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

1.1 Product identifier

Trade name : ARALDITE® 2047-1 RESIN

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.
Serious eye damage, Category 1	H318: Causes serious eye damage.
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.
H318 Causes serious eye damage.
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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
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
methacrylic acid
2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate
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
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	7534-94-3 231-403-1 607-134-00-4 01-2119886505-27	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412 specific concentration limit STOT SE 3; H335 >= 10 %	>= 2,5 - < 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 limit STOT SE 3; H335 >= 1 % Skin Corr. 1A; H314 >= 10 % Skin Irrit. 2; H315	>= 1 - < 3

		1 - < 10 % Eye Dam. 1; H318 >= 3 % Eye Irrit. 2A; H319 1 - < 3 %	
2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate	52628-03-2 258-053-2 01-2119980575-25	Skin Corr. 1A; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317	>= 1 - < 3
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	>= 1 - < 2,5
N,N-dimethylaniline	121-69-7 204-493-5 612-016-00-0	Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 Carc. 2; H351 STOT RE 2; H373 (spleen) Aquatic Chronic 2; H411	>= 0,25 - < 1
Substances with a workplace exposure limit :			
Talc (Mg3H2(SiO3)4)	14807-96-6 238-877-9 01-2120140278-58		>= 10 - < 20

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Consult a physician.
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	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. 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. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Exercise caution when using a high volume water jet as it may scatter and spread fire

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Specific extinguishing methods	:	No data is available on the product itself.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.
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.
To avoid spills during handling keep bottle on a metal tray.

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.

Recommended storage temperature : 2 - 8 °C

Further information on storage stability : Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
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			
Talc	14807-96-6	TWA (Respirable	0,1 mg/m3	2004/37/EC

(Mg3H2(SiO3)4)		dust)		
Further information	Carcinogens or mutagens			
methacrylic acid	79-41-4	VME	20 ppm 70 mg/m3	FR VLE
Further information	Indicative exposure limits			
N,N-dimethylaniline	121-69-7	VME	5 ppm 25 mg/m3	FR VLE
Further information	Carcinogenic category 2 - Possibly carcinogenic to humans, Risk of penetration through skin, 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-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate	Workers	Inhalation	Long-term systemic effects	7,04 mg/m3
	Workers	Dermal	Long-term systemic effects	1 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1,74 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,5 mg/kg bw/day
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate	Workers	Dermal	Systemic effects, Long-term exposure	1,04 mg/kg
	Consumer use	Dermal	Systemic effects, Long-term exposure	0,625 mg/kg
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
2,2'-[(4-methylphenyl)imino]bisethanol	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
Silicon, amorphous	Workers	Inhalation	Long-term systemic effects	4 mg/m3

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

Substance name	Environmental Compartment	Value
2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate	Fresh water	0,068 mg/l
	Remarks:Assessment Factors	
	Marine water	0,007 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	0,546 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,481 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	0,048 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	0,056 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
methacrylic acid	Fresh water	0,82 mg/l
	Remarks:Assessment Factors	
	Marine water	0,82 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,82 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	10 mg/l
	Remarks:Assessment Factors	
	Soil	1,2 mg/kg
	Remarks:Equilibrium method	
N,N-dimethylaniline	Fresh water	0,023 mg/l
	Marine water	0,002 mg/l
	Freshwater - intermittent	0,023 mg/l
	Sewage treatment plant	5,948 mg/l
	Fresh water sediment	4,942 mg/kg
	Marine sediment	4,942 mg/kg
	Soil	1,906 mg/kg
2,2'-[(4-methylphenyl)imino]bisethanol	Fresh water	0,026 mg/l
	Remarks:Assessment Factors	
	Marine water	0,003 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	10 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,121 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	0,012 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	0,009 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	

8.2 Exposure controls

Personal protective equipment

Eye/face protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Hand protection		
Material	:	butyl-rubber
Break through time	:	> 8 h
Material	:	Solvent-resistant gloves (butyl-rubber)
Material	:	Nitrile rubber
Break through time	:	10 - 480 min
Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	:	W A R N I N G ! This product contains quartz, which has been classified by IARC as carcinogenic for humans (Group 1), and which can cause silicosis and lung cancer following exposure to respirable dust. It is therefore important to take particular care to avoid inhalation exposure when mechanically processing cured material (e.g. grinding, sanding, sawing).

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	paste
Colour	:	grey
Odour	:	ester-like
Odour Threshold	:	No data is available on the product itself.
pH	:	Not applicable
Melting point/freezing point	:	No data is available on the product itself.
Boiling point	:	> 100 °C Method: estimated
Flash point	:	10 °C Method: closed cup

Flammability (solid, gas)	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	12,5 %(V) Method: estimated
Lower explosion limit / Lower flammability limit	:	2,1 %(V) Method: estimated
Vapour pressure	:	< 38 hPa (20 °C) Method: estimated
Relative vapour density	:	ca. 1 (20 °C)
Relative density	:	No data is available on the product itself.
Density	:	1,3 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	slightly soluble Method: estimated
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	:	430 °C
Decomposition temperature	:	> 200 °C
Viscosity		
Viscosity, dynamic	:	55 000 - 80 000 mPa.s (23 °C)

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : 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

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

Product:

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

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

Acute dermal 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

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Acute oral toxicity : LD50 (Rat, male and female): 3 160 mg/kg
Method: No information available.
GLP: no
Assessment: The component/mixture is low toxic after single ingestion.

methacrylic acid:

Acute oral toxicity : LD50 (Rat, male): 1 320 mg/kg
Method: OECD Test Guideline 401
GLP: no
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): 7,1 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
GLP: yes
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 500 - 1 000 mg/kg
GLP: no
Assessment: The component/mixture is toxic after single contact with skin.

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Acute oral toxicity : LD50 (Rat, female): > 2 000 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Assessment: The component/mixture is low toxic after single ingestion.

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

Acute oral toxicity : LD50 (Rat, male and female): 959 mg/kg
Method: OECD Test Guideline 401
GLP: no
Assessment: The component/mixture is moderately toxic after single ingestion.

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

N,N-dimethylaniline:

Acute oral toxicity : LD50 (Rat): 951 mg/kg
Test substance: No data available
GLP: No information available.

LDLo (Humans): 50 mg/kg
Test substance: No data available
GLP: No information available.

Acute inhalation toxicity : LCLo (Rat): 250 mg/m3
Exposure time: 4 h
Method: Other guidelines
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 1 692 mg/kg
Method: see user defined free text

Skin corrosion/irritation

Components:

methyl methacrylate:

Species	:	Rabbit
Method	:	OPPTS 870.2500
Result	:	Skin irritation

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Mild skin irritation
GLP	:	yes

methacrylic acid:

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

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Species	:	Human
Method	:	OECD Test Guideline 431
Result	:	Causes severe burns.
GLP	:	yes

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Causes severe burns.
GLP	:	yes

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

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	Other guidelines
Result	:	No skin irritation
GLP	:	no

N,N-dimethylaniline:

Species	:	Rabbit
Exposure time	:	4 h
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

Serious eye damage/eye irritation

Components:

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Species	:	Rabbit
Method	:	Draize Test
Result	:	No eye irritation

methacrylic acid:

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

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Result	:	Corrosive

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

N,N-dimethylaniline:

Species	:	Rabbit
Exposure time	:	24 h
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.

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Test Type	:	Maximisation Test
Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Assessment : Mild skin irritation

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.

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Method : OECD Test Guideline 429
Result : The product is a skin sensitiser, sub-category 1B.
GLP : yes

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.

N,N-dimethylaniline:

Species : Humans
Assessment : Does not cause skin sensitisation.
Method : see user defined free text
Result : Does not cause skin sensitisation.

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

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

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

Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

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

Genotoxicity in vivo : Test Type: in vivo assay
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
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

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

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

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

GLP: yes

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

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.

N,N-dimethylaniline:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: Other guidelines
Result: positive

Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 3, 10, 33, 100, 333, 1000 µg/P
Metabolic activation: with and without metabolic activation
Method: Other guidelines
Result: negative

Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 0.0025, 0.005,0.025, 0.05 mg/p
Metabolic activation: with and without metabolic activation
Method: Other guidelines

Result: negative

Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 0 - 1000 ug/plate
Metabolic activation: with and without metabolic activation
Method: Other guidelines
Result: negative

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
NOAEL	:	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
NOAEL	:	>= 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
LOAEL	:	ca. 2,05 mg/l
Method	:	OECD Test Guideline 451

N,N-dimethylaniline:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	2 years
Dose	:	0, 3, or 30 mg/kg/day
Frequency of Treatment	:	5 day per week
NOAEL	:	3 - 30 mg/kg body weight
Method	:	OECD Guideline, other
Result	:	positive

Species	:	Rat, male
Application Route	:	Oral
Exposure time	:	2 years
Method	:	OECD Guideline, other
Result	:	positive

Species	:	Rat, female
Exposure time	:	2 years
Result	:	negative

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

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

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Effects on fertility	:	Species: Rat, male and female Application Route: Oral Dose: 0 , 25, 100, 500 mg/ Frequency of Treatment: 7 days/week General Toxicity - Parent: NOAEL: 25 mg/kg body weight General Toxicity F1: NOAEL: 500 mg/kg body weight Method: OECD Test Guideline 421 GLP: yes
Effects on foetal development	:	Species: Rat, male and female Application Route: Oral Dose: 0, 25, 100, 500 mg/ Frequency of Treatment: 7 days Developmental Toxicity: NOAEL: > 500 mg/kg body weight Method: OECD Test Guideline 421 GLP: yes

methacrylic acid:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Dose: 0, 50, 150, 450 mg/kg/day General Toxicity - Parent: NOAEL: 50 mg/kg body weight Fertility: NOAEL F1: 400 mg/kg body weight Symptoms: Reduced body weight Method: OECD Test Guideline 416 GLP: yes
Effects on foetal development	:	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: NOAEL: 200 ppm
Developmental Toxicity: NOAEL: >= 300 ppm
Embryo-foetal toxicity: NOAEC 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: NOAEL: 50 mg/kg body weight
Developmental Toxicity: NOAEL F1: 450 mg/kg body weight
Result: No effects on fertility and early embryonic development were detected.

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Effects on foetal development : Test Type: Pre-natal
Species: Rat, females
Application Route: Oral
Dose: 100/300/1000 mg/kg bw/day
General Toxicity Maternal: NOAEL: 300 mg/kg body weight
Developmental Toxicity: NOEL: 1 000 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

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

Effects on foetal development : 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: NOAEL: 200 mg/kg body weight
Developmental Toxicity: NOAEL: >= 600 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

N,N-dimethylaniline:

Effects on fertility : Species: Mouse, female
Application Route: Oral
Dose: 2920 mg/kg
Method: This information is not available.

Effects on foetal development : Species: Mouse
Application Route: Oral
Frequency of Treatment: 7 - 13 days
Developmental Toxicity: NOAEL: 365 mg/kg body weight
Method: Other guidelines

Result: No adverse effects

STOT - single exposure

Components:

methyl 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.

STOT - repeated exposure

Components:

N,N-dimethylaniline:

Target Organs	:	spleen
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

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

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Species	:	Rat, male and female
NOAEL	:	25 mg/kg
Application Route	:	oral (gavage)
Number of exposures	:	7 days a week
Dose	:	0, 25, 100, 500 mg/k
Method	:	Subchronic toxicity
GLP	:	yes
Target Organs	:	Kidney, Liver

methacrylic acid:

Species	:	Rat, male and female
NOEC	:	352 - 1232 mg/m3
Application Route	:	inhalation (vapour)

Test atmosphere	:	vapour
Exposure time	:	90 d
Number of exposures	:	6 h
Dose	:	70/352/1232 mg/m3
Subsequent observation period	:	5 days/week
Method	:	OECD Test Guideline 413
GLP	:	yes

2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Species	:	Rat, male and female
NOEL	:	100 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	28 d
Number of exposures	:	7 days/week
Dose	:	0, 100, 300, or 1000 MKD
Method	:	OECD Test Guideline 407
GLP	:	yes
Target Organs	:	Kidney, Stomach

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.

N,N-dimethylaniline:

Species	:	Rat, male and female
NOAEL	:	31,3 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	14 days
Number of exposures	:	5 days/week
Dose	:	93.75, 187.5, 375, 750 or 1500
Method	:	No information available.

Species	:	Rat
LOEC	:	0,3 mg/m3
Application Route	:	Inhalation
Exposure time	:	24 hr/day for 100 days
Dose	:	0.3 mg/m3
Method	:	Subchronic toxicity

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

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

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1,79 mg/l
Exposure time: 96 h

Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 2,57 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2,66 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,233 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211
GLP: yes

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-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 112 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 68 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (algae)): > 120 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Pseudokirchneriella subcapitata (algae)): > 30 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
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.

N,N-dimethylaniline:

Toxicity to fish	:	EL50 (Pimephales promelas (fathead minnow)): 78,2 mg/l Exposure time: 96 h Test Type: flow-through test Method: see user defined free text
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4,4 - 8,1 mg/l Exposure time: 24 h Test Type: static test Method: see user defined free text Remarks: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Toxicity to algae/aquatic plants	:	Lowest Observed Effect Concentration (Chlorella pyrenoidosa (algae)): 22 mg/l Exposure time: 72 h Test Type: static test Method: see user defined free text
Toxicity to microorganisms	:	LC50 (Other): 110 mg/l End point: Growth rate Exposure time: 24 h Test Type: static test Method: see user defined free text
Toxicity to fish (Chronic toxicity)	:	LC0: 34 - 101 mg/l Exposure time: 6 d Species: Cyprinus carpio (Carp) Test Type: static test Method: see user defined free text
Toxicity to soil dwelling organisms	:	LC50: 0,2428 mg/cm2 Exposure time: 48 h Species: Eisenia fetida (earthworms) Method: see user defined free text LC50: 0,1366 mg/cm2 Exposure time: 48 h Species: Eisenia fetida (earthworms) Method: see user defined free text
Plant toxicity	:	EC50: 19,97 mg/l End point: Growth inhibition Test period: 72 d Species: Lactuca sativa (lettuce) Method: see user defined free text 57,621 mg/l Test period: 72 d

Species: Lactuca sativa (lettuce)
Method: see user defined free text

Talc (Mg3H2(SiO3)4):

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l
Exposure time: 24 h

12.2 Persistence and degradability

Components:

methyl methacrylate:

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

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Result: Readily biodegradable.
Exposure time: 28 d
Method: OECD Test Guideline 310
GLP: yes

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-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge, non-adapted
Concentration: 54,6 mg/l
Result: Readily biodegradable.
Biodegradation: 91,8 %
Related to: Dissolved organic carbon (DOC)
Exposure time: 28 d
Method: OECD Test Guideline 301F
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

N,N-dimethylaniline:

Biodegradability : Result: Readily biodegradable.
Method: Other guidelines

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

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

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

N,N-dimethylaniline:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 16
Method: see user defined free text

12.4 Mobility in soil

No data available

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 : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
Dispose of as hazardous waste in compliance with local and national regulations.
Dispose of contents/ container to an approved waste disposal plant.

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

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)

	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 (Regulation (EC) No 1907/2006 (REACH), Article 57).
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	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 II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances	7b	Highly flammable
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, 15 ter, 15, 15 bis, 51, 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 that are not on the Canadian DSL nor NDSL.
AIIC	:	Not in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Notified. Allowed to be imported / manufactured only by the notifiers. Please contact your Huntsman sales representative for more information.
TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on 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.
H301	:	Toxic if swallowed.
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.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H351	:	Suspected of causing cancer.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H411	:	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 Chronic	:	Long-term (chronic) aquatic hazard
Carc.	:	Carcinogenicity
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 RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
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
2004/37/EC / TWA	:	Long term exposure limit
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 Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

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

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

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

The trademarks above are the property of Huntsman Corporation or an affiliate thereof.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE.