

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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

### 1.1. Product identifier

Hesse PERFECT-TOP, matt HDE 54002

### 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  
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REACHSET 1003  
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  
PROCh01 Other processing without aerosol formation  
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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 (Germany)  
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

## SECTION 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.

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

## 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),  $\alpha$ -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- $\omega$ -hydroxypoly(oxyethylene), May produce an allergic reaction.

### Supplemental information

EUH210 Safety data sheet available on request.

## 2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

## SECTION 3: Composition/information on ingredients

### Hazardous ingredients

#### 2-butoxyethanol

CAS No.	111-76-2			
EINECS no.	203-905-0			
Registration no.	01-2119475108-36			
Concentration	$\geq 1$	<	10	%
Classification (Regulation (EC) No. 1272/2008)	Acute Tox. 4	H302		Route of exposure: Oral exposure
	Eye Irrit. 2	H319		
	Skin Irrit. 2	H315		
	Acute Tox. 3	H331		
ATE	Oral exposure	1.200	mg/kg	
cATpE	Inhalation exposure, Dust/Mist	0,5	mg/l	

#### $\alpha$ -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- $\omega$ -hydroxypoly(oxyethylene)

CAS No.	104810-48-2			
Concentration	$\geq 0,1$	<	1	%
Classification (Regulation (EC) No. 1272/2008)	Skin Sens. 1	H317		
	Aquatic Chronic 2	H411		

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

CAS No.	2634-33-5			
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		

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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)**

CAS No. 55965-84-9

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

#### Note

For explanation of abbreviations see section 16.

## SECTION 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.

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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

##### **Hints for the physician / treatment**

Treat symptomatically.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Recommended: alcohol resistant foam, CO<sub>2</sub>, 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.

##### **Other information**

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.

### **SECTION 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.

### **SECTION 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.

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

## 7.2. Conditions for safe storage, including any incompatibilities

### Storage stability

Protect from frost.

### 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.

## 7.3. Specific end use(s)

See exposure scenario, if available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limit values

##### 2-butoxyethanol

List	Directive 2017/164 EG			
Value	98	mg/m <sup>3</sup>	20	ppm(V)
Short term exposure limit	246	mg/m <sup>3</sup>	50	ppm(V)
Skin resorption / sensibilisation: H; Status: 12/2009				

##### 2-butoxyethanol

List	EH40			
Value	123	mg/m <sup>3</sup>	25	ppm(V)
Short term exposure limit	246	mg/m <sup>3</sup>	50	ppm(V)
Skin resorption / sensibilisation: Sk; Status: 01/2020				

#### Other information

-

#### 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/m <sup>3</sup>

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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)	
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 <sup>3</sup>

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 <sup>3</sup>

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	

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	123	mg/m <sup>3</sup>
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 <sup>3</sup>
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 <sup>3</sup>
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 <sup>3</sup>
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 <sup>3</sup>

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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 <sup>3</sup>

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	147	mg/m <sup>3</sup>

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

**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)**

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	0,02	mg/m <sup>3</sup>

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	0,09	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	0,02	mg/m <sup>3</sup>

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



Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,04	mg/m <sup>3</sup>

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	0,11	mg/kg/d

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	0,04	mg/m <sup>3</sup>

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

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	6,81	mg/m <sup>3</sup>

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	0,966	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	1,2	mg/m <sup>3</sup>

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	0,345	mg/kg

**Predicted No Effect Concentration (PNEC)**

**2-butoxyethanol**

Type of value	PNEC
Type	Freshwater

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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

**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)**

Type of value	PNEC	
Type	Marine	
Concentration	3,39	µg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	0,23	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	0,027	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	0,027	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,01	mg/kg
Type of value	PNEC	
Type	Freshwater	
Concentration	3,39	µg/l

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

Type of value	PNEC	
Type	Freshwater	
Concentration	4,03	µg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,403	µg/l

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	1,03	mg/l	
Type of value	PNEC		
Type	Freshwater sediment		
Concentration	0,0499	mg/kg	
Type of value	PNEC		
Type	Marine sediment		
Concentration	0,00499	mg/kg	
Type of value	PNEC		
Type	Soil		
Concentration	3	mg/kg	

## 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  $\geq$  0,5 mm

Breakthrough time  $\geq$  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.

### Eye protection

Safety glasses with side-shields conforming to EN166

### Body protection

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

<b>Physical state</b>	liquid
<b>Colour</b>	white
<b>Odour</b>	characteristic
<b>Melting point</b>	
Remarks	not determined
<b>Freezing point</b>	
Remarks	not determined
<b>Boiling point or initial boiling point and boiling range</b>	
Value	100 to 173 °C
<b>Flammability</b>	
Remarks	not determined
<b>Upper and lower explosive limits</b>	
Remarks	not determined
<b>Flash point</b>	
Value	> 60 °C
<b>Ignition temperature</b>	
Remarks	not determined
<b>Decomposition temperature</b>	
Remarks	not determined
<b>pH value</b>	
Value	7,6
Concentration/H <sub>2</sub> O	100
Remarks	Not applicable
<b>Viscosity</b>	
Remarks	not determined
<b>Solubility(ies)</b>	
Remarks	not determined
<b>Partition coefficient n-octanol/water (log value)</b>	
Remarks	not determined
<b>Vapour pressure</b>	
Remarks	not determined
<b>Density and/or relative density</b>	
Value	appr. 1,034 kg/l
Temperature	20 °C
<b>Relative vapour density</b>	
Remarks	not determined
<b>Particle characteristics</b>	
Remarks	not determined

## 9.2. Other information

<b>Odour threshold</b>	
Remarks	not determined
<b>Solubility in water</b>	

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

Remarks	not determined			
<b>Efflux time</b>				
Value	40	to	50	s
Temperature	20	°C		
Method	DIN 53211 4 mm			
<b>Explosive properties</b>				
evaluation	not determined			
<b>Oxidising properties</b>				
Remarks	not determined			
<b>Non-volatile content</b>				
Value	35,6	%		
Method	calculated value			

## SECTION 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 products

Carbon monoxide and carbon dioxide, nitrous oxides (NO<sub>x</sub>), dense black smoke, No decomposition if used as prescribed.

## SECTION 11: Toxicological information

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

#### Acute oral toxicity

ATE	>	10.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

#### Acute oral toxicity (Components)

##### 2-butoxyethanol

ATE	1200	mg/kg
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##### 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)

ATE	53	mg/kg
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Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

### Acute dermal toxicity

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

### Acute dermal 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)

ATE 50 mg/kg  
Method conversion

### Acute inhalational toxicity

ATE 9,0253 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

ATE 3 mg/l  
Duration of exposure 4 h  
Administration/Form Vapors  
Source Annex VI Hazardous Substance

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)

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

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

evaluation Irritating to skin.

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)

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

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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

**1,2-benzisothiazol-3(2H)-one**  
evaluation Irritating to eyes.

### 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)**

Species guinea pig  
evaluation Causes sensitisation on guinea-pigs.

**$\alpha$ -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- $\omega$ -hydroxypoly(oxyethylene)**  
evaluation May cause sensitization by skin contact.

### 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.

### 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.

### Aspiration hazard

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

## 11.2 Information on other hazards

### Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

### Other information

No toxicological data are available.

## SECTION 12: Ecological information

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

## 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)

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

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

#### $\alpha$ -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- $\omega$ -hydroxypoly(oxyethylene)

Species	Daphnia magna		
EC50	1	to	10 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)

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

### 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)

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.
------------	------------------------

#### 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)



Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

evaluation Not readily biodegradable.

### 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 (log value)

Remarks not determined

### 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.

#### Results of PBT and vPvB assessment

The product contains no PBT substances  
The product contains no vPvB substances.

### 12.6 Endocrine disrupting properties

#### Endocrine disrupting properties with respect to the environment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

### 12.7. Other adverse effects

#### General information

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

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### 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
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#### 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
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Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

Completely emptied packagings can be given for recycling  
by dangerous substances

## SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
<b>14.1. UN number</b>	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.

## SECTION 15: Regulatory information

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

#### VOC

VOC (EU) 6 % 63 g/l

## SECTION 16: Other information

### Hazard statements listed in Chapter 3

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal 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.
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
Skin Corr. 1B	Skin corrosion, Category 1B
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1	Skin sensitization, Category 1

### Abbreviations

RID - Règlement international concernant le transport des marchandises dangereuses par chemin de fer

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

(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.

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



Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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  $\geq$  0,5

Breakthrough time  $\geq$  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

Safety glasses with side-shields conforming to EN166

### 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 <sup>3</sup>
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 <sup>3</sup>

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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 <sup>3</sup>
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
Lead substance	2-butoxyethanol

## 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.

## Annex to the extended Safety Data Sheet (eSDS)

### **Short title of the exposure scenario**

ES018 - Industrial applications: rolling, dipping, pouring and other processing without aerosol formation (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
PROCh01	Other processing without aerosol formation
PROCh02	roller coating industrial
PROC13	Treatment of articles by dipping and pouring

## Contributing exposure scenario controlling environmental exposure

### **Use**

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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.

**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

PROCh01 Other processing without aerosol formation

PROCh02 roller coating industrial

PROC13 Treatment of articles by dipping and pouring

**Physical form** liquid

**Maximum amount used per time or activity**

Duration of exposure <= 8 h/d

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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

Safety glasses with side-shields conforming to EN166

### 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<sup>3</sup>

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



Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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 <sup>3</sup>
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 <sup>3</sup>
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
Lead substance	2-butoxyethanol

## 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.

## 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

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

ERC8c  
PROC11

Wide dispersive indoor use resulting in inclusion into or onto a matrix  
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

### **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 (professional)**

### **Short title of the exposure scenario**

Substance number:CES038

### **Use**

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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**

Safety glasses with side-shields conforming to EN166

**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

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

Exposure assessment 36,9294 mg/m<sup>3</sup>  
 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<sup>3</sup>  
 Exposure assessment (method) ESIG GES tool  
 Risk characterisation ratio (RCR) 0,632653  
 Lead substance 2-butoxyethanol

**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)**

Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

Revision: 06.11.2024

Replaces Version: 36 / GB

Print date: 17.12.24

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 <sup>3</sup>
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
Exposure assessment (method)	ESIG GES tool
Risk characterisation ratio (RCR)	0,35
Lead substance	2-butoxyethanol

**Workers (professional)**

SU	SU22
PROC	PROC13
Assessment method	dermal, long-term - systemic
	Outdoor use
Exposure assessment	14 mg/kg/d
Exposure assessment (method)	ESIG GES tool



Trade name: Hesse PERFECT-TOP, matt HDE 54002

Version: 37 / GB

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Risk characterisation ratio (RCR)

0,183

Lead substance

2-butoxyethanol

## **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.