

SAFETY DATA SHEET

novatech

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878

TWINBOND SIP 2K B

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

1.1. Product identifier

Product name : TWINBOND SIP 2K B
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Epoxy resin hardener

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Twinbond*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
☎ +32 14 22 02 66
info@novatech.be
* Twinbond is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
☎ +32 14 85 97 38
info@novatech.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

24h/24h :
+31 302 74 88 88 – Nationaal Vergiftigingen Informatie Centrum (NVIC) – Nederland
(Uitsluitend bestemd om professionele hulpverleners te informeren bij accidentele vergiftigingen)
(Only for the purpose of informing medical personnel in cases of acute intoxications)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Skin Sens.	category 1	H317: May cause an allergic skin reaction.
Acute Tox.	category 4	H332: Harmful if inhaled.
Acute Tox.	category 4	H312: Harmful in contact with skin.
Acute Tox.	category 4	H302: Harmful if swallowed.
Skin Corr.	category 1B	H314: Causes severe skin burns and eye damage.
Eye Dam.	category 1	H318: Causes serious eye damage.
Aquatic Chronic	category 3	H412: Harmful to aquatic life with long lasting effects.

2.2. Label elements



Contains: benzyl alcohol; 3-aminomethyl-3,5,5-trimethylcyclohexylamine; m-phenylenebis(methylamine); benzyldimethylamine.

Signal word : Danger

H-statements :
H317 : May cause an allergic skin reaction.

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H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.
P-statements	
P280	Wear protective gloves, protective clothing and eye protection/face protection.
P260	Do not breathe vapours/mist.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.

2.3. Other hazards

No other hazards known

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
benzyl alcohol 01-2119492630-38	100-51-6 202-859-9	25%<C<50%	Acute Tox. 4; H332 Acute Tox. 4; H302	(1)(2)(10)	Constituent	
3-aminomethyl-3,5,5-trimethylcyclohexylamine 01-2119514687-32	2855-13-2 220-666-8	25%<C<50%	Skin Sens. 1; H317 Acute Tox. 4; H312 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	(1)(10)	Constituent	
m-phenylenebis(methylamine) 01-2119480150-50	1477-55-0 216-032-5	2.5%<C<10%	Skin Sens. 1B; H317 Acute Tox. 4; H332 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412 EUH071	(1)(2)(10)	Constituent	
benzyl dimethylamine 01-2119529232-48	103-83-3 203-149-1	2.5%<C<10%	Flam. Liq. 3; H226 Acute Tox. 3; H331 Acute Tox. 4; H312 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412	(1)(10)	Constituent	

- (1) For H- and EUH-statements in full: see section 16
 (2) Substance with a Community workplace exposure limit
 (10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

After inhalation:

Remove victim into fresh air. Immediately consult a doctor/medical service.

After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately for 30 minutes with (lukewarm) water. Cut clothing; never remove burnt clothing from the wound. Do not give any pain medication. Consult a doctor/medical service.

After eye contact:

Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor/medical service.

After ingestion:

Rinse mouth with water. Immediately consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

4.2. Most important symptoms and effects, both acute and delayed

4.2.1 Acute symptoms

After inhalation:

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EXPOSURE TO HIGH CONCENTRATIONS: Corrosion of the upper respiratory tract.

After skin contact:

Caustic burns/corrosion of the skin.

After eye contact:

Corrosion of the eye tissue.

After ingestion:

Burns to the gastric/intestinal mucosa. Possible esophageal perforation.

4.2.2 Delayed symptoms

No effects known.

4.3. Indication of any immediate medical attention and special treatment needed

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (not alcohol-resistant).

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

5.3. Advice for firefighters

5.3.1 Instructions:

Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it. Heat exposure: dilute toxic gas/vapour with water spray.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Face shield (EN 166). Corrosion-proof suit (EN 14605). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames. Large spills/in confined spaces: consider evacuation.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Face shield (EN 166). Corrosion-proof suit (EN 14605).

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Contain released product. Dam up the liquid spill. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers.

Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately. Keep container tightly closed. Do not discharge the waste into the drain.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Meet the legal requirements. Store in a dry area. Keep container in a well-ventilated place. Keep out of direct sunlight. Protect against frost.

7.2.2 Keep away from:

Heat sources, (strong) acids, (strong) bases.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

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7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

Belgium

m-Xylène α, α' -diamine	Short time value	0.1 mg/m ³ (M)
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La mention "M" indique que lors d'une exposition supérieure à la valeur limite, des irritations apparaissent ou un danger d'intoxication aiguë existe. Le procédé de travail doit être conçu de telle façon que l'exposition ne dépasse jamais la valeur limite. Lors des mesurages, la période d'échantillonnage doit être aussi courte que possible afin de pouvoir effectuer des mesurages fiables. Le résultat des mesurages est calculé en fonction de la période d'échantillonnage.

France

m-Xylène- α, α' -diamine	Short time value (VL: Valeur non réglementaire indicative)	0.1 mg/m ³
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Germany

Benzylalkohol	Time-weighted average exposure limit 8 h (TRGS 900)	5 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	22 mg/m ³

USA (TLV-ACGIH)

m-Xylene alfa, alfa'-diamine	Momentary value (TLV - Adopted Value)	0.018 ppm
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b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

Product name	Test	Number
Amines, aromatic	NIOSH	2002
Benzyl Alcohol	OSHA	2009
m-Xylene-a,a-diamine	OSHA	105

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

benzyl alcohol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	22 mg/m ³	
	Acute systemic effects inhalation	110 mg/m ³	
	Long-term systemic effects dermal	8 mg/kg bw/day	
	Acute systemic effects dermal	40 mg/kg bw/day	

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	0.073 mg/m ³	
	Acute local effects inhalation	0.073 mg/m ³	

m-phenylenebis(methylamine)

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	1.2 mg/m ³	
	Long-term local effects inhalation	0.2 mg/m ³	
	Long-term systemic effects dermal	0.33 mg/kg bw/day	

benzyl dimethylamine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	4.9 mg/m ³	
	Acute systemic effects inhalation	9.9 mg/m ³	
	Long-term systemic effects dermal	1.4 mg/kg bw/day	
	Acute local effects dermal	2.8 mg/kg bw/day	

DNEL/DMEL - General population

benzyl alcohol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5.4 mg/m ³	
	Acute systemic effects inhalation	27 mg/m ³	
	Long-term systemic effects dermal	4 mg/kg bw/day	
	Acute systemic effects dermal	20 mg/kg bw/day	
	Long-term systemic effects oral	4 mg/kg bw/day	
	Acute systemic effects oral	20 mg/kg bw/day	

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects oral	0.526 mg/kg bw/day	

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benzyl dimethylamine

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.87 mg/m ³	
	Acute systemic effects inhalation	1.74 mg/m ³	
	Long-term systemic effects dermal	0.5 mg/kg bw/day	
	Acute systemic effects dermal	1 mg/kg bw/day	
	Long-term systemic effects oral	0.25 mg/kg bw/day	
	Acute systemic effects oral	0.5 mg/kg bw/day	

PNEC

benzyl alcohol

Compartments	Value	Remark
Fresh water	1 mg/l	
Fresh water (intermittent releases)	2.3 mg/l	
Marine water	0.1 mg/l	
STP	39 mg/l	
Fresh water sediment	5.27 mg/kg sediment dw	
Marine water sediment	0.527 mg/kg sediment dw	
Soil	0.456 mg/kg soil dw	

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Compartments	Value	Remark
Fresh water	0.06 mg/l	
Fresh water (intermittent releases)	0.23 mg/l	
Marine water	0.006 mg/l	
STP	3.18 mg/l	
Fresh water sediment	5.784 mg/kg sediment dw	
Marine water sediment	0.578 mg/kg sediment dw	
Soil	1.121 mg/kg soil dw	

m-phenylenebis(methylamine)

Compartments	Value	Remark
Fresh water	0.094 mg/l	
Fresh water (intermittent releases)	0.152 mg/l	
Marine water	0.009 mg/l	
STP	10 mg/l	
Fresh water sediment	12.4 mg/kg sediment dw	
Marine water sediment	1.24 mg/kg sediment dw	
Soil	2.44 mg/kg soil dw	

benzyl dimethylamine

Compartments	Value	Remark
Fresh water	0.005 mg/l	
Fresh water (intermittent releases)	0.013 mg/l	
Salt water	0 mg/l	
STP	534 mg/l	
Fresh water sediment	0.071 mg/kg sediment dw	
Marine water sediment	0.007 mg/kg sediment dw	
Soil	0.011 mg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe very strict hygiene - avoid contact. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374).

c) Eye protection:

Face shield (EN 166).

d) Skin protection:

Corrosion-proof clothing (EN 14605).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Odour	Amine-like odour
Odour threshold	No data available in the literature
Colour	Light yellow
Particle size	Not applicable (liquid)
Explosion limits	No data available in the literature
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available in the literature
Kinematic viscosity	No data available in the literature
Melting point	No data available in the literature
Boiling point	No data available in the literature
Relative vapour density	No data available in the literature
Vapour pressure	No data available in the literature
Solubility	Water ; poorly soluble
Relative density	0.99
Absolute density	990 kg/m ³
Decomposition temperature	No data available in the literature
Auto-ignition temperature	No data available in the literature
Flash point	> 100 °C
pH	Not applicable (non-soluble in water)

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating increases the fire hazard.

10.2. Chemical stability

No data available.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat.

10.5. Incompatible materials

(strong) acids, (strong) bases.

10.6. Hazardous decomposition products

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

SECTION 11: Toxicological information

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

11.1.1 Test results

Acute toxicity

TWINBOND SIP 2K B

No (test) data on the mixture available

Classification is based on the relevant ingredients

benzyl alcohol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		1620 mg/kg bw/day		Rat (male)	Experimental value	
Dermal	LD50	EPA OTS 798.1100	> 2000 mg/kg		Rabbit (male / female)	Experimental value	
Inhalation (aerosol)	LC50	OECD 403	> 4.18 mg/l air	4 h	Rat (male / female)	Experimental value	(maximum achievable concentration)

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3-aminomethyl-3,5,5-trimethylcyclohexylamine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	1030 mg/kg		Rat (male)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Dermal			category 4			Annex VI	
Inhalation (aerosol)	LC50	OECD 403	> 5.01 mg/l	4 h	Rat (male / female)	Experimental value	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

m-phenylenebis(methylamine)

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	930 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50		> 3100 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation (aerosol)	LC50	OECD 403	1.34 mg/l	4 h	Rat (male / female)	Experimental value	

benzyl dimethylamine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		579 mg/kg bw		Rat (male)	Experimental value	
Dermal	LD50		1477 mg/kg	24 h	Rabbit (male)	Experimental value	
Inhalation (vapours)	LC50		2.05 mg/l	4 h	Rat (male / female)	Experimental value	

Conclusion

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

Corrosion/irritation

TWINBOND SIP 2K B

No (test) data on the mixture available

Classification is based on the relevant ingredients

benzyl alcohol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	OECD 405	24 h	24; 48; 72 hours	Rat	Experimental value	
Skin	Slightly irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

Classification of this substance is debatable as it does not correspond to the conclusion from the test

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	OECD 405		24 hours	Rabbit	Experimental value	Single treatment without rinsing
Skin	Corrosive	Draize Test	24 h	24; 72 hours	Rabbit	Experimental value	

m-phenylenebis(methylamine)

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye						Data waiving	
Eye	Serious eye damage; category 1					Experimental value	
Skin	Corrosive	Equivalent to EU Method B.4	4 h	4 hours	Rat	Experimental value	

Data waiving for eye corrosion based on corrosive properties

benzyl dimethylamine

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage		24 h	8 days	Rabbit	Experimental value	
Skin	Corrosive	OECD 404	4 h	24 hours	Rabbit	Experimental value	

Conclusion

Causes severe skin burns and eye damage.

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Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

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No (test) data on the mixture available

Classification is based on the relevant ingredients

benzyl alcohol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 429			Mouse (female)	Experimental value	
Skin	Not sensitizing	Human observation			Human (male / female)	Experimental value	

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Sensitizing	OECD 406			Guinea pig (male)	Experimental value	

m-phenylenebis(methylamine)

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Sensitizing	OECD 429			Mouse (female)	Experimental value	

benzyl dimethylamine

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406		48; 72 hours	Guinea pig (male)	Experimental value	

Conclusion

May cause an allergic skin reaction.

Not classified as sensitizing for inhalation

Specific target organ toxicity

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No (test) data on the mixture available

Judgement is based on the relevant ingredients

benzyl alcohol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	Equivalent to OECD 451	400 mg/kg bw/day		No effect	103 weeks (5 days / week)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (aerosol)	NOAEC	OECD 412	1072 mg/m ³ air		No effect	4 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (drinking water)	NOAEL	OECD 408	60 mg/kg bw/day	Kidney	No effect	13 weeks (daily)	Rat (male / female)	Experimental value
Oral (drinking water)	LOAEL	OECD 408	160 mg/kg bw/day	Kidney	Histopathology	13 weeks (daily)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (mixture of vapour and aerosol)	LOEC	Subacute toxicity test	18 mg/m ³ air	Nose	Local effects		Rat (male)	Experimental value

m-phenylenebis(methylamine)

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOEL	Equivalent to OECD 407	150 mg/kg bw/day		No effect	4 weeks (daily)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation (aerosol)	NOAEC	OECD 413	5 mg/m ³ air		No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value

benzyl dimethylamine

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	OECD 407	150 mg/kg bw/day		No effect	28 days (1x / day)	Rat (male / female)	Experimental value

Conclusion

Not classified for subchronic toxicity

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Mutagenicity (in vitro)

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No (test) data on the mixture available

Judgement is based on the relevant ingredients

benzyl alcohol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 473	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

m-phenylenebis(methylamine)

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	
Negative without metabolic activation	OECD 473	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

benzyl dimethylamine

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 476	Chinese hamster lung fibroblasts (V79)		Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)		Experimental value	

Mutagenicity (in vivo)

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No (test) data on the mixture available

Judgement is based on the relevant ingredients

benzyl alcohol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Intraperitoneal)	Equivalent to OECD 474	4 dose(s)/24-hour interval	Mouse (male)	Bone marrow	Experimental value

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral)	OECD 474		Mouse (male / female)	Blood	Experimental value

m-phenylenebis(methylamine)

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	OECD 474		Mouse (male / female)	Bone marrow	Experimental value

benzyl dimethylamine

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	Micronucleus test		Mouse (male / female)	Bone marrow	Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

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TWINBOND SIP 2K B

Carcinogenicity

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No (test) data on the mixture available

Judgement is based on the relevant ingredients

benzyl alcohol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (stomach tube)	Dose level	Equivalent to OECD 451	400 mg/kg bw/day	103 weeks (5 days / week)	Rat (male / female)	No carcinogenic effect		Experimental value

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown								Data waiving

m-phenylenebis(methylamine)

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown								Data waiving

benzyl dimethylamine

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral (diet)	Dose level	Carcinogenic toxicity study	0.2 %	100 day(s)	Rabbit (male / female)	No carcinogenic effect		Inconclusive, insufficient data

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

TWINBOND SIP 2K B

No (test) data on the mixture available

Judgement is based on the relevant ingredients

benzyl alcohol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL		550 mg/kg bw/day	10 days (gestation, daily)	Mouse	No effect	Foetus	Experimental value
Effects on fertility (Oral (diet))	NOAEL	Developmental toxicity study	≥ 750 mg/kg bw/day		Rat (male / female)	No effect		Read-across

3-aminomethyl-3,5,5-trimethylcyclohexylamine

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	> 250 mg/kg bw/day	2 weeks (daily)	Rat	No effect	Foetus	Experimental value
Maternal toxicity (Oral (stomach tube))	NOEL	OECD 414	50 mg/kg bw/day	2 weeks (daily)	Rat	No effect	General	Experimental value
Effects on fertility								Data waiving

m-phenylenebis(methylamine)

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	300 mg/kg bw/day	14 day(s)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	100 mg/kg bw/day	14 day(s)	Rat	No effect		Experimental value
Effects on fertility (Oral (stomach tube))	NOEL	OECD 421	50 mg/kg bw/day		Rat (male)	No effect	Male reproductive organ	Experimental value
	NOEL	OECD 421	150 mg/kg bw/day		Rat (female)	No effect	Female reproductive organ	Experimental value

benzyl dimethylamine

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOEL	OECD 414	150 mg/kg bw/day	14 days (1x / day)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	75 mg/kg bw/day	14 days (1x / day)	Rat	No effect		Experimental value
Effects on fertility								Data waiving

Conclusion

Not classified for reprotoxic or developmental toxicity

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Toxicity other effects

TWINBOND SIP 2K B

No (test) data on the mixture available

Chronic effects from short and long-term exposure

TWINBOND SIP 2K B

Skin rash/inflammation.

11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

TWINBOND SIP 2K B

No (test) data on the mixture available

Classification is based on the relevant ingredients

benzyl alcohol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	EPA OPP 72-1	460 mg/l	96 h	Pimephales promelas	Static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	OECD 202	230 mg/l	48 h	Daphnia magna		Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	OECD 201	770 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
	NOEC	OECD 201	310 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity aquatic crustacea	NOEC	OECD 211	51 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction

3-aminomethyl-3,5,5-trimethylcyclohexylamine

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	EU Method C.1	110 mg/l	96 h	Leuciscus idus	Semi-static system	Fresh water	Experimental value; Lethal
Acute toxicity crustacea	EC50	OECD 202	23 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	EC50	EU Method C.3	37 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; Cell numbers
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea	NOEC	OECD 202	3 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	EC10		1120 mg/l	18 h	Pseudomonas putida	Static system	Fresh water	Experimental value; Nominal concentration

m-phenylenebis(methylamine)

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	87.6 mg/l	96 h	Oryzias latipes	Semi-static system	Fresh water	Experimental value; Nominal concentration
Acute toxicity crustacea	EC50	OECD 202	15.2 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	OECD 201	33.3 mg/l	72 h	Pseudokirchneriella subcapitata	Static system		Experimental value; Nominal concentration
	NOEC	OECD 201	22.9 mg/l	72 h	Pseudokirchneriella subcapitata	Static system		Experimental value; Growth rate
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea	NOEC	OECD 211	4.7 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	EC50	OECD 209	> 1000 mg/l	30 minutes	Activated sludge	Static system		Experimental value; Respiration

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TWINBOND SIP 2K B

benzyltrimethylamine

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Equivalent to OECD 203	37.8 mg/l	96 h	Pimephales promelas	Static system	Fresh water	Experimental value
Acute toxicity crustacea	EC50	EU Method C.2	> 100 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	EU Method C.3	1.34 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
	EC10	EU Method C.3	0.24 mg/l	72 h	Desmodesmus subspicatus	Static system	Fresh water	Experimental value; GLP
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea	NOEC	OECD 202	0.789 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	EC10	DIN 38412-8	534 mg/l	17 h	Pseudomonas putida	Static system	Fresh water	Growth rate
	EC20	OECD 209	575 mg/l	30 minutes	Activated sludge	Static system	Fresh water	Experimental value; Nominal concentration

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

Conclusion

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

benzyl alcohol

Biodegradation water

Method	Value	Duration	Value determination
Equivalent to OECD 301C	92 % - 96 %; Oxygen consumption	14 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	15.550 h	1.5E6 /cm ³	QSAR

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Biodegradation water

Method	Value	Duration	Value determination
EU Method C.4	8 %; GLP	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.90	4.5 h	5E5 /cm ³	Calculated value

Half-life water (t1/2 water)

Method	Value	Primary degradation/mineralisation	Value determination
EU Method C.7	> 1 year(s)	Primary degradation	Experimental value

m-phenylenebis(methylamine)

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B	49 %; Carbon dioxide	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	1.797 h	1.5E6 /cm ³	Calculated value

benzyltrimethylamine

Biodegradation water

Method	Value	Duration	Value determination
OECD 301C	0 % - 2 %; Oxygen consumption	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	1.564 h	1500000 /cm ³	Calculated value

Conclusion

Water

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

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Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

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benzyl alcohol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.01	1.37 l/kg			Estimated value

Log Kow

Method	Remark	Value	Temperature	Value determination
		1 - 1.1	20 °C	Experimental value

3-aminomethyl-3,5,5-trimethylcyclohexylamine

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.01	1.827 - 3.16		Pisces	Estimated value

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		0.99	23 °C	Experimental value

m-phenylenebis(methylamine)

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 107		0.18	25 °C	Experimental value

benzyl dimethylamine

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	2.1 - 22	6 week(s)	Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
		1.98		Experimental value

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

benzyl alcohol

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	1.122 - 1.332	QSAR

3-aminomethyl-3,5,5-trimethylcyclohexylamine

(log) Koc

Parameter	Method	Value	Value determination
log Koc		2.97	QSAR

m-phenylenebis(methylamine)

(log) Koc

Parameter	Method	Value	Value determination
log Koc		3.11	QSAR

benzyl dimethylamine

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	1.955 - 2.457	Calculated value

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

TWINBOND SIP 2K B

Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Water ecotoxicity pH

pH shift

m-phenylenebis(methylamine)

Water ecotoxicity pH

pH shift

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TWINBOND SIP 2K B

benzyl dimethylamine
Water ecotoxicity pH
pH shift

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

20 01 27* (separately collected fractions (except 15 01): paint, inks, adhesives and resins containing hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste.

Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	2735
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14.2. UN proper shipping name

Proper shipping name	amines, liquid, corrosive, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
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14.3. Transport hazard class(es)

Hazard identification number	80
Class	8
Classification code	C7

14.4. Packing group

Packing group	II
Labels	8

14.5. Environmental hazards

Environmentally hazardous substance mark	no
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14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)

14.1. UN number

UN number	2735
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14.2. UN proper shipping name

Proper shipping name	amines, liquid, corrosive, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
----------------------	--

14.3. Transport hazard class(es)

Hazard identification number	80
Class	8
Classification code	C7

14.4. Packing group

Packing group	II
Labels	8

14.5. Environmental hazards

Environmentally hazardous substance mark	no
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14.6. Special precautions for user

Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)

14.1. UN number

UN number	2735
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14.2. UN proper shipping name	
Proper shipping name	amines, liquid, corrosive, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es)	
Class	8
Classification code	C7
14.4. Packing group	
Packing group	II
Labels	8
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Sea (IMDG/IMSBC)

14.1. UN number	
UN number	2735
14.2. UN proper shipping name	
Proper shipping name	amines, liquid, corrosive, n.o.s.
14.3. Transport hazard class(es)	
Class	8
14.4. Packing group	
Packing group	II
Labels	8
14.5. Environmental hazards	
Marine pollutant	-
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	274
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
14.7. Maritime transport in bulk according to IMO instruments	
Annex II of MARPOL 73/78	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number	
UN number	2735
14.2. UN proper shipping name	
Proper shipping name	amines, liquid, corrosive, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es)	
Class	8
14.4. Packing group	
Packing group	II
Labels	8
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	A3
Special provisions	A803
Passenger and cargo transport	
Limited quantities: maximum net quantity per packaging	0.5 L

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
2.5 % - 10 %	
24.75 g/l - 99 g/l	

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· benzyl alcohol · 3-aminomethyl-3,5,5-trimethylcyclohexylamine	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,

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<ul style="list-style-type: none"> · m-phenylenebis(methylamine) · benzyldimethylamine 	<p>Regulation (EC) No 1272/2008:</p> <p>(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;</p> <p>(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;</p> <p>(c) hazard class 4.1;</p> <p>(d) hazard class 5.1.</p>	<ul style="list-style-type: none"> — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, <p>2. Articles not complying with paragraph 1 shall not be placed on the market.</p> <p>3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:</p> <ul style="list-style-type: none"> — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, <p>4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).</p> <p>5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:</p> <p>a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life- threatening lung damage”;</p> <p>b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: “Just a sip of grill lighter may lead to life threatening lung damage”;</p> <p>c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.</p>
<ul style="list-style-type: none"> · benzyldimethylamine 	<p>Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.</p>	<p>1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:</p> <ul style="list-style-type: none"> — metallic glitter intended mainly for decoration, — artificial snow and frost, — “whoopee” cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs. <p>2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:</p> <p>“For professional users only”.</p> <p>3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC.</p> <p>4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.</p>
<ul style="list-style-type: none"> · 3-aminomethyl-3,5,5-trimethylcyclohexylamine · benzyldimethylamine 	<p>Substances falling within one or more of the following points:</p> <p>(a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008:</p> <ul style="list-style-type: none"> — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation — reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 <p>(b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council</p> <p>(c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex.</p> <p>The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.</p>	<p>1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:</p> <p>(a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;</p> <p>(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;</p> <p>(c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;</p> <p>(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:</p> <ul style="list-style-type: none"> (i) 0,1 % by weight, if the substance is used solely as a pH regulator; (ii) 0,01 % by weight, in all other cases; <p>(e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;</p> <p>(f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:</p> <ul style="list-style-type: none"> (i) “Rinse-off products”; (ii) “Not to be used in products applied on mucous membranes”; (iii) “Not to be used in eye products”; <p>(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;</p> <p>(h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.</p> <p>2. For the purposes of this entry use of a mixture “for tattooing purposes” means injection or introduction of the mixture into a person’s skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as L</p>

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423/12 EN Official Journal of the European Union 15.12.2020 permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.

3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.

4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:

(a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
 (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).

5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.

6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.

7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:

(a) the statement "Mixture for use in tattoos or permanent make-up";
 (b) a reference number to uniquely identify the batch;
 (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
 (d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;
 (e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
 (f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
 (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008. The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise. Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use. Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.

8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

National legislation Belgium

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No data available

m-phenylenebis(methylamine)

Résorption peau	m-Xylène α, α'-diamine; D; La mention "D" signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air.
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National legislation The Netherlands

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Waterbezwaarlijkheid	A (3); Algemene Beoordelingsmethodiek (ABM)
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National legislation France

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No data available

National legislation Germany

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Lagerklasse (TRGS510)	8 A: Brennbare ätzende Gefahrstoffe
WGK	2; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
<u>benzyl alcohol</u>	
TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	Benzylalkohol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	Benzylalkohol; H; Hautresorptiv
<u>3-aminomethyl-3,5,5-trimethylcyclohexylamine</u>	
TA-Luft	5.2.5/I
<u>m-phenylenebis(methylamine)</u>	
TA-Luft	5.2.5/I
<u>benzyl dimethylamine</u>	
TA-Luft	5.2.5/I

National legislation United Kingdom

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No data available

Other relevant data

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No data available

m-phenylenebis(methylamine)

TLV - Skin absorption	m-Xylene alfa,alfa'-diamine; Skin; Danger of cutaneous absorption
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15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.
EUH071 Corrosive to the respiratory tract.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are

Reason for revision: 2, 3, 8, 9, 12, 15

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