of inadequate ventilation wear respiratory protection.

6.2 Environmental precautions

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

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

See Section 1 for emergency contact information.
For personal protection see section 8.
For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not 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 container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Recommended storage temperature : 2 - 40 °C

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

7.3 Specific end use(s)

Specific use(s) : No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version
1.0

Revision Date:
19.03.2018

SDS Number:
400001010612

Date of last issue: -
Date of first issue: 19.03.2018

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	Workers	Inhalation	Long-term systemic effects	3,7 mg/m3
	Workers	Inhalation	Acute systemic effects	7,5 mg/m3
	Workers	Inhalation	Long-term local effects	3,7 mg/m3
	Workers	Inhalation	Acute local effects	7,5 mg/m3
	Workers	Dermal	Long-term systemic effects	0,67 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0,65 mg/m3
	Consumers	Inhalation	Long-term local effects	0,65 mg/m3
	Consumers	Oral	Long-term systemic effects	0,2 mg/kg
trientine	Workers	Inhalation	Acute systemic effects	5380 mg/m3
	Workers	Dermal	Long-term systemic effects	0,57 mg/kg
	Workers	Inhalation	Long-term systemic effects	1 mg/m3
	Workers	Dermal	Long-term local effects	0,028 mg/m3
	Consumers	Dermal	Acute systemic effects	8 mg/kg
	Consumers	Inhalation	Acute systemic effects	1600 mg/m3
	Consumers	Oral	Acute systemic effects	20 mg/kg
	Consumers	Dermal	Acute local effects	1 mg/cm2
	Consumers	Dermal	Acute local effects	0,25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0,29 mg/m3
	Consumers	Oral	Long-term systemic effects	0,41 mg/kg
	Consumers	Dermal	Long-term local effects	0,43 mg/cm2

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
----------------	---------------------------	-------

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version
1.0

Revision Date:
19.03.2018

SDS Number:
400001010612

Date of last issue: -
Date of first issue: 19.03.2018

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	Fresh water	9,2 µg/l
Remarks:	Assessment Factors	
	Marine water	0,92 µg/l
	Assessment Factors	
	Freshwater - intermittent	92 µg/l
	Assessment Factors	
	Sewage treatment plant	18,1 mg/l
	Assessment Factors	
	Fresh water sediment	0,0336 mg/kg
	Equilibrium method	
	Marine sediment	0,00336 mg/kg
	Equilibrium method	
	Soil	0,00132 mg/kg
	Equilibrium method	
trientine	Fresh water	190 µg/l
	Assessment Factors	
	Fresh water sediment	95,9 mg/kg
	Equilibrium method	
	Marine water	38 µg/l
	Assessment Factors	
	Freshwater - intermittent	200 µg/l
	Assessment Factors	
	Marine sediment	19,2 mg/kg
	Equilibrium method	
	Soil	19,1 mg/kg
	Equilibrium method	
	Sewage treatment plant	4,25 mg/l
	Assessment Factors	
	Secondary Poisoning	0,18 mg/kg
	Assessment Factors	

8.2 Exposure controls

Engineering measures

Effective exhaust ventilation system

Personal protective equipment

Eye protection : Eye wash bottle with pure water

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

Material : butyl-rubber
Break through time : > 8 h

Material : Nitrile rubber
Break through time : 10 - 480 min

Material : Ethyl Vinyl Alcohol Laminate (EVAL)
Break through time : > 8 h

Remarks : The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. 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). The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines
Recommended Filter type:
Combined particulates and organic vapour type

Filter type : Filter type A-P

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : light yellow

Odour : slight

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.

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Melting point	: No data is available on the product itself.
Boiling point	: > 200 °C
Flash point	: 110 °C Method: Pensky-Martens closed cup
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Burning rate	: 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	: 0,04 hPa (20 °C)
Relative vapour density	: No data is available on the product itself.
Relative density	: No data is available on the product itself.
Density	: 0,95 g/cm ³ (25 °C)
Solubility(ies)	
Water solubility	: practically insoluble (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.
Decomposition temperature	: > 200 °C
Viscosity	
Viscosity, dynamic	: 20 000 - 35 000 mPa.s (25 °C)
Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.

9.2 Other information

No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : No data available

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

Nitrogen oxides (NO_x)
Carbon dioxide (CO₂)
Carbon monoxide
Burning produces noxious and toxic fumes.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity - Product : Acute toxicity estimate : > 2 000 mg/kg
Method: Calculation method

Acute inhalation toxicity : No data available

Acute dermal toxicity - Product : Acute toxicity estimate : > 2 000 mg/kg
Method: Calculation method

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

Skin corrosion/irritation

Product:

Result: Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation

Product:

Species: Rabbit

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Assessment: Corrosive

Result: Corrosive

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Assessment: No data available

Germ cell mutagenicity

Components:

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

trientine:

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

Components:

trientine:

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Dose: 0 - 600 mg/kg
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Components:

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

Species: Mouse, male

Application Route: Dermal

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Exposure time: 20 month(s)
Frequency of Treatment: 3 daily
Result: negative

trientine:
Species: Mouse, male
Application Route: Dermal
Dose: 42 mg/kg
Frequency of Treatment: 3 daily
Method: OECD Test Guideline 451
Result: negative

Carcinogenicity - : No data available
Assessment

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.

Components:

N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine:
Effects on foetal : Species: Rat, male and female
development : 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.

trientine:

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Components:

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

Reproductive toxicity - : No evidence of adverse effects on sexual function and fertility,
Assessment or on development, based on animal experiments.

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity

Components:

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

Species: Rat, male and female

: 550

Application Route: Ingestion

Test atmosphere: vapour

Exposure time: 3 WeeksNumber of exposures: 7 d

Method: Subchronic toxicity

Species: Mouse, male

NOAEL: >= 56,3

Application Route: Skin contact

Exposure time: 20 hNumber of exposures: 3 d

Method: Chronic toxicity

trientine:

Species: Rat, male and female

NOAEL: 50 mg/kg

Application Route: Ingestion

Exposure time: 26 WeeksNumber of exposures: 7 d

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

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

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

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

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

trientine:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 330 mg/l

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: Fish Acute Toxicity Test

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.

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

Toxicity to microorganisms : EC50 (activated sludge): 800 mg/l
Exposure time: 0,5 h
Test Type: static test
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 1,9 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 202

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

12.2 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

trientine:

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

12.3 Bioaccumulative potential

Components:

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

Partition coefficient: n-octanol/water : log Pow: 0,5

log Pow: -0,56 (25 °C)

pH: 11,6

Method: OECD Test Guideline 107

trientine:

Partition coefficient: n-octanol/water : log Pow: -2,65 (20 °C)
Method: OECD Test Guideline 117

12.4 Mobility in soil

Components:

trientine:

Distribution among environmental compartments : Koc: 1584,9 - 5012
Method: OECD Test Guideline 106

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	: Do not dispose of waste into sewer. 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

IATA

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

14.1 UN number : UN 2735
14.2 UN proper shipping name : Polyamines, liquid, corrosive, n.o.s.
(N-(3-DIMETHYLAMINOPROPYL)-1,3-PROPYLENEDIAMINE)
14.3 Transport hazard class(es) : 8
14.4 Packing group : III
Labels : Corrosive
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852

IMDG
14.1 UN number : UN 2735
14.2 UN proper shipping name : POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(N-(3-DIMETHYLAMINOPROPYL)-1,3-PROPYLENEDIAMINE)
14.3 Transport hazard class(es) : 8
14.4 Packing group : III
Labels : 8
EmS Code : F-A, S-B
14.5 Environmental hazards
Marine pollutant : no

ADR
14.1 UN number : UN 2735
14.2 UN proper shipping name : POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(N-(3-DIMETHYLAMINOPROPYL)-1,3-PROPYLENEDIAMINE)
14.3 Transport hazard class(es) : 8
14.4 Packing group : III
Labels : 8
14.5 Environmental hazards
Environmentally hazardous : no

RID
14.1 UN number : UN 2735
14.2 UN proper shipping name : POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(N-(3-DIMETHYLAMINOPROPYL)-1,3-PROPYLENEDIAMINE)
14.3 Transport hazard class(es) : 8
14.4 Packing group : III
Labels : 8
14.5 Environmental hazards

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Environmentally hazardous : no

Transport in bulk according to Annex II of Marpol 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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

REACH - List of substances subject to authorisation - Future sunset date : Not applicable

Occupational Illnesses (R-461-3, France) : Not applicable

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

DSL : This product contains one or several components listed in the Canadian NDSL.

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

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

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

KECI : Not 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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

SECTION 16: Other information

Full text of H-Statements

H302	: Harmful if swallowed.
H312	: Harmful in contact with skin.
H314	: Causes severe skin burns and eye damage.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
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
Skin Corr.	: Skin corrosion
Skin Sens.	: Skin sensitisation

Further information

Classification of the mixture:

Skin Corr. 1C	H314
Eye Dam. 1	H318
Skin Sens. 1	H317

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Calculation method

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

ARADUR® 1953-2 BD

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	19.03.2018	400001010612	Date of first issue: 19.03.2018

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.