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

1.1 Product identifier

Trade name : EPOCAST® 1635 A US

Unique Formula Identifier (UFI) : VMG5-U00W-500N-6TRH

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

Use of the Substance/Mixture : Epoxy constituents

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)

Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Warning

Hazard Statements :

H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P201	Obtain special instructions before use.
P261	Avoid breathing mist or vapors.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P391	Collect spillage.

Hazardous ingredients which must be listed on the label:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline

Additional Labeling

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 ingredients

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]	28768-32-3 249-204-3 01-2119472303-45	Skin Sens. 1; H317 Muta. 2; H341 Aquatic Chronic 2; H411	>= 10 - < 20
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4 225-716-2 01-2119954405-36	Acute Tox. 4; H302 Skin Sens. 1A; H317 Muta. 2; H341 Aquatic Chronic 2; H411	>= 10 - < 20
Substances with a workplace exposure limit :			
xylene	1330-20-7 215-535-7 601-022-00-9 01-2119488216-32	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 0,0025 - < 0,025
methanol	67-56-1 200-659-6 603-001-00-X 01-2119433307-44	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370 (Bladder, Blood, Central nervous system, Eyes, Kidney, Liver, Nervous system, spleen) specific concentration limit STOT SE 1; H370 >= 10 % STOT SE 2; H371 3 - < 10 %	< 0,1

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 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 : May cause an allergic skin reaction.
Suspected of causing genetic defects.

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	:	Metal oxides 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.
Recommended storage temperature	:	2 - 40 °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
aluminium	7429-90-5	VME	10 mg/m3	FR VLE
	Further information: Permissible limit values (circular)			
		VME (powder)	5 mg/m3	FR VLE
	Further information: Permissible limit values (circular)			
xylene	1330-20-7	VME	50 ppm 221 mg/m3	FR VLE
	Further information: Risk of penetration through skin, Regulatory binding exposure limits			

		VLCT (VLE)	100 ppm 442 mg/m3	FR VLE
	Further information: Risk of penetration through skin, Regulatory binding exposure limits			
		TWA	50 ppm 221 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	50 ppm 221 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		VME	200 ppm 260 mg/m3	FR VLE
	Further information: Risk of penetration through skin, Regulatory binding exposure limits			
		VLCT (VLE)	1 000 ppm 1 300 mg/m3	FR VLE
	Further information: Risk of penetration through skin, Permissible limit values (circular)			
		TWA	200 ppm 260 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]	Workers	Inhalation	Long-term systemic effects	3,5 mg/m3
	Workers	Dermal	Long-term systemic effects	0,5 mg/kg bw/day
methanol	Workers	Dermal	Systemic effects, Long-term exposure	40 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Long-term exposure	260 mg/m3
	Workers	Inhalation	Local effects, Long-term exposure	260 mg/m3
	Workers	Dermal	Systemic effects, Short-term exposure	40 mg/kg bw/day

	Workers	Inhalation	Systemic effects, Short-term exposure	260 mg/m3
	Workers	Inhalation	Local effects, Short-term exposure	260 mg/m3
	Consumers	Dermal	Systemic effects, Long-term exposure	8 mg/kg bw/day
	Consumers	Inhalation	Systemic effects, Long-term exposure	50 mg/m3
	Consumers	Oral	Systemic effects, Long-term exposure	8 mg/kg bw/day
	Consumers	Inhalation	Local effects, Long-term exposure	50 mg/m3
	Consumers	Inhalation	Systemic effects, Short-term exposure	50 mg/m3
	Consumers	Inhalation	Local effects, Short-term exposure	50 mg/m3
	Consumers	Dermal	Systemic effects, Short-term exposure	8 mg/kg bw/day
	Consumers	Oral	Systemic effects, Short-term exposure	8 mg/kg bw/day
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	Workers	Inhalation	Long-term systemic effects	0,35 mg/m3
	Workers	Dermal	Long-term systemic effects	0,1 mg/kg bw/day
	Workers	Dermal	Long-term local effects	
xylene	Workers	Inhalation	Long-term systemic effects	221 mg/m3
	Workers	Inhalation	Acute systemic effects	442 mg/m3
	Workers	Inhalation	Long-term local effects	221 mg/m3
	Workers	Inhalation	Acute local effects	442 mg/m3
	Workers	Dermal	Long-term systemic effects	212 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	65,3 mg/m3
	Consumers	Inhalation	Acute systemic effects	260 mg/m3
	Consumers	Inhalation	Long-term local effects	65,3 mg/m3
	Consumers	Inhalation	Acute local effects	260 mg/m3
	Consumers	Dermal	Long-term systemic effects	125 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	12,5 mg/kg bw/day
3-(trimethoxysilyl)propyl isocyanate	Workers	Inhalation	Long-term systemic effects	0,03 mg/m3
	Workers	Inhalation	Systemic effects, Short-term exposure	0,03 mg/m3
	Workers	Inhalation	Long-term local effects	0,005 mg/m3

	Workers	Inhalation	Short-term exposure, Local effects	0,05 mg/m3
	Workers	Dermal	Long-term systemic effects	0,005 mg/kg bw/day
	Workers	Dermal	Systemic effects, Short-term exposure	0,005 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	1 mg/kg bw/day
	Consumers	Oral	Systemic effects, Short-term exposure	1 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]	Fresh water	0,005 mg/l
	Remarks:Assessment Factors	
	Sea water	0,0005 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,047 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	1000 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,017 mg/kg
	Remarks:Equilibrium method	
	Sea sediment	0,002 mg/kg
	Remarks:Equilibrium method	
	Soil	0,011 mg/kg
	Remarks:Equilibrium method	
methanol	Fresh water	154 mg/l
	Remarks:Assessment Factors	
	Sea water	15,4 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	1540 mg/l
	Remarks:Assessment Factors	
	Sediment	570,4 mg/kg
	Remarks:Equilibrium method	
	Secondary Poisoning	
	Sewage treatment plant	100 mg/l
	Remarks:Assessment Factors	
	Soil	23,5 mg/kg
	Remarks:Equilibrium method	
p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	Fresh water	0,008 mg/l
	Remarks:Assessment Factors	
	Sea water	0,001 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,042 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	10 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	0,101 mg/kg
	Remarks:Equilibrium method	
	Sea sediment	0,01 mg/kg

	Remarks:Equilibrium method	
	Soil	0,015 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	
xylene	Fresh water	0,044 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,01 mg/l
	Remarks:Assessment Factors	
	Sea water	0,004 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	1,6 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	2,52 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Sea sediment	0,252 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	0,852 mg/kg
	Remarks:Assessment Factors	
3-(trimethoxysilyl)propyl isocyanate	Fresh water	0,86 mg/l
	Remarks:Assessment Factors	
	Sea water	0,086 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	10 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	3,1 mg/kg dry weight (d.w.)
	Sea sediment	0,31 mg/kg dry weight (d.w.)
	Soil	0,12 mg/kg dry weight (d.w.)

8.2 Exposure controls

Individual protection measures, such as personal protective equipment (PPE)

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

Remarks	:	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	:	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). 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, organic gas and low boiling vapor type (AX-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Form	:	paste
Color	:	blue, gray
Odor	:	odorless
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	:	95 °C Method: estimated, closed cup
Autoignition temperature	:	No data is available on the product itself.

Decomposition temperature	:	No data is available on the product itself.
pH	:	substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, dynamic	:	308 000 mPa.s (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Vapor pressure	:	< 1,33 hPa (20 °C)
Density	:	1,84 g/cm3 (20 °C)
Relative density	:	1,85
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

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

Not classified due to lack of data.

Product:

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

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Acute oral toxicity : LD50 (Rat, male and female): > 5 000 mg/kg
Method: OECD Test Guideline 401
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC50 (Rat, male and female): > 30 mg/m3
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3 000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Acute oral toxicity : LD50 (Rat, male and female): 1 037 mg/kg
Method: OECD Test Guideline 401
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute dermal toxicity : LD50 (Rat, male and female): > 4 000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

xylene:

Acute oral toxicity : LD50 (Mouse, male and female): 3 523 - 4 000 mg/kg
Method: Directive 67/548/EEC, Annex V, B.1.
GLP: no
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): 27,1 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Other guidelines

Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit, male): 12 126 mg/kg
Assessment: The component/mixture is moderately toxic after single contact with skin.

methanol:

Acute oral toxicity : LD50 (Rat): 5 628 mg/kg
Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): 128,2 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Other guidelines
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 15 800 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[N,N-bis(2,3-epoxypropyl)aniline]:

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

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

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

xylene:

Species	:	Rabbit
Exposure time	:	4 h
Assessment	:	Irritating to skin.
Method	:	Regulation (EC) No. 440/2008, Annex, B.4
Result	:	Skin irritation

methanol:

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

Serious eye damage/eye irritation

Not classified due to lack of data.

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

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

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	Other guidelines
Result	:	slight irritation

xylene:

Species	:	Rabbit
Result	:	Eye irritation

methanol:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin
Species	:	Mouse
Assessment	:	May cause sensitisation by skin contact.
Method	:	OECD Test Guideline 429
Result	:	May cause sensitisation by skin contact.

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Assessment	:	Probability or evidence of high skin sensitisation rate in humans
Method	:	OECD Test Guideline 429
Result	:	Probability or evidence of high skin sensitisation rate in humans
Remarks	:	Information given is based on data obtained from similar

substances.

xylene:

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

methanol:

Exposure routes	:	Skin
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.

Germ cell mutagenicity

Suspected of causing genetic defects.

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella tryphimurium and E. coli
Concentration: 500 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Test Type: gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: positive
Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo : Test Type: Transgenic rodent germ cell gene mutation assay
Species: Rat (male)
Cell type: Germ
Application Route: Oral
Dose: 10/100/300/1000 mg/kg bw/day
Method: OECD Test Guideline 488
Result: positive
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

Test Type: In vivo mammalian alkaline comet assay
Species: Rat (male)
Cell type: Somatic
Dose: 500/1000/2000 mg/kg bw /day
Method: OECD Test Guideline 489
Result: positive
GLP: yes

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

Test Type: In vivo micronucleus test
Species: Mouse (male)
Cell type: Bone marrow
Application Route: Oral
Dose: 0, 50, 1000, 2000 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

Cell type: Germ
Application Route: Oral
Exposure time: 5 d
Method: OECD Test Guideline 483
Result: negative
GLP: yes

Germ cell mutagenicity-Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive

Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: positive

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: positive

Genotoxicity in vivo : Test Type: Transgenic rodent somatic cell gene mutation assay
Species: Transgenic rat (male)
Application Route: Oral
Exposure time: 28 d
Result: positive

Test Type: Transgenic rodent somatic cell gene mutation assay
Species: Transgenic rat (male)
Cell type: Somatic
Application Route: Oral

Exposure time: 28 d
Dose: 25
Method: OECD Test Guideline 488
Result: positive
GLP: yes

Test Type: In vivo micronucleus test
Species: Mouse (male)
Application Route: Oral
Dose: 438, 875, 1750mg/kg bw
Method: OECD Test Guideline 474
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Germ cell mutagenicity-Assessment : In vitro tests showed mutagenic effects

xylene:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: Regulation (EC) No. 440/2008, Annex, B.10
Result: negative

Test Type: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: Regulation (EC) No. 440/2008, Annex, B.19
Result: negative

Test Type: gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: Regulation (EC) No. 440/2008, Annex, B.17
Result: negative

Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Mouse (male and female)
Application Route: Subcutaneous
Dose: 1 ml/kg
Method: OECD Test Guideline 478
Result: negative

Test Type: Chromosome aberration test in vitro
Species: Rat (male and female)
Application Route: Intraperitoneal injection
Dose: 1 ml/kg

Method: OECD Test Guideline 478
Result: negative

Test Type: Micronucleus test
Species: Mouse (male)
Application Route: Intraperitoneal injection
Dose: 106, 220, 320, 440 mg/kg
Method: OECD Test Guideline 474
Result: negative

methanol:

Genotoxicity in vitro : Concentration: 15.8 - 63.3 mg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Concentration: 5 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Concentration: ca 40 mg/ml
Metabolic activation: negative
Result: negative

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Dose: 1920 - 4480 mg/kg
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Not classified due to lack of data.

Components:

xylene:

Species	:	Mouse, male and female
Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	0, 500 or 1000 mg/kg
Frequency of Treatment	:	5 days/week
Method	:	Regulation (EC) No. 440/2008, Annex, B.32
Result	:	negative

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	103 weeks
Dose	:	0, 250 or 500 mg/kg
Frequency of Treatment	:	5 days/week
Method	:	Regulation (EC) No. 440/2008, Annex, B.32
Result	:	negative

methanol:

Species : Rat, male and female

Application Route	:	Inhalation
Exposure time	:	24 month(s)
Dose	:	>= 1300 mg/m³
Frequency of Treatment	:	20 hour
Method	:	OECD Test Guideline 453
Result	:	negative

Species	:	Mouse, male and female
Application Route	:	Inhalation
Exposure time	:	18 month(s)
Dose	:	13 - 1300 mg/m³
Frequency of Treatment	:	19 hour
Method	:	OECD Test Guideline 453
Result	:	negative

Reproductive toxicity

Not classified due to lack of data.

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Effects on fetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
Dose: 30, 90 and 270 mg/kg/day
Duration of Single Treatment: 15 d
General Toxicity Maternal: NOAEL: 90 mg/kg body weight
Developmental Toxicity: NOAEL: 90 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects
GLP: yes

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 5/15/25 mg/kg bw/d
General Toxicity Parent: NOAEL: 25 mg/kg body weight
General Toxicity F1: NOAEL: 25 mg/kg body weight
Method: OECD Test Guideline 416

Effects on fetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
Dose: 0/5/15/40 mg/kg bw/d
Duration of Single Treatment: 15 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOEL: 15 mg/kg body weight
Developmental Toxicity: NOEL: 15 mg/kg body weight
Method: OECD Test Guideline 414

xylene:

Effects on fertility : Species: Rat, male and female
Application Route: inhalation (vapor)

Dose: 0, 60, 250 or 500 ppm
Duration of Single Treatment: 6 h
Frequency of Treatment: 7 days/week
General Toxicity Parent: NOAEC: 500 ppm
General Toxicity F1: NOAEC: 500 ppm
Result: No effects on fertility and early embryonic development were detected.

methanol:

Effects on fertility : Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 416
Result: negative

Species: Monkey, female
Application Route: Inhalation
Result: negative

Species: Mouse, male
Application Route: Oral
Result: negative

Effects on fetal development : Species: Monkey
Application Route: Inhalation
General Toxicity Maternal: NOAEL: 2 390 mg/m³
Result: No teratogenic effects

STOT-single exposure

Not classified due to lack of data.

Components:

xylene:

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

methanol:

Target Organs : Bladder, Blood, Central nervous system, Eyes, Kidney, Liver, Nervous system, spleen
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

STOT-repeated exposure

Not classified due to lack of data.

Components:

xylene:

Exposure routes : Inhalation
Assessment : May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific

target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Species	:	Rat, male and female
NOAEL	:	50 mg/kg
Application Route	:	Oral
Exposure time	:	13 Weeks
Number of exposures	:	7 d
Dose	:	10, 50 and 200 mg/kg/day
Method	:	OECD Test Guideline 408
GLP	:	yes

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Species	:	Rat, male and female
NOAEL	:	15 mg/kg bw/d
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	one daily
Dose	:	1.5, 5 or 15 mg/kg bw/day
Method	:	OECD Test Guideline 408
GLP	:	yes

xylene:

Species	:	Rat, male
NOEC	:	7817 mg/m3
Application Route	:	Inhalation
Test atmosphere	:	vapor
Exposure time	:	13 weeks 6 h
Number of exposures	:	5 days/week
Dose	:	0, 1954, 3908, 7817 mg/m3
Method	:	Chronic toxicity
Target Organs	:	hearing organs

Species	:	Rat, male and female
NOAEL	:	250 mg/kg
Application Route	:	Oral
Exposure time	:	103 weeks
Number of exposures	:	5 days/week
Dose	:	0/250/500 mg/kg bw/day

Species	:	Rat, male and female
NOAEL	:	150 mg/kg
LOAEL	:	150 mg/kg
Application Route	:	Oral
Exposure time	:	90 days 90 Days
Number of exposures	:	7 days/week
Dose	:	0, 150, 750 or 1500 mg/kg/day
Method	:	OECD Test Guideline 408
Target Organs	:	Kidney, Liver

methanol:

Species	:	Monkey
NOEC	:	13 mg/m3
Test atmosphere	:	vapor
Exposure time	:	5 040 h
Number of exposures	:	21 h

Species	:	Monkey, male and female
NOEC	:	6660 mg/m3
Application Route	:	Ingestion
Test atmosphere	:	vapor
Exposure time	:	72 h
Number of exposures	:	6 h
Method	:	OECD Test Guideline 412

Species	:	Monkey
NOEC	:	1300 mg/m3
Test atmosphere	:	vapor
Exposure time	:	1 440 h
Number of exposures	:	21 h

Species	:	Monkey
LOEC	:	3990 mg/m3
Test atmosphere	:	vapor
Exposure time	:	480 h
Number of exposures	:	21 h

Aspiration hazard

Not classified due to lack of data.

Components:

xylene:

May be fatal if swallowed and enters airways.

methanol:

May be harmful if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Not classified due to lack of data.

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Assessment	:	Based on available data, the classification criteria are not met.

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Assessment	:	Based on available data, the classification criteria are not met.

xylene:

Assessment	:	Does not have endocrine disrupting properties.

methanol:

Assessment : Does not have endocrine disrupting properties.

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Components:

methanol:

Remarks : Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 5,95 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): ca. 6,7 mg/l
Exposure time: 48 h
Test Type: semi-static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 0,19 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: yes

EC50 (Pseudokirchneriella subcapitata (green algae)): ca. 4,8 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 : IC50 (Pseudomonas putida): > 10 000 mg/l
Exposure time: 24 h
Test Type: static test
Analytical monitoring: no
Test substance: Fresh water
Method: DIN 38 412 Part 8
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 4,2 mg/l
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 magna (Water flea)): 18 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 (Pseudokirchneriella subcapitata (algae)): 13 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,42 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 10 mg/l, mg
Exposure time: 16 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38 412 Part 8

Toxicity to fish (Chronic toxicity) : NOEC: 0,13 mg/l
Exposure time: 32 d

Species: Pimephales promelas (fathead minnow)
Test Type: flow-through test
Method: OECD Test Guideline 210
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,42 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
Remarks: Information given is based on data obtained from similar substances.

xylene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2,6 mg/l
End point: mortality
Exposure time: 96 h
Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : NOEC (Ceriodaphnia dubia (Water flea)): 1 mg/l
End point: Immobilization
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: Other guidelines
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 4,7 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,44 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 : NOEC (activated sludge): 16 mg/l
Exposure time: 28 d
Test Type: static test
Analytical monitoring: no
Method: Other guidelines
GLP: yes

IC50 (Bacteria): 96 mg/l
Exposure time: 24 h

Toxicity to fish (Chronic toxicity) : NOEC: 0,714 mg/l
Exposure time: 56 d
Species: Oncorhynchus mykiss (rainbow trout)
Test Type: flow-through test
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,96 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (Water flea)
Analytical monitoring: yes
Test substance: Fresh water
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

methanol:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 15 400 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10 000 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38412

Toxicity to algae/aquatic plants : ErC50 (Selenastrum capricornutum (green algae)): ca. 22 000 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : IC50 (activated sludge): > 1 000 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

12.2 Persistence and degradability

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge, non-adapted
Concentration: 20 mg/l

Result: Biodegradable, but failing 10-d window
Biodegradation: ca. 48 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
GLP: yes

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Biodegradability : Inoculum: activated sludge
Concentration: 3,2 mg/l
Result: Not readily biodegradable.
Biodegradation: 3,4 %
Exposure time: 29 d
Method: OECD Test Guideline 301B

Stability in water : Degradation half life (DT50): 4,3 hrs (50 °C)
pH: 7
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 4,1 d (20 °C)
pH: 7
Method: OECD Test Guideline 111

Degradation half life (DT50): 3,9 hrs (50 °C)
pH: 4
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 10 h (40 °C)
pH: 7
Method: OECD Test Guideline 111

Degradation half life (DT50): 2,2 d (25 °C)
pH: 4
Method: OECD Test Guideline 111
GLP: No information available.
Remarks: Fresh water

Degradation half life (DT50): 4,3 h (50 °C)
pH: 7
Method: OECD Test Guideline 111

Degradation half life (DT50): 2,3 d (25 °C)
pH: 7
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 2,6 d (25 °C)
pH: 9
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 5,7 hrs (50 °C)
pH: 9

Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 10,8 d (12 °C)
GLP: yes

xylene:

Biodegradability : Test Type: aerobic
Inoculum: Sewage (STP effluent)
Result: Readily biodegradable.
Biodegradation: > 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Test substance: Fresh water
GLP: yes

methanol:

Biodegradability : Inoculum: Sea water
Result: Readily biodegradable.
Biodegradation: 69 - 97 %
Exposure time: 5 - 20 d

Photodegradation : Test Type: Air
Rate constant: 0.0093
Degradation (direct photolysis): 50 %

12.3 Bioaccumulative potential

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Partition coefficient: n-octanol/water : log Pow: ca. 2,12 (22 °C)
pH: 6,7
Method: OECD Test Guideline 107
GLP: yes

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Partition coefficient: n-octanol/water : log Pow: 0,871 (25 °C)
pH: 7

xylene:

Bioaccumulation : Species: Fish
Exposure time: 56 d
Bioconcentration factor (BCF): 25,9
Test substance: Fresh water
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 3,16 (20 °C)
pH: 7
Method: Calculation method

methanol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Exposure time: 3 d
Bioconcentration factor (BCF): < 10
Test substance: Fresh water

Partition coefficient: n-octanol/water : log Pow: -0,77

12.4 Mobility in soil

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Distribution among environmental compartments : Koc: < 18
Method: OECD Test Guideline 121

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Distribution among environmental compartments : Koc: 84
Method: OECD Test Guideline 121

xylene:

Distribution among environmental compartments : Medium: Soil
Koc: ca. 537, log Koc: ca. 2,73
Method: OECD Test Guideline 121

12.5 Results of PBT and vPvB assessment

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Assessment : Not persistent, bioaccumulative, and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Assessment : Not persistent, bioaccumulative, and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

xylene:

Assessment : Not persistent, bioaccumulative, and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

methanol:

Assessment : Not persistent, bioaccumulative, and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Assessment : Does not have endocrine disrupting properties.

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Assessment : Does not have endocrine disrupting properties.

xylene:

Assessment : Does not have endocrine disrupting properties.

methanol:

Assessment : Does not have endocrine disrupting properties.

12.7 Other adverse effects

Product:

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

Components:

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]:

Assessment : Not persistent, mobile, and toxic (PMT).
Based on available data, the classification criteria are not met.

p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline:

Assessment : Based on available data, the classification criteria are not met.
Based on available data, the classification criteria are not met.

xylene:

Assessment : Not persistent, mobile, and toxic (PMT).
Not very persistent and very mobile (vPvM).

methanol:

Assessment : Not persistent, mobile, and toxic (PMT).
Not very persistent and very mobile (vPvM).

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 contaminate ponds, waterways or ditches with chemical or used container.

Do not dispose of waste into sewer.

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.
(TETRAGLYCIDYL METHYLENEDIANILINE, TRIGYLCIDYL-P-AMINOPHENOL)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(TETRAGLYCIDYL METHYLENEDIANILINE, TRIGYLCIDYL-P-AMINOPHENOL)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(TETRAGLYCIDYL METHYLENEDIANILINE, TRIGYLCIDYL-P-AMINOPHENOL)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(TETRAGLYCIDYL METHYLENEDIANILINE, TRIGYLCIDYL-P-AMINOPHENOL)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(TETRAGLYCIDYL METHYLENEDIANILINE, TRIGYLCIDYL-P-AMINOPHENOL)

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

Not applicable

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).	:	This product does not contain substances of very high concern.
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries must be considered:: Number on list 3 Number on list 40 This substance/mixture shall not be used in aerosol dispensers intended for supply to the general public for entertainment and decorative purposes. Number on list 75 If you intend to use this product as tattoo ink, please contact your vendor. Number on list 78: Polyacetals, other polyethers and epoxide resins; polycarbonates, alkyd resins, polyallyl esters and other polyesters synthetic polymer microparticles (SPM) content: 3,59 % The synthetic polymer microparticles supplied is subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E2	ENVIRONMENTAL HAZARDS

Occupational Illnesses (R-461-3, France)	:	43, 84, 4 bis

Installations classified for the protection of the environment (Environment Code R511-9) : 4511

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.

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 vapor.
H226	:	Flammable liquid and vapor.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H341	:	Suspected of causing genetic defects.
H370	:	Causes damage to organs.
H371	:	May cause damage to organs.
H373	:	May cause damage to organs through prolonged or repeated exposure if inhaled.
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
Asp. Tox.	:	Aspiration hazard
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Muta.	:	Germ cell mutagenicity
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2006/15/EC	:	Europe. Indicative occupational exposure limit values
FR VLE	:	France. Occupational Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours

2000/39/EC / STEL	:	Short term exposure limit
2006/15/EC / TWA	:	Limit Value - eight hours
FR VLE / VME	:	Time Weighted Average
FR VLE / VLCT (VLE)	:	Short Term Exposure Limit

Further information

Classification of the mixture:		**Classification procedure:**
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Aquatic Chronic 2	H411	Calculation method

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