

Trade name: Hesse HYDRO TOP-SIEGEL HE 65098

Version: 54 / GB

Revision: 26.10.2020

Replaces Version: 53 / GB

Print date: 01.11.20

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Hesse HYDRO TOP-SIEGEL HE 65098

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

Use of the substance/preparation

Surface treatment of wood and other materials

Identified Uses

	REACHSET 1000
SU3	Industrial uses: Uses of substances as such or in preparations at industrial sites
ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
ERC5	Industrial use resulting in inclusion into or onto a matrix
PROC7	Industrial spraying
	REACHSET 2001
SU22	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8c	Wide dispersive indoor use resulting in inclusion into or onto a matrix
PROC11	Non industrial spraying

1.3. Details of the supplier of the safety data sheet

Manufacturer

Hesse GmbH & Co. KG
Warendorfer Strasse 21
59075 Hamm
Telephone no. +49 (0) 2381 963-00
Fax no. +49 (0) 2381 963-849
E-mail address ps@hesse-lignal.de

1.4. Emergency telephone number

Germany: +49 (0) 2381 788-612

2. Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

This product is not classified hazardous in accordance with Regulation (EC) No 1272/2008.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

EUH208 Contains 1,2-benzisothiazol-3(2H)-one, reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1), May produce an allergic reaction.

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Supplemental information

EUH210 Safety data sheet available on request.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB) (if not listed in Section 3).

3. Composition/information on ingredients**Hazardous ingredients****2-(2-butoxyethoxy)ethanol**

CAS No.	112-34-5				
EINECS no.	203-961-6				
Registration no.	01-2119475104-44				
Concentration	>= 1	<	5		%
Classification (Regulation (EC) No. 1272/2008)	Eye Irrit. 2		H319		

2-butoxyethanol

CAS No.	111-76-2				
EINECS no.	203-905-0				
Registration no.	01-2119475108-36				
Concentration	>= 1	<	4		%
Classification (Regulation (EC) No. 1272/2008)	Acute Tox. 4		H302		Route of exposure: Oral exposure
	Acute Tox. 4		H312		Route of exposure: Dermal exposure
	Acute Tox. 4		H332		Route of exposure: Inhalation exposure
	Eye Irrit. 2		H319		
	Skin Irrit. 2		H315		

Triethylamine (neutralized form)

CAS No.	121-44-8				
EINECS no.	204-469-4				
Registration no.	01-2119475467-26				
Concentration	>= 0,1	<	1		%
Classification (Regulation (EC) No. 1272/2008)	Flam. Liq. 2		H225		
	Acute Tox. 3		H331		Route of exposure: Inhalation exposure
	Acute Tox. 3		H311		Route of exposure: Dermal exposure
	Acute Tox. 4		H302		Route of exposure: Oral exposure
	Skin Corr. 1A		H314		
	STOT SE 3		H335		

Concentration limits (Regulation (EC) No. 1272/2008)
 STOT SE 3 H335 >= 1 %

1,2-benzisothiazol-3(2H)-one

CAS No.	2634-33-5
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EINECS no. 220-120-9
 Concentration < 0,05 %
 Classification (Regulation (EC) No. 1272/2008)
 Acute Tox. 4 H302
 Skin Irrit. 2 H315
 Eye Dam. 1 H318
 Skin Sens. 1 H317
 Aquatic Acute 1 H400
 Aquatic Chronic 2 H411

Concentration limits (Regulation (EC) No. 1272/2008)
 Skin Sens. 1 H317 \geq 0,05 %

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

CAS No. 55965-84-9
 EINECS no. 247-500-7
 Concentration < 0,001 %
 Classification (Regulation (EC) No. 1272/2008)
 Acute Tox. 2 H330
 Acute Tox. 2 H310
 Acute Tox. 3 H301
 Skin Corr. 1B H314
 Skin Sens. 1 H317
 Aquatic Acute 1 H400
 Aquatic Chronic 1 H410
 Eye Dam. 1 H318

Concentration limits (Regulation (EC) No. 1272/2008)
 Skin Corr. 1C H314 \geq 0,6 %
 Skin Irrit. 2 H315 \geq 0,06 %
 Eye Irrit. 2 H319 \geq 0,06 %
 Skin Sens. 1 H317 \geq 0,0015 %
 Eye Dam. 1 H318 \geq 0,6 %
 Aquatic Chronic 1 H410 M = 100
 Aquatic Acute 1 H400 M = 100

pyrithione zinc

CAS No. 13463-41-7
 EINECS no. 236-671-3
 Registration no. 01-2119511196-46
 Concentration \geq 0,0001 < 0,01 %
 Classification (Regulation (EC) No. 1272/2008)
 Acute Tox. 3 H301
 Acute Tox. 2 H330
 Eye Dam. 1 H318
 Aquatic Acute 1 H400
 Aquatic Chronic 1 H410
 Repr. 1B H360D
 STOT RE 1 H372

Concentration limits (Regulation (EC) No. 1272/2008)
 Aquatic Acute 1 H400 M = 1000

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Aquatic Chronic H410 M = 10
1**Note**

For explanation of abbreviations see section 16.

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57) (if not listed in Section 3).

4. First aid measures**4.1. Description of first aid measures****General information**

Remove affected person from danger area, lay him down. In all cases of doubt, or when symptoms persist, seek medical attention. Get medical advice/attention if you feel unwell. First aider: Pay attention to self-protection!

After inhalation

When spray fog inhaled, seek medical aid.

After skin contact

Wash off immediately with soap and water. Do NOT use solvents or thinners. Consult a doctor if skin irritation persists.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice. Take medical treatment.

After ingestion

Do not induce vomiting. Take medical treatment.

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

Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

4.3. Indication of any immediate medical attention and special treatment needed**Hints for the physician / treatment**

Treat symptomatically.

5. Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Recommended: alcohol resistant foam, CO₂, powders, water spray/mist

Non suitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Fire will produce dense black smoke. In a fire, hazardous decomposition products may be produced. Exposure to decomposition products may cause a health hazard.

5.3. Advice for firefighters**Special protective equipment for fire-fighting**

In case of combustion evolution of dangerous gases possible. Use self-contained breathing apparatus.

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Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water. Standard procedure for chemical fires.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not inhale vapours. Do not inhale gases. Do not inhale mist.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not allow to enter soil, waterways or waste water canal. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Do NOT use solvents or thinners. Send in suitable containers for recovery or disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed and dry in a cool, well-ventilated place. Avoid contact with skin and eyes. Avoid inhalation of vapour and spray mist. Do not eat, drink or smoke when using this product. Use personal protective clothing. For personal protection see Section 8.

Advice on protection against fire and explosion

Fight fire with normal precautions from a reasonable distance.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep only in the original container in a cool, well ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Storage classes

Storage class according to TRGS 510 10 Flammable liquids

Further information on storage conditions

Keep away from heat. Protect from sunlight. Keep away from sources of ignition - No smoking. Store in accordance with the particular national regulations.

8. Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

2-butoxyethanol

List	Directive 2017/164 EG		
Value	98 mg/m ³	20	ppm(V)

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Short term exposure limit 246 mg/m³ 50 ppm(V)
Skin resorption / sensibilisation: H; Status: 12/2009

2-butoxyethanol

List EH40
Value 123 mg/m³ 25 ppm(V)
Short term exposure limit 246 mg/m³ 50 ppm(V)
Skin resorption / sensibilisation: Sk; Status: 01/2020

2-(2-butoxyethoxy)ethanol

List EH40
Value 67,5 mg/m³ 10 ppm(V)
Short term exposure limit 101,2 mg/m³ 15 ppm(V)
Status: 01/2020

2-(2-butoxyethoxy)ethanol

List Directive 2017/164 EG
Value 67,5 mg/m³ 10 ppm(V)
Short term exposure limit 101,2 mg/m³ 15 ppm(V)
Status: 12/2009

Other information

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Derived No/Minimal Effect Levels (DNEL/DMEL)

2-butoxyethanol

Type of value Derived No Effect Level (DNEL)
Reference group Workers (professional)
Duration of exposure Long-term
Route of exposure Dermal exposure
Mode of action Acute effects
Concentration 89 mg/kg

Type of value Derived No Effect Level (DNEL)
Reference group Workers (professional)
Duration of exposure Long-term
Route of exposure inhalative
Mode of action Local effects
Concentration 246 mg/m³

Type of value Derived No Effect Level (DNEL)
Reference group Workers (professional)
Duration of exposure Long-term
Route of exposure Dermal exposure
Mode of action Systemic effects
Concentration 75 mg/kg/d

Type of value Derived No Effect Level (DNEL)
Reference group Workers (professional)
Duration of exposure Long-term
Route of exposure inhalative
Mode of action Systemic effects
Concentration 20 ppm

Type of value Derived No Effect Level (DNEL)
Reference group Workers (professional)

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Duration of exposure	Short-term	
Route of exposure	Dermal exposure	
Mode of action	Systemic effects	
Concentration	89	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (professional)	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	246	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (professional)	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	1091	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (professional)	
Duration of exposure	Long-term	
Route of exposure	Oral exposure	
Mode of action	Systemic effects	
Concentration	3,2	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (professional)	
Duration of exposure	Short-term	
Route of exposure	Oral exposure	
Mode of action	Systemic effects	
Concentration	13,4	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (professional)	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	123	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	Dermal exposure	
Mode of action	Acute effects	
Concentration	44,5	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Acute effects	
Concentration	426	mg/m ³

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Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	Oral exposure	
Mode of action	Systemic effects	
Concentration	6,3	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	106,4	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	Dermal exposure	
Mode of action	Systemic effects	
Concentration	38	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	59	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	49	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short-term	
Route of exposure	Oral exposure	
Mode of action	Systemic effects	
Concentration	26,7	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	135	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short-term	

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Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	147	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short-term	
Route of exposure	Dermal exposure	
Mode of action	Systemic effects	
Concentration	89	mg/kg/d

2-(2-butoxyethoxy)ethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	14	ppm

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	
Duration of exposure	Long-term	
Route of exposure	Dermal exposure	
Mode of action	Systemic effects	
Concentration	20	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	10	ppm

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	10	ppm

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	7,5	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	Dermal exposure	
Mode of action	Systemic effects	
Concentration	10	mg/kg/d

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Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	5	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	Oral exposure	
Mode of action	Systemic effects	
Concentration	1,3	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	5	mg/m ³

Triethylamine (neutralized form)

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (professional)	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	8,4	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	
Duration of exposure	Long-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	8,4	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	12,6	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	12,6	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Workers (industrial)	

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Duration of exposure	Long-term	
Route of exposure	Dermal exposure	
Mode of action	Systemic effects	
Concentration	12,1	mg/kg/d

Predicted No Effect Concentration (PNEC)

2-butoxyethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	8,8	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	0,88	mg/l

Type of value	PNEC	
Type	saltwater sediment	
Concentration	3,46	mg/kg

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	463	mg/l

Type of value	PNEC	
Type	Soil	
Concentration	2,33	mg/kg

2-(2-butoxyethoxy)ethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	1	mg/l

Type of value	PNEC	
Type	marine water	
Concentration	0,1	mg/l

Type of value	PNEC	
Type	Fresh water sediment	
Concentration	4	mg/kg

Type of value	PNEC	
Type	saltwater sediment	
Concentration	0,4	mg/kg

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	200	mg/l

Type of value	PNEC	
Type	Soil	
Concentration	0,4	mg/l

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Triethylamine (neutralized form)

Type of value	PNEC	
Type	Freshwater	
Concentration	0,064	mg/l
Type of value	PNEC	
Type	marine water	
Concentration	0,0064	mg/l
Type of value	PNEC	
Type	Fresh water sediment	
Concentration	0,1992	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2,361	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l
Type of value	PNEC	
Conditions	sporadic release	
Concentration	0,064	mg/l

8.2. Exposure controls

Exposure controls

Users are advised to consider national Occupational Exposure Limits or other equivalent values. Provide for sufficient ventilation. This can be achieved by local exhaust or general exhaust air collection. Wear a suitable respirator if the ventilation is not sufficient to keep the solvent vapour concentration below the occupational limit values.

Respiratory protection

Avoid inhalation of vapour and spray mist. Use breathing apparatus if exposed to vapours/dust/aerosol. Recommended Filter type: Respiratory protection mask with combination filter A/P2

Hand protection

Protective gloves complying with EN 374.

Glove material

Appropriate Material butyl-rubber

Material thickness >= 0,5 mm

Breakthrough time >= 120 min

This recommendation is valid only for the product named in this safety data sheet supplied by us, and only for the indicated intended use purposes.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

The breakthrough time must be greater than the end use time of the product.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.

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Eye protection

Wear eye glasses with side protection according to EN 166.

Body protection

Wear suitable protective clothing. Remove contaminated clothing and wash it before reuse. Wash hands before breaks and after work.

9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Form	liquid
Colour	colourless
Odour	characteristic
Odour threshold	
Remarks	not determined
pH value	
Remarks	not determined
Melting point	
Remarks	not determined
Freezing point	
Remarks	not determined
Initial boiling point and boiling range	
Value	100 to 195 °C
Flash point	
Value	> 60 °C
Flammability (solid, gas)	
Remarks	not determined
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Remarks	not determined
Vapour density	
Remarks	not determined
Density	
Value	appr. 1,037 kg/l
Temperature	20 °C
Solubility in water	
Remarks	not determined
Solubility(ies)	
Remarks	not determined
Partition coefficient: n-octanol/water	
Remarks	not determined
Ignition temperature	
Remarks	not determined

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Decomposition temperature

Remarks not determined

Viscosity

Remarks not determined

Efflux time

Value	27	to	33	s
Temperature	20	°C		
Method	DIN 53211 - 6 mm			

Explosive properties

evaluation not determined

Oxidising properties

Remarks not determined

9.2. Other information**Non-volatile content**

Value	32,6	%
Method	calculated value	

10. Stability and reactivity**10.1. Reactivity**

Stable under recommended storage and handling conditions (see section 7).

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

To avoid thermal decomposition, do not overheat.

10.4. Conditions to avoid

Isolate from sources of heat, sparks and open flame.

10.5. Incompatible materials

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.6. Hazardous decomposition productsCarbon monoxide and carbon dioxide, nitrous oxides (NO_x), dense black smoke, No decomposition if used as prescribed.**11. Toxicological information****11.1. Information on toxicological effects****Acute oral toxicity**

ATE	>	10.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		
Remarks	Based on available data, the classification criteria are not met.		

Acute oral toxicity (Components)**2-butoxyethanol**

Species guinea pig

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LD50	1414	mg/kg
Method	OECD 401	
Source	1 (reliable without restriction)	

Triethylamine (neutralized form)

Species	rat	
LD50	730	mg/kg

1,2-benzisothiazol-3(2H)-one

Species	rat	
LD50	1193	mg/kg

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

ATE	100	mg/kg
Method	conversion value	

pyrithione zinc

Species	rat	
LD50	221	mg/kg
Method	OECD 401	

Acute dermal toxicity

ATE	> 10.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	
Remarks	Based on available data, the classification criteria are not met.	

Acute dermal toxicity (Components)**2-butoxyethanol**

Species	guinea pig	
LD50	435	mg/kg
Source	1 (reliable without restriction)	

Triethylamine (neutralized form)

Species	rabbit	
LD50	570	mg/kg

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

ATE	50	mg/kg
Method	conversion	

Acute inhalational toxicity

ATE	> 20	mg/l
Administration/Form	Dust/Mist	
Method	calculated value (Regulation (EC) No. 1272/2008)	
Remarks	Based on available data, the classification criteria are not met.	

Acute inhalative toxicity (Components)**2-butoxyethanol**

Species	rat	
LC50	2,56	mg/l
Duration of exposure	4	h
Administration/Form	Dust/Mist	
Source	1 (reliable without restriction)	

Triethylamine (neutralized form)

Species	rat	
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ATE	0,5		mg/l
Duration of exposure	4	h	
Administration/Form	Dust/Mist		
Method	conversion value		

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

ATE	0,05		mg/l
Duration of exposure	4	h	
Administration/Form	Dust/Mist		
Method	conversion value		
Remarks	Mist		

pyrithione zinc

LC50	0,14		mg/l
Duration of exposure	4	h	
Administration/Form	Dust/Mist		

Skin corrosion/irritation

Method	Calculation method (Regulation (EC) No. 1272/2008)
Remarks	Based on available data, the classification criteria are not met.

Skin corrosion/irritation (Components)**2-butoxyethanol**

Species	rabbit		
Duration of exposure	4	h	
Observation Period	28	d	
evaluation	Irritating to skin and mucous membranes		
Method	EEC 84/449, B.4		

Triethylamine (neutralized form)

evaluation	Causes burns.
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1,2-benzisothiazol-3(2H)-one

evaluation	Irritating to skin.
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reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

Species	rabbit
evaluation	Severe skin irritation

Serious eye damage/irritation

Method	Calculation method (Regulation (EC) No. 1272/2008)
Remarks	Based on available data, the classification criteria are not met.

Serious eye damage/irritation (Components)**2-butoxyethanol**

Species	rabbit		
Duration of exposure	24	h	
Observation Period	21	d	
evaluation	Eye irritation		
Source	1 (reliable without restriction)		

2-(2-butoxyethoxy)ethanol

Species	rabbit		
evaluation	Irritating to eyes.		
Source	2 (reliable with restrictions)		

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Triethylamine (neutralized form)**1,2-benzisothiazol-3(2H)-one**

evaluation Irritating to eyes.

pyrithione zinc

Species	rabbit		
Duration of exposure	24	h	
Observation Period	24	h	

Sensitization

Method	Calculation method (Regulation (EC) No. 1272/2008)
Remarks	Based on available data, the classification criteria are not met.

Sensitization (Components)**1,2-benzisothiazol-3(2H)-one**

Reference substance	1,2-benzisothiazol-3(2H)-one
evaluation	May cause sensitization by skin contact.

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

Species	guinea pig
evaluation	Causes sensitisation on guinea-pigs.

Mutagenicity

Method	Calculation method (Regulation (EC) No. 1272/2008)
Remarks	Based on available data, the classification criteria are not met.

Reproductive toxicity

Method	Calculation method (Regulation (EC) No. 1272/2008)
Remarks	Based on available data, the classification criteria are not met.

Reproduction toxicity (Components)**pyrithione zinc**

evaluation May damage the unborn child.

Carcinogenicity

Method	Calculation method (Regulation (EC) No. 1272/2008)
Remarks	Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)**Single exposure**

Method	Calculation method (Regulation (EC) No. 1272/2008)
Remarks	Based on available data, the classification criteria are not met.

Repeated exposure

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

Specific Target Organ Toxicity (STOT) (Components)**Triethylamine (neutralized form)****Specific target organ toxicity - single exposure**

Remarks	Organs: Respiratory tract May cause respiratory irritation.
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pyrithione zinc**Specific target organ toxicity - repeated exposure**

evaluation Causes damage to organs through prolonged or repeated exposure

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Aspiration hazard

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

Other information

No toxicological data are available.

12. Ecological information**12.1. Toxicity****General information**

For this subsection there is no ecotoxicological data available on the product as such.

Fish toxicity (Components)**1,2-benzisothiazol-3(2H)-one**

Species	Oncorhynchus mykiss (rainbow trout)		
LC50	2,18		mg/l
Duration of exposure	96	h	

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

Species	Oncorhynchus mykiss (rainbow trout)		
LC50	0,19		mg/l
Duration of exposure	96	h	

pyrithione zinc

Species	Pimephales promelas (fathead minnow)		
LC50	0,0026		mg/l
Duration of exposure	96	h	
Method	OECD 203		

pyrithione zinc

Species	Pimephales promelas (fathead minnow)		
NOEC	0,00122		mg/l
Duration of exposure	120	h	

Daphnia toxicity (Components)**1,2-benzisothiazol-3(2H)-one**

Species	Daphnia magna (Water flea)		
EC50	2,94		mg/l
Duration of exposure	48	h	

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

Species	Daphnia magna (Water flea)		
EC50	0,16		mg/l
Duration of exposure	48	h	

Algae toxicity (Components)**reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)**

Species	Scenedesmus capricornutum (fresh water algae)		
EC50	0,018		mg/l
Duration of exposure	72	h	

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Bacteria toxicity (Components)

reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

Species	activated sludge	
EC50	4,5	mg/l

12.2. Persistence and degradability**General information**

For this subsection there is no ecotoxicological data available on the product as such.

Biodegradability (Components)**1,2-benzisothiazol-3(2H)-one**

evaluation	Readily biodegradable.
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reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3- one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2- methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3- one [EC no. 220-239-6] (3:1)

evaluation	Not readily biodegradable.
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pyrithione zinc

Value	39	%
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Duration of test	28	d
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evaluation	Not readily biodegradable.
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12.3. Bioaccumulative potential**General information**

For this subsection there is no ecotoxicological data available on the product as such.

Partition coefficient: n-octanol/water

Remarks	not determined
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Octanol/water partition coefficient (log Pow) (Components)**Triethylamine (neutralized form)**

log Pow	to	1,45
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12.4. Mobility in soil**General information**

For this subsection there is no ecotoxicological data available on the product as such.

Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment**General information**

For this subsection there is no ecotoxicological data available on the product as such.

12.6. Other adverse effects**General information**

For this subsection there is no ecotoxicological data available on the product as such.

13. Disposal considerations**13.1. Waste treatment methods**

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Disposal recommendations for the product

EWC waste code 080111 - waste paint and varnish containing organic solvents or other dangerous substances

EWC waste code 200127 - paint, inks, adhesives and resins containing dangerous substances

Where possible recycling is preferred to disposal or incineration.
 Do not allow to enter drains or waterways.

modified product

EWC waste code 080115 - aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances

Dried residues

EWC waste code 080112 - waste lacquers and waste paint except those falling under 080111

Disposal recommendations for packaging

EWC waste code 150110 - packaging containing residues of or contaminated by dangerous substances

Completely emptied packagings can be given for recycling.

14. Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number	Not classified as dangerous in the meaning of transport regulations.	Not classified as dangerous in the meaning of sea and air transport regulations.	Not a dangerous substance as defined in the above regulations.

15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****VOC**

VOC (EU) 2,6 % 26 g/l

16. Other information**Hazard statements listed in Chapter 3**

H225 Highly flammable liquid and vapour.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H310 Fatal in contact with skin.
 H311 Toxic in contact with skin.
 H312 Harmful in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H330 Fatal if inhaled.
 H331 Toxic if inhaled.

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H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

CLP categories listed in Chapter 3

Acute Tox. 2	Acute toxicity, Category 2
Acute Tox. 3	Acute toxicity, Category 3
Acute Tox. 4	Acute toxicity, Category 4
Aquatic Acute 1	Hazardous to the aquatic environment, acute, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic, Category 2
Eye Dam. 1	Serious eye damage, Category 1
Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Skin Corr. 1A	Skin corrosion, Category 1A
Skin Corr. 1B	Skin corrosion, Category 1B
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 1	Specific target organ toxicity - repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Abbreviations

ADR - Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID - Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG - International Maritime Code for Dangerous Goods

IATA - International Air Transport Association

IATA-DGR - Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO-TI - Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

EINECS - European Inventory of Existing Commercial Chemical Substances

CAS - Chemical Abstracts Service (division of the American Chemical Society)

GefStoffV - Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL - Lowest Observed Adverse Effect Level

LOEL - Lowest Observed Effect Level

NOAEL - No Observed Adverse Effect Level

NOEC - No Observed Effect Concentration

NOEL - No Observed Effect Level

OECD - Organisation for Economic Cooperation and Development

VOC - Volatile Organic Compounds

Changes since the last version are highlighted in the margin (***). This version replaces all previous versions.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

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The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
The information contained herein is based on the present state of our knowledge and does therefore not guarantee certain properties.

Annex to the extended Safety Data Sheet (eSDS)

Short title of the exposure scenario

ES017 - Industrial applications: industrial spraying (inside)

Use of the substance/preparation

Surface treatment of wood and other materials

Use

SU3	Industrial uses: Uses of substances as such or in preparations at industrial sites
ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
ERC5	Industrial use resulting in inclusion into or onto a matrix
PROC7	Industrial spraying

Contributing exposure scenario controlling environmental exposure

Use

ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
ERC5	Industrial use resulting in inclusion into or onto a matrix

Physical form

liquid

Maximum amount used per time or activity

Emission days per site: <= 300

Other relevant operational conditions

Use: Room temperature
Drying and through-curing takes place at ambient temperature or at higher temperatures.
Curing takes place through UV light exposure (only with UV light curing systems).
Where possible recycling is preferred to disposal or incineration.
Do not allow to enter soil, waterways or waste water canal.
Dispose of rinse water in accordance with local and national regulations.

Waste water

Do not discharge into the drains/surface waters/groundwater. Spray cabin waters are to be conducted after mechanical pretreatment into a wastewater treatment facility.

Exhaust air

Keep container closed. Avoid release to the environment.

Soil

Floors should be impervious, resistant to liquids and easy to clean.

Disposal recommendations for the product

EWC waste code	080111 - waste paint and varnish containing organic solvents or other dangerous substances
	200127 - paint, inks, adhesives and resins containing dangerous substances

Where possible recycling is preferred to disposal or incineration.
Do not allow to enter drains or waterways.

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modified product

EWC waste code 080115 - aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances

Dried residues

EWC waste code 080112 - waste lacquers and waste paint except those falling under 080111

Disposal recommendations for packaging

EWC waste code 150110 - packaging containing residues of or contaminated by dangerous substances
Completely emptied packagings can be given for recycling.

Contributing exposure scenario controlling worker exposure**Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
PROC7 Industrial spraying

Physical form

liquid

Maximum amount used per time or activity

Duration of exposure	<=	8	h/d
Frequency of exposure	<=	220	d/a

Other relevant operational conditions

Use: Room temperature
Drying and through-curing takes place at ambient temperature or at higher temperatures.
Curing takes place through UV light exposure (only with UV light curing systems).
Read attached instructions before use.

Product substance and product safety related measures

Mainly used in closed systems. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Provide for sufficient ventilation. This can be achieved by local exhaust or general exhaust air collection. Wear a suitable respirator if the ventilation is not sufficient to keep the solvent vapour concentration below the occupational limit values.

Respiratory protection

Avoid inhalation of vapour and spray mist. Use breathing apparatus if exposed to vapours/dust/aerosol.
Recommended Filter type: Respiratory protection mask with combination filter A/P2

Hand protection

Protective gloves complying with EN 374.

Glove material

Appropriate Material butyl-rubber

Material thickness >= 0,5

Breakthrough time >= 120

This recommendation is valid only for the product named in this safety data sheet supplied by us, and only for the indicated intended use purposes.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

The breakthrough time must be greater than the end use time of the product.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor

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maintenance.

Eye protection

Wear eye glasses with side protection according to EN 166.

Body protection

Wear suitable protective clothing. Remove contaminated clothing and wash it before reuse. Wash hands before breaks and after work.

Exposure estimation and reference to its source**Workers (industrial)**

SU	SU3
PROC	PROC7
Assessment method	inhalation, long-term - systemic
Exposure assessment	42 mg/m ³
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,428571
Lead substance	2-butoxyethanol

Workers (industrial)

PROC	PROC7
Assessment method	dermal, long-term - systemic
Exposure assessment	8,5714 mg/kg/d
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,068571
Lead substance	2-butoxyethanol

Workers (industrial)

PROC	PROC10
Assessment method	inhalation, long-term - systemic
Exposure assessment	55 mg/m ³
Exposure assessment (method)	EASY TRA v3.5
Risk characterisation ratio (RCR)	0,561224
Lead substance	2-butoxyethanol

Workers (industrial)

PROC	PROC10
Assessment method	dermal, long-term - systemic
Exposure assessment	5,4857 mg/kg/d
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,043886
Lead substance	2-butoxyethanol

Workers (industrial)

PROC	PROC13
Assessment method	inhalation, long-term - systemic
Exposure assessment	49,2393 mg/m ³
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,502441
Lead substance	2-butoxyethanol

Workers (industrial)

PROC	PROC13
Assessment method	dermal, long-term - systemic
Exposure assessment	2,7429 mg/kg/d
Exposure assessment (method)	EASY TRA v3.5
Risk characterisation ratio (RCR)	0,021943

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Lead substance	2-butoxyethanol
Workers (industrial)	
SU	SU3
PROC	PROC7
Assessment method	inhalation, long-term - local and systemic
Exposure assessment	7 ppm
Risk characterisation ratio (RCR)	0,7
Lead substance	2-(2-butoxyethoxy)ethanol
Workers (industrial)	
SU	SU3
PROC	PROC7
Assessment method	dermal, long-term - systemic
Exposure assessment	2,14 mg/kg/d
Risk characterisation ratio (RCR)	0,11
Lead substance	2-(2-butoxyethoxy)ethanol
Workers (industrial)	
SU	SU3
PROC	PROC10
Assessment method	inhalation, long-term - local and systemic
Exposure assessment	0,5 ppm
Risk characterisation ratio (RCR)	0,05
Lead substance	2-(2-butoxyethoxy)ethanol
Workers (industrial)	
SU	SU3
PROC	PROC10
Assessment method	dermal, long-term - systemic
Exposure assessment	5,49 mg/kg/d
Risk characterisation ratio (RCR)	0,27
Lead substance	2-(2-butoxyethoxy)ethanol
Workers (industrial)	
SU	SU3
PROC	PROC13
Assessment method	inhalation, long-term - local and systemic
Exposure assessment	2 ppm
Risk characterisation ratio (RCR)	0,2
Lead substance	2-(2-butoxyethoxy)ethanol
Workers (industrial)	
SU	SU3
PROC	PROC13
Assessment method	dermal, long-term - systemic
Exposure assessment	0,69 mg/kg/d
Risk characterisation ratio (RCR)	0,034
Lead substance	2-(2-butoxyethoxy)ethanol

Information on estimated exposure and downstream-user guidance

Guidance for Downstream Users

The downstream user can evaluate whether he operates within the conditions set in the exposure scenario on the basis of the information supplied. This evaluation can be conducted by an expert or using the risk assessment tools recommended by ECHA.

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Annex to the extended Safety Data Sheet (eSDS)

Short title of the exposure scenario

ES019 - Professional uses: Non industrial spraying (inside)

Use of the substance/preparation

Surface treatment of wood and other materials

Use

SU22	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8c	Wide dispersive indoor use resulting in inclusion into or onto a matrix
PROC11	Non industrial spraying

Contributing exposure scenario controlling environmental exposure

Use

ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8c	Wide dispersive indoor use resulting in inclusion into or onto a matrix

Physical form

liquid

Maximum amount used per time or activity

Emission days per site: <= 250

Other relevant operational conditions

Use: Room temperature
 Drying and through-curing takes place at ambient temperature or at higher temperatures.
 Curing takes place through UV light exposure (only with UV light curing systems).
 Where possible recycling is preferred to disposal or incineration.
 Do not allow to enter soil, waterways or waste water canal.
 Dispose of rinse water in accordance with local and national regulations.

Waste water

Do not discharge into the drains/surface waters/groundwater.

Exhaust air

Keep container closed. Avoid release to the environment.

Soil

Floors should be impervious, resistant to liquids and easy to clean.

Disposal recommendations for the product

EWC waste code	080111 - waste paint and varnish containing organic solvents or other dangerous substances
	200127 - paint, inks, adhesives and resins containing dangerous substances

Where possible recycling is preferred to disposal or incineration.
 Do not allow to enter drains or waterways.

modified product

EWC waste code	080115 - aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances
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Dried residues

EWC waste code	080112 - waste lacquers and waste paint except those falling under 080111
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Disposal recommendations for packaging

EWC waste code 150110 - packaging containing residues of or contaminated by dangerous substances
Completely emptied packagings can be given for recycling.

Contributing exposure scenario controlling worker exposure (professional)**Short title of the exposure scenario**

Substance number: CES038

Use

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

PROC11 Non industrial spraying

Physical form

liquid

Maximum amount used per time or activity

Duration of exposure	<=	8	h/d
Frequency of exposure	<=	220	d/a

Other relevant operational conditions

Use: Room temperature
Drying and through-curing takes place at ambient temperature or at higher temperatures.
Curing takes place through UV light exposure (only with UV light curing systems).
Read attached instructions before use.

Product substance and product safety related measures

Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Provide for sufficient ventilation. This can be achieved by local exhaust or general exhaust air collection. Wear a suitable respirator if the ventilation is not sufficient to keep the solvent vapour concentration below the occupational limit values.

Respiratory protection

Avoid inhalation of vapour and spray mist. Use breathing apparatus if exposed to vapours/dust/aerosol.
Recommended Filter type: Respiratory protection mask with combination filter A/P2

Hand protection

Protective gloves complying with EN 374.

Glove material

Appropriate Material butyl-rubber

Material thickness >= 0,5

Breakthrough time >= 120

This recommendation is valid only for the product named in this safety data sheet supplied by us, and only for the indicated intended use purposes.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

The breakthrough time must be greater than the end use time of the product.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.

Eye protection

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Wear eye glasses with side protection according to EN 166.

Body protection

Wear suitable protective clothing. Remove contaminated clothing and wash it before reuse. Wash hands before breaks and after work.

Exposure estimation and reference to its source

Workers (professional)

SU	SU22
PROC	PROC10
Assessment method	inhalation, long-term - systemic
	Indoor use
Exposure assessment	36,9294 mg/m ³
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,376831
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC10
Assessment method	dermal, long-term - systemic
	Indoor use
Exposure assessment	5,4857 mg/kg/d
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,043887
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC10
Assessment method	inhalation, long-term - systemic
	Outdoor use
Exposure assessment	51,7012 ppm
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,527563
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC10
Assessment method	dermal, long-term - systemic
	Outdoor use
Exposure assessment	3,2914 mg/kg/d
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,026331
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC11
Assessment method	inhalation, long-term - systemic
	Indoor use
Exposure assessment	62 mg/m ³
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,632653
Lead substance	2-butoxyethanol

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Workers (professional)

SU	SU22
PROC	PROC11
Assessment method	dermal, long-term - systemic
	Indoor use
Exposure assessment	12,8571 mg/kg/d
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,632653
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC11
Assessment method	inhalation, long-term - systemic
	Outdoor use
Exposure assessment	10 ppm
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,5
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC11
Assessment method	dermal, long-term - systemic
	Outdoor use
Exposure assessment	21 mg/kg/d
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,286
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC13
Assessment method	inhalation, long-term - systemic
	Indoor use
Exposure assessment	49,2393 mg/m ³
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,502441
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC13
Assessment method	dermal, long-term - systemic
	Indoor use
Exposure assessment	2,7429 mg/kg/d
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,021943
Lead substance	2-butoxyethanol

Workers (professional)

SU	SU22
PROC	PROC13
Assessment method	inhalation, long-term - systemic
	Outdoor use
Exposure assessment	7 ppm

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Exposure assessment (method)
Risk characterisation ratio (RCR)
Lead substance

ESIG GES tool
0,35
2-butoxyethanol

Workers (professional)

SU
PROC
Assessment method

SU22
PROC13
dermal, long-term - systemic
Outdoor use

Exposure assessment
Exposure assessment (method)
Risk characterisation ratio (RCR)
Lead substance

14 mg/kg/d
ESIG GES tool
0,183
2-butoxyethanol

Workers (professional)

SU
PROC
Assessment method

SU22
PROC10
inhalation, long-term - local and systemic
Outdoor use

Exposure assessment
Risk characterisation ratio (RCR)
Lead substance

2,5 ppm
0,25
2-(2-butoxyethoxy)ethanol

Workers (professional)

SU
PROC
Assessment method

SU22
PROC10
dermal, long-term - systemic
Outdoor use

Exposure assessment
Risk characterisation ratio (RCR)
Lead substance

2,74 mg/kg/d
0,137
2-(2-butoxyethoxy)ethanol

Workers (professional)

SU
PROC
Assessment method

SU22
PROC10
inhalation, long-term - local and systemic
Indoor use

Exposure assessment
Risk characterisation ratio (RCR)
Lead substance

1,25 ppm
0,125
2-(2-butoxyethoxy)ethanol

Workers (professional)

SU
PROC
Assessment method

SU22
PROC10
dermal, long-term - systemic
Indoor use

Exposure assessment
Risk characterisation ratio (RCR)
Lead substance

0,55 mg/kg/d
0,027
2-(2-butoxyethoxy)ethanol

Workers (professional)

SU
PROC
Assessment method

SU22
PROC11
inhalation, long-term - local and systemic
Indoor use

Exposure assessment
Risk characterisation ratio (RCR)

5 ppm
0,5

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Lead substance 2-(2-butoxyethoxy)ethanol

Workers (professional)

SU SU22
 PROC PROC11
 Assessment method dermal, long-term - systemic
 Indoor use

Exposure assessment 2,14 mg/kg/d

Risk characterisation ratio (RCR) 0,107

Lead substance 2-(2-butoxyethoxy)ethanol

Workers (professional)

SU SU22
 PROC PROC11
 Assessment method inhalation, long-term - local and systemic
 Outdoor use

Exposure assessment 4,2 ppm

Risk characterisation ratio (RCR) 0,42

Lead substance 2-(2-butoxyethoxy)ethanol

Workers (professional)

SU SU22
 PROC PROC11
 Assessment method dermal, long-term - systemic
 Outdoor use

Exposure assessment 1,29 mg/kg/d

Risk characterisation ratio (RCR) 0,42

Lead substance 2-(2-butoxyethoxy)ethanol

Workers (professional)

SU SU22
 PROC PROC13
 Assessment method inhalation, long-term - local and systemic
 Indoor use

Exposure assessment 2 ppm

Risk characterisation ratio (RCR) 0,2

Lead substance 2-(2-butoxyethoxy)ethanol

Workers (professional)

SU SU22
 PROC PROC13
 Assessment method dermal, long-term - systemic
 Indoor use

Exposure assessment 0,69 mg/kg/d

Risk characterisation ratio (RCR) 0,034

Lead substance 2-(2-butoxyethoxy)ethanol

Workers (professional)

SU SU22
 PROC PROC13
 Assessment method inhalation, long-term - local and systemic
 Outdoor use

Exposure assessment 4,2 ppm

Risk characterisation ratio (RCR) 0,42

Lead substance 2-(2-butoxyethoxy)ethanol

Workers (professional)

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SU	SU22
PROC	PROC13
Assessment method	dermal, long-term - systemic
	Outdoor use
Exposure assessment	0,41 mg/kg/d
Risk characterisation ratio (RCR)	0,42
Lead substance	2-(2-butoxyethoxy)ethanol

Information on estimated exposure and downstream-user guidance

Guidance for Downstream Users

The downstream user can evaluate whether he operates within the conditions set in the exposure scenario on the basis of the information supplied. This evaluation can be conducted by an expert or using the risk assessment tools recommended by ECHA.