

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## ARALDITE® 2051 HARDENER

Version 1.5      Revision Date: 09.10.2023      SDS Number: 400000001213      Date of last issue: 03.09.2021  
Date of first issue: 17.09.2015

Print Date 23.09.2025

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

#### 1.1 Product identifier

Trade name : ARALDITE® 2051 HARDENER

#### 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 (Switzerland) GmbH  
Address : Klybeckstrasse 200  
CH-4057 Basel  
Switzerland  
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 : 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  
Swiss Toxicologic Information Centre - Emergency Phone 145  
(24 h)  
+41 44 251 5151 (from outside Switzerland)

### 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)

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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 (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
methyl methacrylate	80-62-6 201-297-1 607-035-00-6	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Skin Sens. 1;	>= 70 - < 90

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	01-2119452498-28	H317 STOT SE 3; H335 (Respiratory system)	
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.

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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 (CO<sub>2</sub>)  
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.

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### 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

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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 : 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 210 mg/m <sup>3</sup>	CH SUVA
		Further information: Sensitizers; Substances marked with an S can lead to very strong allergic reactions., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected		
		STEL	100 ppm 420 mg/m <sup>3</sup>	CH SUVA
		Further information: Sensitizers; Substances marked with an S can lead to very strong allergic reactions., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected		
		TWA	50 ppm	2009/161/EU
		Further information: Indicative		
		STEL	100 ppm	2009/161/EU
		Further information: Indicative		
2,6-di-tert-butyl-p-	128-37-0	TWA (inhalable)	10 mg/m <sup>3</sup>	CH SUVA

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cresol	dust)		
Further information: Carcinogenic Category 2, Harm to the unborn child is not to be expected when the OEL-value is respected			
	STEL (inhalable dust)	40 mg/m <sup>3</sup>	CH SUVA
Further information: Carcinogenic Category 2, Harm to the unborn child is not to be expected when the OEL-value is respected			

### 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/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	0,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,86 mg/m <sup>3</sup>
	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

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

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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/cm<sup>3</sup> (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

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### 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.

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### 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.

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### 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 typhimurium 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

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### **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/m<sup>3</sup>  
Embryo-foetal toxicity: NOAEC F1: 8 300 mg/m<sup>3</sup>  
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

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### 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 :  $\geq 61$  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

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### 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

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### 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

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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

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### 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.

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## 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.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

IMDG : UN 1133

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**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
<b>ADN</b>	: 3	
<b>ADR</b>	: 3	
<b>RID</b>	: 3	
<b>IMDG</b>	: 3	
<b>IATA</b>	: 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 : 353

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(passenger aircraft)  
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

Chemical Risk Reduction Ordinance (ORRChem, SR 814.81) : Conditions of restriction for the following annexes should be considered:  
Annex 1.11 Dangerous liquid substances  
2-ethylhexanoic acid, copper salt: Annex 2.6 Fertilisers

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.

PIC Ordinance, ChemPICO (814.82) : Not applicable

Ordinance on Protection against Major Accidents  
Threshold quantity according to Major Accidents : 20 000 kg

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Ordinance (MAO 814.012)

### Other regulations:

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

### 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.

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### 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  
  
CH SUVA : Switzerland. Limit values at the work place  
2009/161/EU / TWA : Limit Value - eight hours  
2009/161/EU / STEL : Short term exposure limit  
CH SUVA / TWA : Time Weighted Average  
CH SUVA / STEL : Short Term Exposure Limit

#### Further information

##### Classification of the mixture:

Flam. Liq. 2      H225  
Skin Irrit. 2      H315  
Skin Sens. 1      H317  
STOT SE 3      H335

##### Classification procedure:

Based on product data or assessment  
Calculation method  
Calculation method  
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.

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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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