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

1.1 Product identifier

Trade name : URALANE® 5774-1 C US

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

Use of the Substance/Mixture : Hardener

Recommended restrictions on use : For industrial use only.

1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe) BV
Address : Grijpenlaan 18
3300 Tienen
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

Emergency telephone : 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)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure, Category 2	H371: May cause damage to organs.
Specific target organ toxicity - repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe mist or vapours.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P391	Collect spillage.

Hazardous ingredients which must be listed on the label:

4,4'-methylenebis(2-ethylaniline)
tris(methylphenyl) phosphate

3-aminopropyltriethoxysilane
formaldehyde

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: This substance/mixture contains components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

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 ingredients

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
4,4'-methylenebis(2-ethylaniline)	19900-65-3 243-420-1 612-141-00-0	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Sens. 1A; H317 Muta. 2; H341 Carc. 2; H351 STOT SE 2; H371 (Liver) STOT RE 1; H372 (Liver) STOT RE 2; H373 (Kidney) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10 Acute toxicity estimate Acute oral toxicity: 444 mg/kg	>= 10 - < 20
tris(methylphenyl) phosphate	1330-78-5 215-548-8	Repr. 2; H361 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 10 - < 20

		M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	
Formaldehyde, polymer with 2-ethylbenzenamine	69178-41-2 Polymer	Acute Tox. 4; H302	>= 1 - < 10
4,4'-methylenebis[N-sec-butylaniline]	5285-60-9 226-122-6	Acute Tox. 4; H302 Acute toxicity estimate Acute oral toxicity: 1 380 mg/kg	>= 1 - < 10
1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol	102-60-3 203-041-4 01-2119552434-41	Eye Irrit. 2; H319	>= 1 - < 10
3-aminopropyltriethoxysilane	919-30-2 213-048-4 612-108-00-0 01-2119480479-24	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317 Acute toxicity estimate Acute oral toxicity: 1 491 mg/kg	>= 0,1 - < 1
formaldehyde	50-00-0 200-001-8 605-001-00-5 01-2119488953-20	Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Muta. 2; H341 Carc. 1B; H350 specific concentration limit Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 5 - < 25 % Eye Irrit. 2; H319 5 - < 25 % STOT SE 3; H335 >= 5 % Skin Sens. 1; H317 >= 0,2 % Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 5 - < 25 % Eye Irrit. 2; H319 5 - < 25 % STOT SE 3; H335 >= 5 %	< 0,1

		Skin Sens. 1; H317 >= 0,2 %	
REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59). :			
triphenyl phosphate (component)	115-86-6 -		>= 0,1 - < 1

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 material safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Avoid inhalation, ingestion and contact with skin and eyes.
No action shall be taken involving any personal risk or without suitable training.
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

In case of skin contact : If on skin, rinse well with water.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Induce vomiting immediately and call a physician.
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

Risks : Harmful if swallowed.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs.
Causes damage to organs through prolonged or repeated exposure.

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 : Ammonia
Carbon oxides
Nitrogen oxides (NOx)

5.3 Advice for firefighters

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

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Keep in properly labeled containers.
Advice on common storage	:	For incompatible materials please refer to Section 10 of this SDS.
Further information on storage stability	:	Stable under normal conditions.
Recommended storage temperature	:	2 - 40 °C

7.3 Specific end use(s)

Specific use(s)	:	No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
formaldehyde	50-00-0	VME	0,3 ppm 0,37 mg/m3	FR VLE
	Further information: Carcinogenic category 1B - Probably carcinogenic to humans, Mutagenic category 2 - Possibly mutagenic to humans, Skin sensitisation, Regulatory binding exposure limits			
		VLCT (VLE)	0,6 ppm 0,74 mg/m3	FR VLE
	Further information: Carcinogenic category 1B - Probably carcinogenic to humans, Mutagenic category 2 - Possibly mutagenic to humans, Skin sensitisation, Regulatory binding exposure limits			
		STEL	0,6 ppm 0,74 mg/m3	2004/37/EC
	Further information: Dermal sensitisation, Carcinogens or mutagens			
		TWA	0,3 ppm 0,37 mg/m3	2004/37/EC
	Further information: Dermal sensitisation, Carcinogens or mutagens			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol	Workers	Inhalation	Long-term systemic effects	29,4 mg/m3
	Workers	Dermal	Long-term systemic effects	4,2 mg/kg
	Consumers	Inhalation	Long-term systemic effects	8,7 mg/m3
	Consumers	Dermal	Long-term systemic effects	2,5 mg/kg
	Consumers	Oral	Long-term systemic effects	2,5 mg/kg
4,4'-methylenebis(2-ethylaniline)	Workers	Inhalation	Long-term systemic effects	0,0148 mg/m3
	Workers	Dermal	Long-term systemic effects	0,0042 mg/kg
3-aminopropyltriethoxysilane	Workers	Inhalation	Long-term systemic effects	59 mg/m3
	Workers	Inhalation	Systemic effects, Short-term exposure	59 mg/m3
	Workers	Dermal	Long-term systemic effects	8,3 mg/kg bw/day
	Workers	Dermal	Systemic effects, Short-term exposure	8,3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	17,4 mg/m3

	Consumers	Inhalation	Systemic effects, Short-term exposure	17,4 mg/m3
	Consumers	Dermal	Long-term systemic effects	5 mg/kg bw/day
	Consumers	Dermal	Systemic effects, Short-term exposure	5 mg/kg bw/day
formaldehyde	Workers	Inhalation	Long-term systemic effects	9 mg/m3
	Workers	Inhalation	Long-term local effects	0,375 mg/m3
	Workers	Inhalation	Acute local effects	0,75 mg/m3
	Workers	Dermal	Long-term systemic effects	240 mg/kg bw/day
	Workers	Dermal	Long-term local effects	0,037 mg/cm2
	Consumers	Inhalation	Long-term systemic effects	3,2 mg/m3
	Consumers	Inhalation	Long-term local effects	0,1 mg/m3
	Consumers	Dermal	Long-term systemic effects	102 mg/kg bw/day
	Consumers	Dermal	Long-term local effects	0,012 mg/cm2
	Consumers	Oral	Long-term systemic effects	4,1 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
1,1',1",1"'-ethylenedinitrilotetrapropan-2-ol	Fresh water	0,085 mg/l
	Remarks:Assessment Factors	
	Sea water	0,0085 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	1,51 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,193 mg/kg
	Remarks:Equilibrium method	
	Sea sediment	0,0193 mg/kg
	Remarks:Equilibrium method	
	Soil	0,0183 mg/kg
	Remarks:Equilibrium method	
Siloxanes and silicones, di-Me, reaction products with silica	Fresh water sediment	> 100 mg/kg
	Remarks:Assessment Factors	
	Soil	23 mg/kg
	Remarks:Assessment Factors	
3-aminopropyltriethoxysilane	Fresh water	0,33 mg/l
	Remarks:Assessment Factors	
	Sea water	0,033 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	13 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	1,2 mg/kg dry weight (d.w.)

	Remarks:Equilibrium method	
	Sea sediment	0,12 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	0,05 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

Hand protection
Material : butyl-rubber
Break through time : > 8 h

Material : Nitrile rubber
Break through time : 10 - 480 min

Material : butyl-rubber
Break through time : > 8 h

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

Material : Nitrile rubber
Break through time : 10 - 480 min

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

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.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. 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).
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

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

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines
Equipment should conform to EN 14387

Filter type : Combined particulates, ammonia/amines and organic vapor

type (AK-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Color	:	beige
Odor	:	amine-like
Odor Threshold	:	No data is available on the product itself.
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flammability	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Flash point	:	100 °C Method: estimated, closed cup
Autoignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	> 200 °C
pH	:	substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, dynamic	:	60 000 mPa.s (25 °C)
Solubility(ies)		
Water solubility	:	insoluble (20 °C)
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.
Vapor pressure	:	< 1 hPa (20 °C)
Density	:	1,15 - 1,4 g/cm3 (25 °C)
Relative density	:	1,15 - 1,4 (25 °C)
Relative vapor density	:	No data is available on the product itself.

Particle characteristics : No data is available on the product itself.

9.2 Other information

Miscibility with water : immiscible

Molecular weight : 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 : Strong acids
Strong bases
Strong oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: 1 827 mg/kg
Method: Calculation method

Acute inhalation toxicity : Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.

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

Components:

4,4'-methylenebis(2-ethylaniline):

Acute oral toxicity : LD50 (Rat): 444 mg/kg
Method: OECD Test Guideline 401

Acute toxicity estimate: 444 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat, male and female): > 0,85 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat, male and female): 2 080 mg/kg
Method: OECD Test Guideline 402
Assessment: The component/mixture is low toxic after single contact with skin.

tris(methylphenyl) phosphate:

Acute oral toxicity : LD50 (Rat): > 20 000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 11,1 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): 3 700 mg/kg
Assessment: The component/mixture is low toxic after single contact with skin.

Formaldehyde, polymer with 2-ethylbenzenamine:

Acute oral toxicity : LD50 (Rat): 1 000 mg/kg

4,4'-methylenebis[N-sec-butylaniline]:

Acute oral toxicity : LD50 (Rat): 1 380 mg/kg

Acute toxicity estimate: 1 380 mg/kg
Method: Calculation method

Acute dermal toxicity : LD50 (Rabbit): > 3 000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol:

Acute oral toxicity : LD50 (Rat, male and female): 2 890 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2 000 mg/kg

3-aminopropyltriethoxysilane:

Acute oral toxicity : LD50 (Rat, male and female): 1 491 - 2 688 mg/kg

Method: Acute Oral Toxicity

Acute toxicity estimate: 1 491 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat, male): > 5 ppm
Exposure time: 6 h
Test atmosphere: vapor
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit, male and female): 4 075 mg/kg
Method: Acute Dermal Toxicity
Assessment: The substance or mixture has no acute dermal toxicity

formaldehyde:

Acute oral toxicity : LD50 (Rat, male): 640 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 463 ppm
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
GLP: yes
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 270 mg/kg
Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation

Not classified due to lack of data.

Components:

4,4'-methylenebis(2-ethylaniline):

Species : Rabbit
Assessment : No skin irritation
Method : OPPTS 870.2500
Result : No skin irritation

tris(methylphenyl) phosphate:

Species : Rabbit
Result : No skin irritation

4,4'-methylenebis[N-sec-butylaniline]:

Species : Rabbit
Result : No skin irritation

3-aminopropyltriethoxysilane:

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

formaldehyde:

Species	:	Rabbit
Assessment	:	Causes burns.
Method	:	OECD Test Guideline 404
Result	:	Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Not classified due to lack of data.

Components:

4,4'-methylenebis(2-ethylaniline):

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	Acute Eye Irritation
Result	:	No eye irritation

tris(methylphenyl) phosphate:

Species	:	Rabbit
Result	:	No eye irritation

4,4'-methylenebis[N-sec-butylaniline]:

Species	:	Rabbit
Result	:	No eye irritation

1,1',1",1'"-ethylenedinitrilotetrapropan-2-ol:

Species	:	Rabbit
Assessment	:	Irritant
Result	:	Irritating to eyes.

3-aminopropyltriethoxysilane:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Risk of serious damage to eyes.

formaldehyde:

Assessment	:	Risk of serious damage to eyes.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Components:

4,4'-methylenebis(2-ethylaniline):

Exposure routes	:	Skin
Species	:	Humans
Result	:	The product is a skin sensitiser, sub-category 1A.

tris(methylphenyl) phosphate:

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

4,4'-methylenebis[N-sec-butylaniline]:

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

3-aminopropyltriethoxysilane:

Exposure routes	:	Skin
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	The product is a skin sensitiser, sub-category 1B.

formaldehyde:

Exposure routes	:	Skin
Species	:	Guinea pig
Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans
Method	:	OECD Test Guideline 406
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Respiratory Tract
Species	:	Mouse
Assessment	:	Did not cause sensitisation on laboratory animals.
Result	:	Did not cause sensitisation on laboratory animals.

Assessment	:	May cause sensitisation by skin contact.

Germ cell mutagenicity

Suspected of causing genetic defects.

Components:

4,4'-methylenebis(2-ethylaniline):

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay) Result: positive

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Cell type: Somatic
Application Route: Intraperitoneal injection
Exposure time: 72 h
Dose: 56 - 140 mg/kg
Method: OECD Test Guideline 474
Result: Not classified due to inconclusive data.

Test Type: In vivo micronucleus test
Species: Mouse
Cell type: Somatic
Application Route: Intraperitoneal injection
Dose: 9.3 - 37 mg/kg
Method: OECD Test Guideline 474
Result: positive

Germ cell mutagenicity-Assessment : Positive result(s) from in vivo somatic cell mutagenicity tests supported by positive results from in vitro mutagenicity assays or chemical structure activity relationship to known germ cell mutagens

tris(methylphenyl) phosphate:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Result: negative

Germ cell mutagenicity-Assessment : In vitro tests did not show mutagenic effects

4,4'-methylenebis[N-sec-butylaniline]:

Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: negative

3-aminopropyltriethoxysilane:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

formaldehyde:

Genotoxicity in vitro : Test Type: unscheduled DNA synthesis assay
Result: positive

Test Type: unscheduled DNA synthesis assay
Result: positive

Test Type: gene mutation test
Test system: Chinese hamster lung cells
Concentration: 0, 3.75, 7.5, 15 µg/mL
Metabolic activation: without metabolic activation

Method: OECD Test Guideline 476
Result: positive

Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Cell type: Germ + somatic
Result: Positive results were obtained in some in vivo tests.

Test Type: in vivo assay
Species: Rat (male)
Application Route: inhalation (vapor)
Dose: 0.7/2/5.8/9.1 ppm
Result: negative

Test Type: in vivo assay
Species: Rat (male)
Application Route: inhalation (vapor)
Dose: 0.7/2/5.8/9.1 ppm
Result: negative

Test Type: in vivo assay
Species: Rat (male)
Application Route: inhalation (gas)
Dose: 0.7/2/5.8/9.1/15.2 ppm
Result: positive

Germ cell mutagenicity-Assessment : Positive result(s) from in vivo non-mammalian somatic cell mutagenicity tests, supported by positive results from in vitro mutagenicity assays.

Carcinogenicity

Suspected of causing cancer.

Components:

4,4'-methylenebis(2-ethylaniline):

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	9 - 10 mg/kg
Frequency of Treatment	:	24 hour
Method	:	OECD Test Guideline 451
Result	:	positive

Carcinogenicity - : Limited evidence of carcinogenicity in animal studies

Assessment

tris(methylphenyl) phosphate:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

formaldehyde:

Species : Rat, male
Application Route : Inhalation
Exposure time : 24 month(s)
Dose : 6 ppm
Frequency of Treatment : 6 hour
Result : positive

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in inhalation studies with animals

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Components:

tris(methylphenyl) phosphate:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
General Toxicity Parent: LOAEL: 62,5 mg/kg body weight
Target Organs: Testes, Ovary
Method: OECD Test Guideline 415
Result: positive

Effects on fetal development : Species: Rat, female
Application Route: Oral
Dose: 20, 100, 400, 750 milligram per kilogram
General Toxicity Maternal: NOEL: 20 mg/kg body weight
Method: OPPTS 870.3700
Result: Teratogenic effects.

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Species: Rat, female
Application Route: Oral
General Toxicity Maternal: NOAEL: 400 mg/kg body weight
Result: No teratogenic effects

formaldehyde:

Effects on fetal development : Test Type: Pre-natal
Species: Rat, female

Application Route: inhalation (gas)
Dose: 2/5/10 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOAEC: 5 ppm
Developmental Toxicity: NOAEC: 10 ppm
Method: OECD Test Guideline 414
Result: No teratogenic effects

Test Type: Pre-natal
Species: Dog, female
Application Route: Oral
Dose: 3.1 and 9.4 mg/kg bw/day
Duration of Single Treatment: 50 d
General Toxicity Maternal: LOAEL: > 9,4 mg/kg body weight
Developmental Toxicity: LOAEL: > 9,4 mg/kg body weight
Method: OECD Test Guideline 414

STOT-single exposure

May cause damage to organs.

Components:

4,4'-methylenebis(2-ethylaniline):

Exposure routes	:	Ingestion
Target Organs	:	Liver
Assessment	:	May cause damage to organs.

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Components:

4,4'-methylenebis(2-ethylaniline):

Exposure routes	:	Ingestion
Target Organs	:	Liver
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Exposure routes	:	Ingestion
Target Organs	:	Kidney
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

4,4'-methylenebis(2-ethylaniline):

Species	:	Rat, male and female
LOAEL	:	7,5 - 8 mg/kg/d
Application Route	:	Ingestion
Exposure time	:	2 160 h
Number of exposures	:	7 d
Method	:	Subchronic toxicity

Species	:	Rat, male and female
NOAEL	:	90 mg/kg/d
Application Route	:	Skin contact
Exposure time	:	2 160 h
Number of exposures	:	5 d
Method	:	Subchronic toxicity

tris(methylphenyl) phosphate:

Species	:	Rat, male and female
NOEL	:	1000 mg/kg
Application Route	:	Ingestion
Exposure time	:	2 160 h
Method	:	Subchronic toxicity

1,1',1",1'"-ethylenedinitrilotetrapropan-2-ol:

Species	:	Rat, male and female
NOAEL	:	1000 mg/kg/d
Application Route	:	Ingestion
Exposure time	:	1 176 h
Number of exposures	:	7 d
Method	:	Subacute toxicity

Species	:	Rat, male and female
NOAEL	:	300 mg/kg/d
Application Route	:	Ingestion
Exposure time	:	1 176 h
Number of exposures	:	7 d
Method	:	Subacute toxicity

3-aminopropyltriethoxysilane:

Species	:	Rat, male and female
NOAEL	:	200 mg/kg
Application Route	:	Ingestion
Exposure time	:	2 160 h
Method	:	Subchronic toxicity

formaldehyde:

Species	:	Rat, male and female
NOAEL	:	82 mg/kg
Application Route	:	oral (drinking water)
Exposure time	:	103 Weeks
Number of exposures	:	7 days/week
Dose	:	5/25/125 mg/kg bw/day
Method	:	OECD Test Guideline 453
Target Organs	:	Gastrointestinal tract, Stomach

Aspiration toxicity

Not classified due to lack of data.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

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

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

4,4'-methylenebis(2-ethylaniline):

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): 20,6 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,35 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,00525 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 10

tris(methylphenyl) phosphate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,6 mg/l

Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,146 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 : 0,4042 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 1 000 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0,01 mg/l
Exposure time: 28 d
Species: Other

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test

M-Factor (Chronic aquatic toxicity) : 1

4,4'-methylenebis[N-sec-butylaniline]:

Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 4 600 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: DIN 38412

LC50 (Leuciscus idus (Golden orfe)): 2 700 mg/l
Exposure time: 48 h
Test Type: static test
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : IC0 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic plants : EC50 (Other): 150,67 mg/l
Exposure time: 72 h

Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.3.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

3-aminopropyltriethoxysilane:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 934 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 331 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 1 000 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.3.

Toxicity to microorganisms : EC50 (Pseudomonas putida): 43 mg/l
Exposure time: 5,75 h
Test Type: static test
Test substance: Fresh water

formaldehyde:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 24,1 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 5,8 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 : ErC50 (Desmodesmus subspicatus (green algae)): 4,89 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water

Method: OECD Test Guideline 201

EC50 (Desmodesmus subspicatus (green algae)): 3,48 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Bacteria): 20,4 mg/l
Exposure time: 120 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,04 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Fresh water
Method: OECD Test Guideline 211

12.2 Persistence and degradability

Components:

tris(methylphenyl) phosphate:

Biodegradability : Test Type: aerobic
Inoculum: Sewage (STP effluent)
Concentration: 100 mg/l
Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol:

Biodegradability : Inoculum: activated sludge
Concentration: 107 mg/l
Result: Inherently biodegradable.
Biodegradation: 36 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Inoculum: Domestic sewage
Concentration: 30 mg/l
Result: Not readily biodegradable.
Biodegradation: 9 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.D.

3-aminopropyltriethoxysilane:

Biodegradability : Inoculum: activated sludge
Concentration: 8,95 mg/l
Result: Not readily biodegradable.
Biodegradation: 67 %
Exposure time: 28 d

Method: Directive 67/548/EEC Annex V, C.4.A.

formaldehyde:

Biodegradability : Test Type: anaerobic
Inoculum: activated sludge
Concentration: 1 360 mg/l
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 4 d
Test substance: Fresh water

Test Type: aerobic
Inoculum: Sewage (STP effluent)
Result: Readily biodegradable.
Biodegradation: 99 %
Related to: Dissolved organic carbon (DOC)
Exposure time: 28 d
Method: OECD Test Guideline 303A
Test substance: Fresh water

Biochemical Oxygen Demand (BOD) : 0,33 - 1,07 mg/l
Incubation time: 5 d

Chemical Oxygen Demand (COD) : 1.07 mgO2/g

12.3 Bioaccumulative potential

Components:

tris(methylphenyl) phosphate:

Partition coefficient: n-octanol/water : log Pow: 5,93

4,4'-methylenebis[N-sec-butylaniline]:

Bioaccumulation : Bioconcentration factor (BCF): 4 700

Partition coefficient: n-octanol/water : log Pow: 6,08
Method: QSAR

1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol:

Partition coefficient: n-octanol/water : log Pow: -2,08 (25 °C)

3-aminopropyltriethoxysilane:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 3,4
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 1,7 (20 °C)
pH: 7

formaldehyde:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): < 1

Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 0,35 (25 °C)

12.4 Mobility in soil

Components:

tris(methylphenyl) phosphate:

Distribution among environmental compartments : Koc: 4,31
Method: OECD Test Guideline 121

4,4'-methylenebis[N-sec-butylaniline]:

Distribution among environmental compartments : Koc: 4,91
Method: QSAR

formaldehyde:

Distribution among environmental compartments : Koc: 15,9, log Koc: 1,202
Method: Calculation method

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 : This substance/mixture contains components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Components:

triphenyl phosphate (component):

Assessment : The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

12.7 Other adverse effects

Product:

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of contents and container in accordance with all local, regional, national and international regulations.
Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 3082

ADR : UN 3082

RID : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(4,4'-METHYLENEBIS(2-ETHYLANILINE), TRICRESYL PHOSPHATE)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(4,4'-METHYLENEBIS(2-ETHYLANILINE), TRICRESYL PHOSPHATE)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(4,4'-METHYLENEBIS(2-ETHYLANILINE), TRICRESYL PHOSPHATE)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(4,4'-METHYLENEBIS(2-ETHYLANILINE), TRICRESYL PHOSPHATE)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(4,4'-METHYLENEBIS(2-ETHYLANILINE), TRICRESYL PHOSPHATE)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN :	9	

ADR : 9

RID : 9

IMDG : 9

IATA : 9

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

IMDG

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

IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)
Environmentally hazardous : yes

IATA (Cargo)
Environmentally hazardous : yes

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 Authorization (Article 59).	:	triphenyl phosphate
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 3 Number on list 72: formaldehyde Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor. Number on list 77: 1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, formaldehyde

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

Occupational Illnesses (R-461-3, France)	:	84, 43bis, 43, 34, 4 bis
Installations classified for the protection of the environment (Environment Code R511-9)	:	4510

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The ingredients 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
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

Inventories

AICS (Australia), AIIC (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical Safety Assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

SECTION 16: Other information

Full text of H-Statements

H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
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.

H341	:	Suspected of causing genetic defects.
H350	:	May cause cancer.
H351	:	Suspected of causing cancer.
H361	:	Suspected of damaging fertility or the unborn child.
H371	:	May cause damage to organs if swallowed.
H372	:	Causes damage to organs through prolonged or repeated exposure if swallowed.
H373	:	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic 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	:	Long-term (chronic) aquatic hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Muta.	:	Germ cell mutagenicity
Repr.	:	Reproductive toxicity
Skin Corr.	:	Skin corrosion
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, mutagens or reprotoxic substances at work - Annex III
FR VLE	:	France. Occupational Exposure Limits
2004/37/EC / STEL	:	Short term exposure limit
2004/37/EC / TWA	:	Long 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:**
Acute Tox. 4	H302	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Carc. 2	H351	Calculation method
Repr. 2	H361	Calculation method
STOT SE 2	H371	Calculation method
STOT RE 1	H372	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

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.

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.