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

1.1 Product identifier

Trade name : ARALDITE® PZ 985 E

Unique Formula Identifier (UFI) : ME3G-M0E0-P00E-W27A

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

Use of the Substance/Mixture : Epoxy constituents

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 : Everslaan 45
3078 Everberg
Belgium
Telephone : +41 61 299 20 41
Telefax : +41 61 299 20 40

E-mail address of person responsible for the SDS : Global_Product_EHS_AdMat@huntsman.com

1.4 Emergency telephone number

Emergency telephone number : Centres Antipoison et de Toxicovigilance:
ANGERS: 02 41 48 21 21
BORDEAUX: 05 56 96 40 80
LILLE: 0 825 812 822
LYON: 04 72 11 69 11
MARSEILLE 04 91 75 25 25
NANCY: 03 83 32 36 36
PARIS: 01 40 05 48 48
RENNES: 02 99 59 22 22
STRASBOURG: 03 88 37 37 37
TOULOUSE: 05 61 77 74 47
EUROPE: +32 35 75 1234
France ORFILA: +33(0)145425959
ASIA: +65 6336-6011
China: +86 20 39377888
+86 532 83889090
India: + 91 22 42 87 5333
Australia: 1800 786 152
New Zealand: 0800 767 437
USA: +1 800-424-9300

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Carcinogenicity, Category 2	H351: Suspected of causing cancer if inhaled.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements :

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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:

P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:

Hydrocarbons, C10, aromatics >1% naphthalene

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hydrocarbons, C10, aromatics >1% naphthalene	Not Assigned - 01-2119463588-24	Carc. 2; H351 STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 10 - < 20
2-butoxyethanol	111-76-2 203-905-0 603-014-00-0 01-2119475108-36	Acute Tox. 4; H302 Acute Tox. 3; H331 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute toxicity estimate Acute oral toxicity: 1 200 mg/kg Acute inhalation toxicity (vapour): 3 mg/l	>= 10 - < 20
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) Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 2,5 - < 10
4-methylpentan-2-ol	108-11-2 203-551-7 603-008-00-8 01-2119473979-13	Flam. Liq. 3; H226 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) specific concentration limit	>= 1 - < 10

		STOT SE 3; H335 >= 25 %	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
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.
No action shall be taken involving any personal risk or without suitable training.

If inhaled : Consult a physician after significant exposure.
If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
Causes serious eye irritation.
Suspected of causing cancer if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

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

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

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Refer to protective measures listed in sections 7 and 8.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

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

respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Keep in properly labelled containers.

Advice on common storage : For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature : 2 - 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
2-butoxyethanol	111-76-2	TWA	20 ppm 98 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	50 ppm 246 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		VLCT (VLE)	50 ppm 246 mg/m3	FR VLE
Further information	Risk of penetration through skin, Regulatory binding exposure limits			
		VME	10 ppm 49 mg/m3	FR VLE
Further information	Risk of penetration through skin, Regulatory binding exposure limits			
xylene	1330-20-7	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			
		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			
4-methylpentan-2-ol	108-11-2	VME	25 ppm 100 mg/m3	FR VLE
Further information	Risk of penetration through skin, Indicative exposure limits			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
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
2-butoxyethanol	Workers	Inhalation	Long-term systemic effects	98 mg/m3
	Workers	Inhalation	Acute systemic effects	1091 mg/m3
	Workers	Inhalation	Long-term local effects	246 mg/m3
	Consumers	Inhalation	Long-term systemic effects	59 mg/m3
	Consumers	Inhalation	Acute systemic effects	426 mg/m3
	Consumers	Inhalation	Long-term local effects	147 mg/m3
	Consumers	Oral	Long-term systemic effects	6,3 mg/kg bw/day
	Consumers	Oral	Acute systemic effects	26,7 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
xylene	Fresh water	0,044 mg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	0,01 mg/l
	Remarks:Assessment Factors	
	Marine 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	
	Marine sediment	0,252 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	0,852 mg/kg
	Remarks:Assessment Factors	
2-butoxyethanol	Fresh water	8,8 mg/l
	Remarks:Assessment Factors	
	Marine water	0,88 mg/l
	Remarks:Assessment Factors	
	Sewage treatment plant	463 mg/l
	Remarks:Assessment Factors	
	Fresh water sediment	34,6 mg/kg dry weight (d.w.)

	Remarks:Equilibrium method	
	Marine sediment	3,46 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	2,33 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Oral	0,00002 mg/kg
	Remarks:Assessment Factors	

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection
Remarks : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

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

Respiratory protection : 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, inorganic and acidic gas/vapour, ammonia/amines and organic vapour type (ABEK-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : light yellow

Odour : slight

Odour Threshold : No data is available on the product itself.

Melting point/freezing point : No data is available on the product itself.

Boiling point	:	187 °C
Flammability (solid, gas)	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Flash point	:	50 °C Method: Seta closed cup
Auto-ignition temperature	:	No data is available on the product itself.
Decomposition temperature	:	> 200 °C
pH	:	ca. 8 (20 °C) Concentration: 500 g/l
Viscosity		
Viscosity, dynamic	:	2 400 - 2 800 mPa.s (25 °C)
Solubility(ies)		
Water solubility	:	practically 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.
Vapour pressure	:	< 9 hPa (20 °C)
Density	:	1 - 1,1 g/cm3 (25 °C)
Relative density	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Particle characteristics	:	No data is available on the product itself.

9.2 Other information

No data is available on the product itself.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : 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

Not classified due to lack of data.

Product:

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

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

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

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

Acute oral toxicity : LD50 (Rat, male and female): 6 318 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 4 778 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2 000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Assessment: The substance or mixture has no acute dermal toxicity

2-butoxyethanol:

Acute oral toxicity : LD50 (Guinea pig): 1 200 mg/kg
Method: OECD Test Guideline 401
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute toxicity estimate: 1 200 mg/kg
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

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

Acute toxicity estimate: 3 mg/l
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Guinea pig, male and female): > 2 000 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: vapour
Method: Other guidelines
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male): 12 126 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

4-methylpentan-2-ol:

Acute oral toxicity : LD50 (Rat): 2 590 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 16 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The component/mixture is low toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 2 870 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes skin irritation.

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

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

2-butoxyethanol:

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

xylene:

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

4-methylpentan-2-ol:

Species	:	Rabbit
Assessment	:	Mild skin irritant
Method	:	OECD Test Guideline 404
Result	:	Mild skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

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

2-butoxyethanol:

Species	:	Rabbit
Assessment	:	Irritating to eyes.
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days

GLP : yes

xylene:

Species : Rabbit
Result : Eye irritation

4-methylpentan-2-ol:

Species : Rabbit
Assessment : Irritant
Method : OECD Test Guideline 405
Result : Irritating to eyes.

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Did not cause sensitisation on laboratory animals.

2-butoxyethanol:

Test Type : Maximisation Test
Exposure routes : Skin
Species : Guinea pig
Assessment : Did not cause sensitisation on laboratory animals.
Method : OECD Test Guideline 406
Result : Did not cause sensitisation on laboratory animals.
GLP : yes

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.

4-methylpentan-2-ol:

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

Germ cell mutagenicity

Not classified due to lack of data.

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

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

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes

2-butoxyethanol:

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

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: negative

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

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Test Type: Micronucleus test
Species: Rat (male)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

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

4-methylpentan-2-ol:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476

Result: negative

Metabolic activation: negative
Method: OECD Test Guideline 473
Result: negative

Carcinogenicity

Suspected of causing cancer if inhaled.

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

Species	:	Rat, male
Application Route	:	inhalation (vapour)
Exposure time	:	13 weeks
Activity duration	:	6 h
Dose	:	17, 38, and 66 ppm
Frequency of Treatment	:	5 days/week
NOAEL	:	> 0,38 mg/l
Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in inhalation studies with animals.

2-butoxyethanol:

Species	:	Rat, male and female
Application Route	:	inhalation (vapour)
Exposure time	:	2 years
Activity duration	:	6 h
Frequency of Treatment	:	5 days/week
NOAEL	:	125 ppm
Method	:	OECD Test Guideline 451
Target Organs	:	Liver, forestomach

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

Reproductive toxicity

Not classified due to lack of data.

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

Effects on fertility : Test Type: Three-generation study
Species: Rat, male and female
Application Route: inhalation (vapour)
Fertility: NOAEC Parent: 1 500 ppm
Method: OECD Test Guideline 416
Result: negative
GLP: yes

Effects on foetal development : Test Type: Pre-natal
Species: Rat, male and female
Application Route: Oral
Dose: 0, 75, 150, and 450 mg/kg
General Toxicity Maternal: NOAEL: 150 mg/kg body weight
Developmental Toxicity: NOAEL: > 450 mg/kg body weight
Method: OECD Test Guideline 414
Result: No effects on fertility and early embryonic development were detected.
GLP: yes

2-butoxyethanol:

Effects on fertility : Test Type: Two-generation study
Species: Mouse, male and female
Application Route: Oral
Dose: 720/1340/2050 mg/kg bw
General Toxicity - Parent: NOAEL: 720 mg/kg body weight
General Toxicity F1: NOAEL: 720 mg/kg body weight
General Toxicity F2: NOAEL: 720 mg/kg body weight

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
Duration of Single Treatment: 12 d
General Toxicity Maternal: NOAEL: 30 mg/kg body weight
Developmental Toxicity: NOAEC: 200 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Test Type: Pre-natal
Species: Rabbit, female
Application Route: inhalation (vapour)
Dose: 121/242/483/966 mg/m3
Duration of Single Treatment: 22 d
General Toxicity Maternal: NOAEL: 50 ppm
Method: OECD Test Guideline 414

Test Type: Pre-natal
Species: Rat, female
Application Route: inhalation (vapour)
Dose: 121/242/483/966 mg/m3
Duration of Single Treatment: 10 d
General Toxicity Maternal: NOAEL: 242 mg/m³
Developmental Toxicity: NOAEC: 483 mg/m³

Method: OECD Test Guideline 414

xylene:

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

STOT - single exposure

Not classified due to lack of data.

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

Exposure routes : inhalation (vapour)
Target Organs : Central nervous system
Assessment : May cause drowsiness or dizziness.

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.

4-methylpentan-2-ol:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified due to lack of data.

Components:

xylene:

Exposure routes : Ingestion, Inhalation
Target Organs : Auditory system
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:

Hydrocarbons, C10, aromatics >1% naphthalene:

Species : Rat, male and female
NOAEL : 300 mg/kg
Application Route : Oral

Method	:	OECD Test Guideline 408
GLP	:	yes
Species	:	Rat, male
NOAEL	:	1 800 mg/kg
Application Route	:	inhalation (vapour)
Method	:	OECD Test Guideline 452
GLP	:	no

2-butoxyethanol:

Species	:	Rat, male and female
NOEC	:	< 31 ppm
Application Route	:	inhalation (vapour)
Test atmosphere	:	vapour
Exposure time	:	2 years 6 h
Number of exposures	:	5 days/week
Dose	:	31/62.5 and 125 ppm
Method	:	OECD Test Guideline 453
GLP	:	yes
Target Organs	:	Liver
Species	:	Rabbit, male and female
NOAEL	:	> 150 mg/kg/d
Application Route	:	Skin contact
Exposure time	:	13 weeks
Number of exposures	:	5 days/week
Dose	:	10/50/150 mg/kg bw/day
Method	:	OECD Test Guideline 411
GLP	:	yes
Species	:	Rat, male and female
NOAEL	:	< 69 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	750/1500/3000/4500/6000 ppm
Method	:	OECD Test Guideline 408
GLP	:	yes
Species	:	Mouse, male and female
NOEC	:	< 62,5 ppm
Application Route	:	inhalation (vapour)
Test atmosphere	:	vapour
Exposure time	:	2 years 6 h
Number of exposures	:	5 days/week
Dose	:	31/62.5 and 125 ppm
Method	:	OECD Test Guideline 453
GLP	:	yes
Target Organs	:	Blood

xylene:

Species	:	Rat, male
NOEC	:	7817 mg/m3
Application Route	:	Inhalation
Test atmosphere	:	vapour

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

4-methylpentan-2-ol:

Species	:	Rat, male and female
NOEC	:	3698 mg/m3
Test atmosphere	:	vapour
Exposure time	:	1 008 h
Number of exposures	:	6 h
Method	:	OECD Test Guideline 412

Aspiration toxicity

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

Product:

No aspiration toxicity classification

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

May be fatal if swallowed and enters airways.

xylene:

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks : Solvents may degrease the skin.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3 - 10 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (algae)): 11 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

2-butoxyethanol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1 474 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 203
GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1 550 mg/l
End point: Immobilization

Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: no

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1 000 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (green algae)): 1 840 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: no

NOEC (Pseudokirchneriella subcapitata (green algae)): 286 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: no

Toxicity to fish (Chronic toxicity) : NOEC: >= 100 mg/l
Exposure time: 28 d
Species: Oryzias latipes (Orange-red killifish)
Test Type: flow-through test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 204

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 100 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 211
GLP: no

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.

4-methylpentan-2-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 92,4 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)): 337 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : IC50 (Selenastrum capricornutum (green algae)): 142 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

ErC50 (Pseudokirchneriella subcapitata (algae)): 334 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 75,5 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Ecotoxicology Assessment

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

12.2 Persistence and degradability

Components:

Hydrocarbons, C10, aromatics >1% naphthalene:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 58 %
Exposure time: 28 d

2-butoxyethanol:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge

Concentration: 100 mg/l
Result: Readily biodegradable.
Biodegradation: 90,4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
Test substance: Fresh water
GLP: no

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

4-methylpentan-2-ol:

Biodegradability : Inoculum: Sewage (STP effluent)
Result: Readily biodegradable.
Biodegradation: 85 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.D.

12.3 Bioaccumulative potential

Components:

2-butoxyethanol:

Partition coefficient: n-octanol/water : log Pow: 0,81 (25 °C)
pH: 7
GLP: no

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

12.4 Mobility in soil

Components:

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

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

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

12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life 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.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 1866

ADR : UN 1866

RID : UN 1866

IMDG : UN 1866

IATA : UN 1866

14.2 UN proper shipping name

ADN	:	RESIN SOLUTION
ADR	:	RESIN SOLUTION
RID	:	RESIN SOLUTION
IMDG	:	RESIN SOLUTION
IATA	:	Resin solution

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	3	
ADR	:	3	
RID	:	3	
IMDG	:	3	
IATA	:	3	

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

ADR

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3
Tunnel restriction code	:	(D/E)

RID

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

IMDG

Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E

IATA (Cargo)

Packing instruction (cargo aircraft)	:	366
Packing instruction (LQ)	:	Y344
Packing group	:	III
Labels	:	Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft)	:	355
Packing instruction (LQ)	:	Y344
Packing group	:	III
Labels	:	Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	This product does not contain substances of very high concern.
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 75, 3 If you intend to use this product as tattoo ink, please contact your vendor.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c	FLAMMABLE LIQUIDS
	34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar

properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

Occupational Illnesses (R-461-3, France)	:	84, 66bis, 66, 51, 4 bis
Installations classified for the protection of the environment (Environment Code R511-9)	:	4331

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 components of this product are reported in the following inventories:

DSL	:	This product contains one or several components listed in the Canadian NDSL.
AIIC	:	All components are listed on the inventory, regulatory obligations/restrictions apply. Please contact your sales representative for more information before import into Australia
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

Inventories

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

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H351	:	Suspected of causing cancer 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
Carc.	:	Carcinogenicity
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Skin Irrit.	:	Skin irritation
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
FR VLE	:	France. Occupational Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
FR VLE / VME	:	Time Weighted Average
FR VLE / VLCT (VLE)	:	Short Term Exposure Limit

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Carc. 2	H351	Calculation method
Aquatic Chronic 3	H412	Calculation method

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

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