ARALDITE® 2051 HARDENER

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

1.1 Product identifier

Trade name : ARALDITE® 2051 HARDENER

Unique Formula Identifier (UFI) : 49G2-N0RD-700Q-5RAD

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

Use of the Substance/Mixture : Adhesives

1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe) BV
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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:

methyl methacrylate

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

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)
methyl methacrylate	80-62-6 201-297-1 607-035-00-6 01-2119452498-28	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	>= 70 - < 90
3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine	34562-31-7 252-091-3 01-2120769712-47	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 4; H413	>= 2,5 - < 10
2,6-di-tert-butyl-p-cresol	128-37-0 204-881-4 01-2119555270-46	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0,1 - < 0,25

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 skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
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

Risks : Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.

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 : Carbon 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. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Refer to protective measures listed in sections 7 and 8. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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. 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.
Take precautionary measures against static discharges.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

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 : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Keep in properly labelled containers.

Advice on common storage : For incompatible materials please refer to Section 10 of this SDS.

Further information on storage stability : Stable under normal conditions.

Recommended storage temperature : 2 - 8 °C

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
methyl methacrylate	80-62-6	TWA	50 ppm	2009/161/EU
	Further information: Indicative			
		STEL	100 ppm	2009/161/EU
	Further information: Indicative			
		VME	50 ppm	FR VLE

			205 mg/m3	
	Further information: Regulatory binding exposure limits			
		VLCT (VLE)	100 ppm 410 mg/m3	FR VLE
	Further information: Regulatory binding exposure limits			
2,6-di-tert-butyl-p-cresol	128-37-0	VME	10 mg/m3	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
2,6-di-tert-butyl-p-cresol	Workers	Inhalation	Long-term systemic effects	3,5 mg/m3
	Workers	Dermal	Long-term systemic effects	0,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,86 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,25 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,25 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
2,6-di-tert-butyl-p-cresol	Fresh water	0,199 µg/l
	Remarks:Assessment Factors	
	Marine water	0,02 µg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	0,17 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,0996 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	0,00996 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	0,04769 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Oral	8,33 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Hand protection
Material : butyl-rubber

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

Material : Nitrile rubber

Break through time	:	10 - 480 min
Remarks	:	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). 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	:	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 Equipment should conform to EN 14387 In the case of vapour formation use a respirator with an approved filter.
Filter type	:	Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	paste
Colour	:	yellow
Odour	:	acrylic-like
Odour Threshold	:	No data is available on the product itself.
Melting point/freezing point	:	No data is available on the product itself.
Boiling point/boiling range	:	> 100 °C Method: estimated
Flammability (solid, gas)	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Upper explosion limit / Upper	:	No data is available on the product itself.

flammability limit

Flash point	:	10 °C
Auto-ignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	No data is available on the product itself.
pH	:	substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, dynamic	:	30 000 - 55 000 mPa.s (20 °C) thixotropic
Solubility(ies)		
Water solubility	:	insoluble
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.
Vapour pressure	:	No data is available on the product itself.
Density	:	0,94 - 0,95 g/cm3 (23 °C)
Relative density	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Particle characteristics	:	No data is available on the product itself.

9.2 Other information

No data is available on the product itself.

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 : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.
Hazardous decomposition products : carbon dioxide
carbon monoxide

SECTION 11: Toxicological information

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

Acute toxicity

Not classified due to lack of data.

Product:

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

Components:

methyl methacrylate:

Acute oral toxicity : LD50 (Rat): 7 900 - 9 400 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): 29,8 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Directive 67/548/EEC, Annex V, B.2.

Acute dermal toxicity : LD50 (Rabbit, male): > 5 000 mg/kg
Method: OECD Test Guideline 402

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Acute oral toxicity : LD50 (Rat, male and female): > 500 mg/kg
GLP: yes
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 1 000 mg/kg
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

2,6-di-tert-butyl-p-cresol:

Acute oral toxicity : LD50 (Rat, male and female): > 6 000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2 000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Causes skin irritation.

Components:

methyl methacrylate:

Species	:	Rabbit
Method	:	OPPTS 870.2500
Result	:	Skin irritation

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	Other guidelines
Result	:	Skin irritation
GLP	:	yes

2,6-di-tert-butyl-p-cresol:

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

Serious eye damage/eye irritation

Not classified due to lack of data.

Components:

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Mild eye irritation
GLP	:	yes

2,6-di-tert-butyl-p-cresol:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Components:

methyl methacrylate:

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

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Assessment	:	Did not cause sensitisation on laboratory animals.
Method	:	OECD Test Guideline 429
Result	:	Did not cause sensitisation on laboratory animals.
GLP	:	yes

2,6-di-tert-butyl-p-cresol:

Exposure routes	:	Skin
Species	:	Humans
Result	:	Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

methyl methacrylate:

Genotoxicity in vitro	:	Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Method: OECD Test Guideline 471 Result: negative

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Test system: Salmonella tryphimurium and E. coli Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes

2,6-di-tert-butyl-p-cresol:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Result: negative Test Type: Chromosome aberration test in vitro Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	:	Application Route: Intraperitoneal injection Dose: 75 mg/kg Result: negative

Application Route: Oral
Exposure time: 9 Months
Dose: ca 750 mg/kg
Result: negative

Carcinogenicity

Not classified due to lack of data.

Components:

methyl methacrylate:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	2 Years
Dose	:	6, 60, 2000 ppm
Frequency of Treatment	:	once daily
NOAEL	:	90,3 mg/kg bw/day
Result	:	negative

2,6-di-tert-butyl-p-cresol:

Species	:	Rat, male and female
Application Route	:	Oral
Result	:	negative

Reproductive toxicity

Not classified due to lack of data.

Components:

methyl methacrylate:

Effects on foetal development	:	Species: Rat Application Route: Inhalation Dose: 99, 304, 1178 ppm Teratogenicity: NOAEC F1: 8 300 mg/m³ Embryo-foetal toxicity: NOAEC F1: 8 300 mg/m³ Method: OECD Test Guideline 414 Result: No teratogenic effects

2,6-di-tert-butyl-p-cresol:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Dose: 25/100/500 mg/kg bw/day General Toxicity - Parent: NOAEL: 100 mg/kg body weight General Toxicity F1: NOAEL: 25 mg/kg body weight Result: negative
Effects on foetal development	:	Test Type: Pre-natal Species: Mouse, female Application Route: Oral Duration of Single Treatment: 7 d General Toxicity Maternal: NOAEL: 240 mg/kg body weight Developmental Toxicity: NOAEL: 800 mg/kg body weight Target Organs: spleen, Kidney

STOT - single exposure

May cause respiratory irritation.

Components:

methyl methacrylate:

Exposure routes	:	Inhalation
Target Organs	:	Respiratory Tract
Assessment	:	May cause respiratory irritation.

STOT - repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Components:

methyl methacrylate:

Species	:	Rat, male and female
NOAEL	:	124,1 mg/kg
Application Route	:	oral (drinking water)
Exposure time	:	2 years
Number of exposures	:	daily
Dose	:	6, 60, 2000 ppm

2,6-di-tert-butyl-p-cresol:

Species	:	Pig, male and female
NOAEL	:	>= 61 mg/kg
Application Route	:	oral (feed)
Exposure time	:	daily
Method	:	Chronic toxicity

Aspiration toxicity

Not classified due to lack of data.

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 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

Product:

Remarks : Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Components:

methyl methacrylate:

Toxicity to fish : LC50 : 191 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): > 79 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: Fish Early-life Stage Toxicity Test

Toxicity to daphnia and other aquatic invertebrates : EC50 : 69 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 : > 110 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 37 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: flow-through test
Method: OECD Test Guideline 211

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 22 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 40 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Pseudokirchneriella subcapitata (green algae)): 16 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

Ecotoxicology Assessment

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

2,6-di-tert-butyl-p-cresol:

Toxicity to fish : LC50 (Fish): 0,199 mg/l
Exposure time: 96 h
Test substance: Fresh water
Method: QSAR

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

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0,24 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,24 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : ErC50 (activated sludge): 1,7 mg/l
Exposure time: 24 h
Test Type: static test

Toxicity to fish (Chronic toxicity) : NOEC: 0,053 mg/l
Exposure time: 30 d
Species: Oryzias latipes (Orange-red killifish)
Test substance: Fresh water
Method: OECD Test Guideline 210

NOEC: >= 23,8 mg/l
Exposure time: 70 d
Species: Fish
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50: 0,096 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Fresh water
Method: OECD Test Guideline 211

NOEC: 0,069 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Fresh water
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

12.2 Persistence and degradability

Components:

methyl methacrylate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 60 %
Exposure time: 28 d

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0,132 %
Exposure time: 28 d
Method: QSAR
GLP: no

2,6-di-tert-butyl-p-cresol:

Biodegradability : Result: Not biodegradable

12.3 Bioaccumulative potential

Components:

methyl methacrylate:

Bioaccumulation : Bioconcentration factor (BCF): 3

Partition coefficient: n-octanol/water : log Pow: 1,38

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine:

Partition coefficient: n-octanol/water : log Pow: > 6,5 (25 °C)
pH: 5,7
Method: OECD Test Guideline 117
GLP: yes

2,6-di-tert-butyl-p-cresol:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 28 d
Bioconcentration factor (BCF): 330 - 1 800
Method: flow-through test

Partition coefficient: n-octanol/water : log Pow: 5,2

12.4 Mobility in soil

Components:

2,6-di-tert-butyl-p-cresol:

Distribution among environmental compartments : Koc: 8183

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.
Harmful to aquatic life.

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.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number or ID number

IMDG : UN 1133

IATA : UN 1133

14.2 UN proper shipping name

ADN : ADHESIVES

ADR : ADHESIVES

RID : ADHESIVES

IMDG : ADHESIVES

IATA : Adhesives

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	3	
ADR	3	
RID	3	
IMDG	3	
IATA	3	

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	F1
Hazard Identification Number	:	33
Labels	:	3

ADR

Packing group	:	II
Classification Code	:	F1
Hazard Identification Number	:	33
Labels	:	3
Tunnel restriction code	:	(D/E)

RID

Packing group	:	II
Classification Code	:	F1
Hazard Identification Number	:	33
Labels	:	3

IMDG

Packing group	:	II
Labels	:	3
EmS Code	:	F-E, S-D

IATA (Cargo)

Packing instruction (cargo aircraft)	:	364
Packing instruction (LQ)	:	Y341
Packing group	:	II
Labels	:	Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft)	:	353

Packing instruction (LQ) : Y341
Packing group : II
Labels : Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

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.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. P5c FLAMMABLE LIQUIDS

Occupational Illnesses (R-461-3, France) : 82, 84, 36

Installations classified for the protection of the environment (Environment Code R511-9) : 4331

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

ENCS : Notified. Allowed to be imported / manufactured only by the notifiers. Please contact your Huntsman sales representative for more information.

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

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

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

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

TSCA : All substances listed as active on the TSCA inventory

Inventories

AICS (Australia), AIIC (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

H225 : Highly flammable liquid and vapour.
H302 : Harmful if swallowed.
H315 : Causes skin irritation.

H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H335	:	May cause respiratory irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H413	:	May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure
2009/161/EU	:	Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
FR VLE	:	France. Occupational Exposure Limits
2009/161/EU / TWA	:	Limit Value - eight hours
2009/161/EU / STEL	:	Short term exposure limit
FR VLE / VME	:	Time Weighted Average
FR VLE / VLCT (VLE)	:	Short Term Exposure Limit

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 2	H225	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and

behaviour should be determined by the user and made known to handlers, processors and end users.

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