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

1.1 Product identifier

Trade name : ARALDITE® 2023-30 A

Unique Formula Identifier (UFI) : 9P04-10RH-900W-A600

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

Use of the Substance/Mixture : Resin

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

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.
Eye irritation, Category 2	H319: Causes serious eye 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.
H319	Causes serious eye irritation.
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

Octadecyl methacrylate

methacrylic acid

2,2'-[(4-Methylphenyl)imino]bisethanol

Additional Labelling:

EUH204 Contains isocyanates. May produce an allergic reaction.

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)	>= 30 - < 50
Octadecyl methacrylate	32360-05-7 251-013-5 607-134-00-4 01-2119489777-13	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) specific concentration limit STOT SE 3; H335 >= 10 %	>= 1 - < 10
methacrylic acid	79-41-4 201-204-4 607-088-00-5 01-2119463884-26	Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 3; H311 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) specific concentration	>= 1 - < 3

		limit STOT SE 3; H335 >= 1 % Skin Corr. 1A; H314 >= 10 % Skin Irrit. 2; H315 1 - < 10 % Eye Dam. 1; H318 >= 3 % Eye Irrit. 2A; H319 1 - < 3 %	
Hexadecyl methacrylat	2495-27-4 219-672-3 607-134-00-4 01-2119489776-15	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) specific concentration limit STOT SE 3; H335 >= 10 %	>= 1 - < 10
2,2'-[(4-Methylphenyl)imino]bisethanol	3077-12-1 221-359-1 01-2120791684-40	Acute Tox. 4; H302 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 0,25 - < 1
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 (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 : Treat symptomatically.
Get medical attention if symptoms occur.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : Get medical attention if irritation develops and persists.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
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 : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : No information available.

Hazardous combustion products : Carbon oxides
Metal oxides

5.3 Advice for firefighters

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

Specific extinguishing methods : Standard procedure for chemical fires.

Further information : No action shall be taken involving any personal risk or without suitable training.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : No special environmental precautions required.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).

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	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Hygiene measures	:	General industrial hygiene practice.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	No special storage conditions required. Keep in properly labelled containers.
Advice on common storage	:	For incompatible materials please refer to Section 10 of this SDS.
Recommended storage temperature	:	2 - 8 °C
Further information on storage stability	:	Stable under normal conditions.

7.3 Specific end use(s)

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 205 mg/m3	FR VLE
Further information	Regulatory binding exposure limits			
		VLCT (VLE)	100 ppm 410 mg/m3	FR VLE
Further information	Regulatory binding exposure limits			
Titanium dioxide	13463-67-7	VME	10 mg/m3	FR VLE

			(Titanium)	
Further information	Indicative exposure limits			
methacrylic acid	79-41-4	VME	20 ppm 70 mg/m3	FR VLE
Further information	Indicative 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
Titanium dioxide	Workers	Inhalation	Long-term local effects	10 mg/m3
	Consumers	Oral	Long-term systemic effects	700 mg/kg bw/day
methacrylic acid	Workers	Inhalation	Long-term systemic effects	29,6 mg/m3
	Workers	Inhalation	Long-term local effects	88 mg/m3
	Workers	Dermal	Long-term systemic effects	4,25 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	6,3 mg/m3
	Consumers	Inhalation	Long-term local effects	6,55 mg/m3
	Consumers	Dermal	Long-term systemic effects	2,55 mg/kg bw/day
Silica, amorphous, fumed, cryst.-free	Workers	Inhalation	Long-term systemic effects	4 mg/m3
2-[(2-methyl-1-oxoallyl)oxy]ethyl acetoacetate	Workers	Inhalation	Long-term systemic effects	35 mg/m3
	Workers	Inhalation	Acute systemic effects	700 mg/m3
	Workers	Inhalation	Long-term local effects	35 mg/m3
	Workers	Inhalation	Acute local effects	700 mg/m3
	Workers	Dermal	Long-term systemic effects	5 mg/kg
	Workers	Dermal	Acute systemic effects	100 mg/kg
	Workers	Dermal	Long-term local effects	0,125 mg/cm2
	Workers	Dermal	Acute local effects	2,5 mg/cm2
	Consumer use	Inhalation	Long-term systemic effects	17,5 mg/m3
	Consumer use	Inhalation	Acute systemic effects	350 mg/m3

	Consumer use	Inhalation	Long-term local effects	17,5 mg/m3
	Consumer use	Inhalation	Acute local effects	350 mg/m3
	Consumer use	Dermal	Long-term systemic effects	2,5 mg/kg
	Consumer use	Dermal	Acute systemic effects	50 mg/kg
	Consumer use	Dermal	Long-term local effects	0,062 mg/cm2
	Consumer use	Dermal	Acute local effects	1,25 mg/cm2
	Consumer use	Oral	Long-term systemic effects	2,5 mg/kg
	Consumer use	Oral	Acute systemic effects	50 mg/kg
2,2'-[(4-Methylphenyl)imino]bis ethanol	Workers	Inhalation	Long-term systemic effects	3,29 mg/m3
	Workers	Dermal	Long-term systemic effects	0,47 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,58 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,17 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,16 mg/kg bw/day
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
Titanium dioxide	Marine water	0,0184 mg/l
Remarks:	Assessment Factors	
	Fresh water sediment	1000 mg/kg
	Assessment Factors	
	Fresh water	0,184 mg/l
	Assessment Factors	
	Marine sediment	100 mg/kg

	Assessment Factors	
	Soil	100 mg/kg
	Assessment Factors	
	Sewage treatment plant	100 mg/l
	Assessment Factors	
	Freshwater - intermittent	0,193 mg/l
	Assessment Factors	
methacrylic acid	Fresh water	0,82 mg/l
	Assessment Factors	
	Marine water	0,82 mg/l
	Assessment Factors	
	Freshwater - intermittent	0,82 mg/l
	Assessment Factors	
	Sewage treatment plant	10 mg/l
	Assessment Factors	
	Soil	1,2 mg/kg
	Equilibrium method	
2-[(2-methyl-1-oxoallyl)oxy]ethyl acetoacetate	Fresh water	0,069 mg/l
	Marine water	0,007 mg/l
	Freshwater - intermittent	0,692 mg/l
	Sewage treatment plant	32 mg/l
	Fresh water sediment	0,462 mg/kg
	Marine sediment	0,046 mg/kg
2,2'-[(4-Methylphenyl)imino]bisethanol	Fresh water	0,026 mg/l
	Assessment Factors	
	Marine water	0,003 mg/l
	Assessment Factors	
	Sewage treatment plant	10 mg/l
	Assessment Factors	
	Fresh water sediment	0,121 mg/kg dry weight (d.w.)
	Equilibrium method	
	Marine sediment	0,012 mg/kg dry weight (d.w.)
	Equilibrium method	

		Soil	0,009 mg/kg dry weight (d.w.)
	Equilibrium method		
2,6-di-tert-butyl-p-cresol		Fresh water	0,199 µg/l
	Assessment Factors		
		Marine water	0,02 µg/l
	Assessment Factors		
		Sewage treatment plant	0,17 mg/l
	Assessment Factors		
		Fresh water sediment	0,0996 mg/kg dry weight (d.w.)
	Equilibrium method		
		Marine sediment	0,00996 mg/kg dry weight (d.w.)
	Equilibrium method		
		Soil	0,04769 mg/kg dry weight (d.w.)
	Equilibrium method		
		Oral	8,33 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : 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 : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : 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

Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	white
Odour	:	No data is available on the product itself.
Odour Threshold	:	No data is available on the product itself.
pH	:	substance/mixture is non-soluble (in water)
Melting point/freezing point	:	No data is available on the product itself.
Boiling point	:	> 100 °C
Flash point	:	10 °C
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Burning rate	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	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	:	1,07 g/cm3 Method: Calculation method
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.
Auto-ignition temperature	:	> 400 °C
Decomposition temperature	:	> 200 °C

Viscosity
Viscosity, dynamic : 180 000 - 200 000 mPa.s

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No hazards to be specially mentioned.

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 : carbon dioxide
carbon monoxide

SECTION 11: Toxicological information

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

Acute toxicity

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

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

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

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

Skin corrosion/irritation

Components:

methyl methacrylate:
Species: Rabbit
Method: OPPTS 870.2500
Result: Skin irritation

Octadecyl methacrylate:
Result: Skin irritation

methacrylic acid:
Species: Rabbit
Assessment: Causes severe burns.
Method: OECD Test Guideline 404
Result: Extremely corrosive and destructive to tissue.
GLP: yes

Hexadecyl methacrylat:
Result: Skin irritation

2,2'-[(4-Methylphenyl)imino]bisethanol:
Species: Rabbit
Assessment: No skin irritation
Method: Other guidelines
Result: No skin irritation
GLP: no

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

Components:

Octadecyl methacrylate:
Result: Eye irritation

methacrylic acid:
Species: Rabbit
Assessment: Risk of serious damage to eyes.
Method: Draize Test
Result: Irreversible effects on the eye
GLP: no

Hexadecyl methacrylat:
Result: Eye irritation

2,2'-[(4-Methylphenyl)imino]bisethanol:
Species: Rabbit

Assessment: Risk of serious damage to eyes.
Method: OECD Test Guideline 405
Result: Risk of serious damage to eyes.
GLP: no

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

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.

Octadecyl methacrylate**:**
Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: Does not cause skin sensitisation.

methacrylic acid**:**
Test Type: Buehler Test
Exposure routes: Skin
Species: Guinea pig
Assessment: Did not cause sensitisation on laboratory animals.
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.

Hexadecyl methacrylat**:**
Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: Does not cause skin sensitisation.

2,2'-[(4-Methylphenyl)imino]bisethanol**:**
Test Type: Local lymph node assay (LLNA)
Species: Mouse
Assessment: May cause sensitisation by skin contact.
Method: OECD Test Guideline 429
Result: May cause sensitisation by skin contact.
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

2,6-di-tert-butyl-p-cresol**:**
Exposure routes: Skin
Species: Humans
Result: Does not cause skin sensitisation.

Assessment: No data available

Germ cell mutagenicity

Components:

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

Octadecyl methacrylate:
Genotoxicity in vitro : Concentration: .1 - 1200 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

: Concentration: 33 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

: Concentration: 14.5 - 2233 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

methacrylic acid:
Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Hexadecyl methacrylat:
Genotoxicity in vitro : Concentration: .1 - 1200 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

: Concentration: 33 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

: Concentration: 14.5 - 2233 µg/L
Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473
Result: negative

2,2'-[(4-Methylphenyl)imino]bisethanol**:**
Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: no

: Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

: Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

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

Components:

Octadecyl methacrylate**:**
Genotoxicity in vivo : Application Route: Oral
Exposure time: 72 h
Dose: 5000 mg/kg
Method: OECD Test Guideline 474
Result: negative

methacrylic acid**:**

Genotoxicity in vivo : Test Type: in vivo assay
Test species: Rat (male)
Cell type: Somatic
Application Route: Inhalation
Exposure time: 2 h
Dose: 0.4, 1.6, 2.8 and 4 mg/L
Method: OECD Test Guideline 475
Result: Not classified due to inconclusive data.
GLP: no

Test Type: dominant lethal test
Test species: Mouse (male)
Application Route: Inhalation
Exposure time: 6 h
Dose: 0.405, 4.05 and 36.45 mg/L
Method: OECD Test Guideline 478
Result: negative
GLP: no

Hexadecyl methacrylat**:**
Genotoxicity in vivo : Application Route: Oral
Exposure time: 72 h
Dose: 5000 mg/kg
Method: OECD Test Guideline 474
Result: negative

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

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

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
No observed adverse effect level: 90,3 mg/kg bw/day
Result: negative

methacrylic acid**:**
Species: Rat, male and female
Application Route: inhalation (vapour)
Exposure time: 102 weeks
Frequency of Treatment: 5 days/week
No observed adverse effect level: >= 2,05 mg/kg body weight
Method: OECD Test Guideline 451

Species: Mouse, male and female
Application Route: inhalation (vapour)
Exposure time: 102 weeks
Dose: ca. 2.05 and 4.1 mg/L
Frequency of Treatment: 5 days/week
Lowest observed adverse effect level: ca. 2,05 mg/l
Method: OECD Test Guideline 451

2,6-di-tert-butyl-p-cresol**:**
Species: Rat, male and female
Application Route: Oral
Result: negative

Carcinogenicity - Assessment : No data available

Reproductive toxicity

Components:

Octadecyl methacrylate**:**
Effects on fertility : Species: Rat, male and female
Application Route: Oral
Dose: >= 1000 milligram per kilogram
Frequency of Treatment: 7 days/week
Method: OECD Test Guideline 422
Result: negative

Species: Rat, male and female
Application Route: Oral
Dose: 400 milligram per kilogram
Frequency of Treatment: 7 days/week
Method: OECD Test Guideline 416
Result: negative

methacrylic acid**:**

Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 0, 50, 150, 450 mg/kg/day
General Toxicity - Parent: No observed adverse effect level: 50 mg/kg body weight
Fertility: No observed adverse effect level F1: 400 mg/kg body weight
Symptoms: Reduced body weight
Method: OECD Test Guideline 416
GLP: yes

Hexadecyl methacrylat**:**

Species: Rat, male and female
Application Route: Oral
Dose: >=1000 milligram per kilogram
Frequency of Treatment: 7 days/week
Method: OECD Test Guideline 422
Result: negative

Species: Rat, male and female
Application Route: Oral
Frequency of Treatment: 7 days/week
Method: OECD Test Guideline 416
Result: negative

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

Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 25/100/500 mg/kg bw/day
General Toxicity - Parent: No observed adverse effect level: 100 mg/kg body weight
General Toxicity F1: No observed adverse effect level: 25 mg/kg body weight
Result: negative

Components:

methyl methacrylate**:**

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

Octadecyl methacrylate**:**

Species: Rat, male and female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 1 000 mg/kg body weight
Method: OECD Test Guideline 422
Result: No teratogenic effects

Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 100 ppm
Method: OECD Test Guideline 414
Result: No teratogenic effects

methacrylic acid**:**

Test Type: Pre-natal
Species: Rat, female
Application Route: Inhalation
Dose: 0, 50, 100, 200 or 300 ppm
Duration of Single Treatment: 14 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: No observed adverse effect level: 200 ppm
Developmental Toxicity: No observed adverse effect level: >= 300 ppm
Embryo-foetal toxicity: No observed adverse effect concentration F1: 300 ppm
Method: OECD Test Guideline 414
Result: No effects on fertility and early embryonic development were detected.

Test Type: Pre-natal
Species: Rabbit, male and female
Application Route: Oral
Dose: 50, 150, 450 milligram per kilogram
Duration of Single Treatment: 23 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: No observed adverse effect level: 50 mg/kg body weight
Developmental Toxicity: No observed adverse effect level F1: 450 mg/kg body weight
Result: No effects on fertility and early embryonic development were detected.

Hexadecyl methacrylat**:**

Species: Rat, male and female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 1 000 mg/kg body weight
Method: OECD Test Guideline 422
Result: No teratogenic effects

Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 100 ppm
Method: OECD Test Guideline 414
Result: No teratogenic effects

2,2'-[(4-Methylphenyl)imino]bisethanol**:**

Test Type: Pre-natal
Species: Rat, females
Application Route: Oral
Dose: 60/200/600 milligram per kilogram
Duration of Single Treatment: 15 d
General Toxicity Maternal: No observed adverse effect level: 200 mg/kg body weight
Developmental Toxicity: No observed adverse effect level: >= 600 mg/kg body weight
Method: OECD Test Guideline 414

GLP: yes
Remarks: Information given is based on data obtained from similar substances.

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

Test Type: Pre-natal
Species: Mouse, female
Application Route: Oral
Duration of Single Treatment: 7 d
General Toxicity Maternal: No observed adverse effect level: 240 mg/kg body weight
Developmental Toxicity: No observed adverse effect level: 800 mg/kg body weight
Target Organs: spleen, Kidney

Reproductive toxicity - Assessment : No data available

STOT - single exposure

Components:

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

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

methacrylic acid**:**
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

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

STOT - repeated exposure

No data available

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

Octadecyl methacrylate**:**
Species: Rat, male and female
NOAEL: 1000 mg/kg
Application Route: Ingestion
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
NOAEL: 120 mg/kg
Application Route: Ingestion
Exposure time: 2 160 hNumber of exposures: 7 d
Method: Subchronic toxicity

methacrylic acid**:**
Species: Rat, male and female
NOEC: 352 - 1232
Application Route: inhalation (vapour)
Test atmosphere: vapour
Exposure time: 90 dNumber of exposures: 6 h
Dose: 70/352/1232 mg/m3
Subsequent observation period: 5 days/week
Method: OECD Test Guideline 413
GLP: yes

Hexadecyl methacrylat**:**
Species: Rat, male and female
NOAEL: 1000 mg/kg
Application Route: Ingestion
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
NOAEL: 120 mg/kg
Application Route: Ingestion
Exposure time: 2 160 hNumber of exposures: 7 d
Method: Subchronic toxicity

2,2'-[(4-Methylphenyl)imino]bisethanol**:**
Species: Rat, male and female
NOAEL: 100 mg/kg
Application Route: Oral
Exposure time: 28 d Number of exposures: daily
Dose: 100/300/600/1000 mg/kg bw/day
Method: OECD Test Guideline 407
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

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

Repeated dose toxicity - Assessment : No data available

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 levels of 0.1% or higher

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution
No data available

Neurological effects
No data available

Further information

Ingestion: No data available

SECTION 12: Ecological information

12.1 Toxicity

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

methacrylic acid**:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 85 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Test substance: Fresh water Method: Fish Acute Toxicity Test GLP: yes Remarks: Toxic to aquatic organisms.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 130 mg/l End point: Immobilization Exposure time: 48 h Test Type: flow-through test Analytical monitoring: yes Test substance: Fresh water Method: Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Selenastrum capricornutum (green algae)): 45 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: OECD Test Guideline 201 GLP: yes

NOEC (Selenastrum capricornutum (green algae)): 8,2 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: yes

Toxicity to microorganisms : EC50 (Pseudomonas putida): 270 mg/l
Exposure time: 16,5 h
Test Type: static test
Analytical monitoring: no
Test substance: Fresh water
Method: DIN 38 412 Part 8
GLP: yes

Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 35 d
Species: Brachydanio rerio (zebrafish)
Test Type: flow-through test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 210
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 53 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: flow-through test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 211
GLP: yes

2,2'-[(4-Methylphenyl)imino]bisethanol**:**

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 203
GLP: yes
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 48 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: OECD Test Guideline 201 GLP: yes Remarks: Based on data from similar materials NOEC (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Test substance: Fresh water Method: OECD Test Guideline 201 GLP: yes Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): > 1 000 mg/l Exposure time: 3 h Test Type: static test Analytical monitoring: no Test substance: Fresh water Method: OECD Test Guideline 209 GLP: yes Remarks: Information given is based on data obtained from similar substances.

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

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

methacrylic acid**:**

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Concentration: 3 mg/l
Result: Readily biodegradable.
Biodegradation: 86 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: yes

2,2'-[(4-Methylphenyl)imino]bisethanol**:**

Biodegradability : Test Type: aerobic
Inoculum: activated sludge, non-adapted
Concentration: 18 mg/l

Result: Not biodegradable
Biodegradation: 1,5 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes
Remarks: Based on data from similar materials

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

methacrylic acid**:**

Partition coefficient: n-octanol/water : log Pow: 0,93 (22 °C)
pH: 2,2

Hexadecyl methacrylat**:**

Partition coefficient: n-octanol/water : log Pow: 8,64
Method: QSAR
GLP: no

2,2'-[(4-Methylphenyl)imino]bisethanol**:**

Partition coefficient: n-octanol/water : log Pow: 2 (35 °C)
pH: 7
Method: OECD Test Guideline 117

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

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of as hazardous waste in compliance with local and national regulations.
Dispose of contents/ container to an approved waste disposal plant.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 1133

ADR : UN 1133

RID : UN 1133

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)

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 (Regulation (EC) No 1907/2006 (REACH), Article 57).

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) : 65, 82, 36, 25

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

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

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

ENCS : Not in compliance with the inventory

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

PICCS : Not in compliance with the inventory

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

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.
H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Skin Corr.	:	Skin corrosion
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 (INRS)
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
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method

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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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