

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue: 07.09.2021
1.1	15.09.2022	400000012099	Date of first issue: 07.09.2021

Print Date 16.01.2024

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

1.1 Product identifier

Trade name : HARDENER 2053 B

Unique Formula Identifier (UFI) : J7T4-T051-W00E-GTNF

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

Use of the Substance/Mixture : Hardener

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 responsible for the SDS : Global_Product_EHS_AdMat@huntsman.com

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

SAFETY DATA SHEET

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements :
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :
Prevention:
P261 Avoid breathing dust.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

Hazardous components which must be listed on the label:

dibenzoyl peroxide

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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

SAFETY DATA SHEET

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HARDENER 2053 B

Version 1.1 Revision Date: 15.09.2022 SDS Number: 400000012099 Date of last issue: 07.09.2021
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Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
dibenzoyl peroxide	94-36-0 202-327-6 617-008-00-0 01-2119511472-50	Org. Perox. B; H241 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 10 - < 20

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.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Avoid inhalation, ingestion and contact with skin and eyes.
No action shall be taken involving any personal risk or without suitable training.
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : If on skin, rinse well with water.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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Version	Revision Date:	SDS Number:	Date of last issue:
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Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire

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 : Metal oxides

5.3 Advice for firefighters

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

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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Version	Revision Date:	SDS Number:	Date of last issue:
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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Refer to protective measures listed in sections 7 and 8.

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.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
Avoid formation of respirable particles.
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.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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HARDENER 2053 B

Version 1.1 Revision Date: 15.09.2022 SDS Number: 400000012099 Date of last issue: 07.09.2021
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Advice on common storage : For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature : 2 - 18 °C

Further information on storage stability : Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
dibenzoyl peroxide	94-36-0	VME	5 mg/m ³	FR VLE
Further information	Indicative exposure limits			
triiron tetraoxide	1317-61-9	VME	10 mg/m ³ (Iron)	FR VLE
Further information	Indicative exposure limits			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Benzoic acid, C9-11-branched alkyl esters	Workers	Inhalation	Long-term systemic effects	181 mg/m ³
	Workers	Dermal	Long-term systemic effects	206 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	53 mg/m ³
	Consumers	Dermal	Long-term systemic effects	29 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	15,48 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Benzoic acid, C9-11-branched alkyl esters	Fresh water sediment	0,065 mg/kg dry weight (d.w.)
	Remarks:Assessment Factors	
	Oral	6667 mg/kg
	Remarks:Assessment Factors	

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue:
1.1	15.09.2022	400000012099	07.09.2021
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Print Date 16.01.2024

Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection
Remarks

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection

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

Respiratory protection

: No personal respiratory protective equipment normally required.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: paste
Colour	: black
Odour	: none
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 is available on the product itself.
Boiling point	: No data is available on the product itself.
Flash point	: No data is available on the product itself.
Flammability (solid, gas)	: 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	: No data is available on the product itself.
Density	: 1,332 g/cm ³
Solubility(ies) Water solubility	: insoluble

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue: 07.09.2021
1.1	15.09.2022	400000012099	Date of first issue: 07.09.2021

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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 : Decomposition energy (mass): 236 KJ/kg

Viscosity
Viscosity, dynamic : 58 000 mPa.s (25 °C)

9.2 Other information

No data available

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 : Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : aluminium oxide

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Components:

dibenzoyl peroxide:

Acute oral toxicity : LD50 (Mouse, male and female): > 2 000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue: 07.09.2021
1.1	15.09.2022	400000012099	Date of first issue: 07.09.2021

Print Date 16.01.2024

Acute inhalation toxicity : LC50 (Rat, male): > 24,3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Skin corrosion/irritation

Components:

dibenzoyl peroxide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Components:

dibenzoyl peroxide:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritating to eyes.

Respiratory or skin sensitisation

Components:

dibenzoyl peroxide:

Exposure routes : Skin
Species : Mouse
Assessment : May cause sensitisation by skin contact.
Method : OECD Test Guideline 429
Result : Causes sensitisation.

Germ cell mutagenicity

Components:

dibenzoyl peroxide:

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

Genotoxicity in vivo : Cell type: Somatic
Application Route: Intraperitoneal injection
Dose: 0, 50, 100, 200 mg/kg b.w.
Method: OECD Test Guideline 474
Result: negative

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue: 07.09.2021
1.1	15.09.2022	400000012099	Date of first issue: 07.09.2021

Print Date 16.01.2024

Carcinogenicity

Components:

dibenzoyl peroxide:

Species	:	Mouse, male and female
Application Route	:	Dermal
Exposure time	:	104 weeks
Result	:	negative

Reproductive toxicity

Components:

dibenzoyl peroxide:

Effects on fertility	:	Species: Rat, male and female Application Route: Oral Dose: 0, 250, 500, 1,000 mg/kg b.w/ General Toxicity - Parent: NOAEL: 500 mg/kg body weight General Toxicity F1: NOAEL: 500 mg/kg body weight Method: OECD Test Guideline 422
Effects on foetal development	:	Species: Rat Dose: 100, 300 or 1000 mg/kg/day General Toxicity Maternal: NOAEL: 300 mg/kg body weight Developmental Toxicity: NOAEL: 300 mg/kg body weight Method: OECD Test Guideline 414

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity

Components:

dibenzoyl peroxide:

Species	:	Rat, male and female
NOAEL	:	> 100 mg/kg
Application Route	:	Skin contact
Number of exposures	:	2 years
Method	:	OECD Test Guideline 451

Aspiration toxicity

No data available

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at
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according to Regulation (EC) No. 1907/2006

HUNTSMAN

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Version	Revision Date:	SDS Number:	Date of last issue:
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			Date of first issue: 07.09.2021

Print Date 16.01.2024

levels of 0.1% or higher

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

dibenzoyl peroxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,0602 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0,11 mg/l
aquatic invertebrates
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EbC50 (Selenastrum capricornutum (green algae)): 0,0422
plants
mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

M-Factor (Acute aquatic : 10
toxicity)

Toxicity to microorganisms : EC50 (activated sludge): 35 mg/l
Exposure time: 0,5 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Toxicity to daphnia and other : EC10: 0,001 mg/l
aquatic invertebrates
(Chronic toxicity)
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue:
1.1	15.09.2022	400000012099	07.09.2021
			Date of first issue: 07.09.2021

Print Date 16.01.2024

M-Factor (Chronic aquatic toxicity) : 10

12.2 Persistence and degradability

Components:

dibenzoyl peroxide:

Biodegradability : Inoculum: activated sludge
Concentration: 4 mg/l
Result: Readily biodegradable.
Biodegradation: 68 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

12.3 Bioaccumulative potential

Components:

dibenzoyl peroxide:

Partition coefficient: n-octanol/water : log Pow: 3,2 (22 °C)
pH: 7,02
Method: OECD Test Guideline 117

12.4 Mobility in soil

Components:

dibenzoyl peroxide:

Distribution among environmental compartments : Koc: 6309,57
Method: OECD Test Guideline 121

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 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue: 07.09.2021
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Print Date 16.01.2024

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	: Dispose of contents and container in accordance with all local, regional, national and international regulations. Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	: UN 3077
ADR	: UN 3077
RID	: UN 3077
IMDG	: UN 3077
IATA	: UN 3077

14.2 UN proper shipping name

ADN	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIBENZOYL PEROXIDE)
ADR	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIBENZOYL PEROXIDE)
RID	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIBENZOYL PEROXIDE)
IMDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIBENZOYL PEROXIDE)
IATA	: Environmentally hazardous substance, solid, n.o.s. (DIBENZOYL PEROXIDE)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 9	
ADR	: 9	
RID	: 9	
IMDG	: 9	

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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HARDENER 2053 B

Version	Revision Date:	SDS Number:	Date of last issue: 07.09.2021
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Print Date 16.01.2024

IATA : 9

14.4 Packing group

ADN

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

ADR

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

IMDG

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

IATA (Cargo)

Packing instruction (cargo aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

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Print Date 16.01.2024

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments

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

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 - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E1 ENVIRONMENTAL HAZARDS

Occupational Illnesses (R-461-3, France) : 44

Installations classified for the protection of the environment (Environment Code R511-9) : 4510

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 : All components of this product are on the Canadian DSL

AIIC : 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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

HUNTSMAN

Enriching lives through innovation

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			Date of first issue: 07.09.2021

Print Date 16.01.2024

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
TCSI	: On the inventory, or in compliance with the inventory
TSCA	: On or in compliance with the active portion of the TSCA inventory

Inventories

AICS (Australia), AIIIC (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

H241	: Heating may cause a fire or explosion.
H317	: May cause an allergic skin reaction.
H319	: Causes serious eye irritation.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Irrit.	: Eye irritation
Org. Perox.	: Organic peroxides
Skin Sens.	: Skin sensitisation
FR VLE	: France. Occupational Exposure Limits
FR VLE / VME	: Time Weighted Average

Further information

Classification of the mixture:

Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Acute 1	H400

Classification procedure:

Calculation method
Calculation method
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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