

Trade name: Hesse 2C Reactive systems, matt RSE 95452

Version: 28 / GB

Revision: 11.08.2021

Replaces Version: 27 / GB

Print date: 24.09.21

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

1.1. Product identifier

Hesse 2C Reactive systems, matt RSE 95452

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)

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

Flam. Liq. 2	H225
Eye Irrit. 2	H319
STOT SE 3	H336

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

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Hazard pictograms**Signal word**

Danger

Hazard statements

H225 Highly flammable liquid and vapour.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P313 IF exposed or concerned: Get medical advice/ attention.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains propan-2-ol; 2-methylpropan-1-ol; n-butyl acetate
 EUH208 Contains formaldehyde, May produce an allergic reaction.

Supplemental information

EUH066 Repeated exposure may cause skin dryness or cracking.

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****n-butyl acetate**

CAS No.	123-86-4			
EINECS no.	204-658-1			
Registration no.	01-2119485493-29			
Concentration	>= 25	<	50	%
Classification (Regulation (EC) No. 1272/2008)	Flam. Liq. 3		H226	
	STOT SE 3		H336	Nervous system
			EUH066	

2-methylpropan-1-ol

CAS No.	78-83-1			
EINECS no.	201-148-0			
Registration no.	01-2119484609-23			
Concentration	>= 1	<	3	%

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

Flam. Liq. 3	H226	
STOT SE 3	H335	Respiratory tract
Skin Irrit. 2	H315	
Eye Dam. 1	H318	
STOT SE 3	H336	Nervous system

propan-2-ol

CAS No.	67-63-0			
EINECS no.	200-661-7			
Registration no.	01-2119457558-25			
Concentration	>= 1	< 10	%	
Classification (Regulation (EC) No. 1272/2008)				

Flam. Liq. 2	H225	
Eye Irrit. 2	H319	
STOT SE 3	H336	Nervous system

formaldehyde

CAS No.	50-00-0			
EINECS no.	200-001-8			
Registration no.	01-2119488953-20			
Concentration		< 0,1	%	
Classification (Regulation (EC) No. 1272/2008)				

Acute Tox. 3	H311	Route of exposure: Dermal exposure
Acute Tox. 2	H330	Route of exposure: Inhalation exposure
Acute Tox. 3	H301	Route of exposure: Oral exposure
Skin Corr. 1B	H314	
Eye Dam. 1	H318	
Skin Sens. 1A	H317	
Muta. 2	H341	
Carc. 1B	H350	

Concentration limits (Regulation (EC) No. 1272/2008)

Skin Sens. 1A	H317	>= 0,2 %
STOT SE 3	H335	>= 5 %
Skin Irrit. 2	H315	>= 5 < 25 %
Eye Irrit. 2	H319	>= 5 < 25 %
Skin Corr. 1B	H314	>= 25 %

cellulose nitrate < =12.6 % N

CAS No.	9004-70-0		
Classification (Regulation (EC) No. 1272/2008)			
Expl. 1.1	H201		

Further ingredients**ethanol**

CAS No.	64-17-5			
EINECS no.	200-578-6			
Registration no.	01-2119457610-43			
Concentration	>= 10	< 25	%	
Advice: [3]				

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Classification (Regulation (EC) No. 1272/2008)
Flam. Liq. 2 H225**Note**

[3] Substance with occupational exposure limits

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

If unconscious place in recovery position and seek medical advice. In all cases of doubt, or when symptoms persist, seek medical attention. First aider: Pay attention to self-protection! Remove affected person from danger area, lay him down.

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. Keep warm, calm and covered up. In all cases of doubt, or when symptoms persist, seek medical attention.

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. High concentration of vapours may cause irritation to eyes and respiratory system and produce narcotic effects.

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. Vapours can form an explosive mixture with air.

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

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

Other information

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

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. 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**

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Keep container tightly closed and dry in a cool, well-ventilated place. Use only with adequate ventilation/personal protection. Ensure adequate ventilation. 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. 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

Vapours can form an explosive mixture with air. Vapours are heavier than air and may spread along floors. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Take measures to prevent the build up of electrostatic charge. Wear shoes with conductive soles. No sparking tools should be used. Fight fire with normal precautions from a reasonable distance.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Provide solvent-resistant and impermeable floor. 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.

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Storage classes

Storage class according to TRGS 510 3 Flammable liquid

Further information on storage conditions

Protect from frost. Protect from heat and direct 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.

8. Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

propan-2-ol

List	EH40			
Value	999	mg/m ³	400	ppm(V)
Short term exposure limit	1250	mg/m ³	500	ppm(V)
Status:	01/2020			

2-methylpropan-1-ol

List	EH40			
Value	154	mg/m ³	50	ppm(V)
Short term exposure limit	231	mg/m ³	75	ppm(V)
Status:	01/2020			

n-butyl acetate

List	EH40			
Value	724	mg/m ³	150	ppm(V)
Short term exposure limit	966	mg/m ³	200	ppm(V)
Status:	01/2020			

n-butyl acetate

List	Directive 2017/164 EG			
Value	241	mg/m ³	50	ppm(V)
Short term exposure limit	723	mg/m ³	150	ppm(V)
Status:	10/2019			

ethanol

List	EH40			
Value	1920	mg/m ³	1000	ppm(V)
Status:	01/2020			

Other information

-

Derived No/Minimal Effect Levels (DNEL/DMEL)

n-butyl acetate

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	11		mg/kg/d

Type of value Derived No Effect Level (DNEL)

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Reference group	Workers (professional)	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	600	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	Local effects	
Concentration	600	mg/m ³
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	300	mg/m ³
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	300	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	6	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	2	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	300	mg/m ³
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	

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Concentration 300 mg/m³

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 35,7 mg/m³

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 35,7 mg/m³

propan-2-ol

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 Chronic effects

Concentration 888 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 Chronic effects

Concentration 500 mg/m³

Type of value Derived No Effect Level (DNEL)

Reference group Consumer

Duration of exposure Long-term

Route of exposure inhalative

Mode of action Chronic effects

Concentration 89 mg/m³

Type of value Derived No Effect Level (DNEL)

Reference group Consumer

Duration of exposure Long-term

Route of exposure Oral exposure

Mode of action Chronic effects

Concentration 26 mg/kg/d

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 319 mg/kg/d

2-methylpropan-1-ol

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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	310	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	Local effects	
Concentration	55	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	Oral exposure	
Mode of action	Local effects	
Concentration	25	mg/kg/d
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	1900	mg/m ³
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	343	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	960	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short-term	
Route of exposure	inhalative	
Mode of action	Acute effects	
Concentration	960	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	

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Route of exposure	Dermal exposure	
Mode of action	Systemic effects	
Concentration	206	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	Systemic effects	
Concentration	114	mg/m ³

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	87	mg/kg/d

formaldehyde

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	0,8	mg/kg

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	240	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	9	mg/m ³

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	Local effects	
Concentration	0,037	mg/cm ²

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	0,4	mg/kg

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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	102	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	Systemic effects	
Concentration	3,2	mg/cm ²

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	4,1	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long-term	
Route of exposure	Dermal exposure	
Mode of action	Local effects	
Concentration	0,012	mg/cm ²

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	0,1	mg/m ³

Predicted No Effect Concentration (PNEC)

n-butyl acetate

Type of value	PNEC	
Type	Freshwater	
Concentration	0,18	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	0,018	mg/l

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	35,6	mg/l

Type of value	PNEC	
Type	Water	

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Conditions	sporadic release	
Concentration	0,36	mg/l
Type of value	PNEC	
Type	Fresh water sediment	
Concentration	0,981	mg/kg
Type of value	PNEC	
Type	saltwater sediment	
Concentration	0,0981	mg/l
Type of value	PNEC	
Type	Soil	
Concentration	0,0903	mg/kg

propan-2-ol

Type of value	PNEC	
Type	Freshwater	
Concentration	140,9	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	140,9	mg/l
Type of value	PNEC	
Conditions	sporadic release	
Concentration	140,9	mg/l
Type of value	PNEC	
Type	Fresh water sediment	
Concentration	552	mg/kg
Type of value	PNEC	
Type	saltwater sediment	
Concentration	552	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	28	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	2251	mg/l

2-methylpropan-1-ol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,4	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,04	mg/l

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Type of value	PNEC		
Conditions	sporadic release		
Concentration	11	mg/l	
Type of value	PNEC		
Type	Fresh water sediment		
Concentration	1,52	mg/kg	
Type of value	PNEC		
Type	saltwater sediment		
Concentration	0,152	mg/kg	
Type of value	PNEC		
Type	Soil		
Concentration	0,0699	mg/kg	
Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	10	mg/l	
ethanol			
Type of value	PNEC		
Type	Freshwater		
Concentration	0,96	mg/l	
Type of value	PNEC		
Type	marine water		
Concentration	0,79	mg/l	
Type of value	PNEC		
Conditions	sporadic release		
Concentration	2,75	mg/l	
Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	580	mg/l	
Type of value	PNEC		
Type	Fresh water sediment		
Concentration	3,6	mg/kg	
Type of value	PNEC		
Type	saltwater sediment		
Concentration	2,9	mg/kg	
Type of value	PNEC		
Type	Soil		
Concentration	0,63	mg/kg	
formaldehyde			
Type of value	PNEC		
Type	Freshwater		
Concentration	0,47	mg/l	

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Type of value	PNEC		
Type	marine water		
Concentration	0,47		mg/l
Type of value	PNEC		
Type	Fresh water sediment		
Concentration	2,44		mg/kg
Type of value	PNEC		
Type	saltwater sediment		
Concentration	2,44		mg/kg
Type of value	PNEC		
Type	Soil		
Concentration	0,21		mg/kg
Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	0,19		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

Multilayer gloves made from

Appropriate Material Fluorinated rubber / butyl-rubber

Material thickness \geq 0,7 mm

Breakthrough time \geq 30 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

Wear eye glasses with side protection according to EN 166.

Body protection

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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	solvent-like
Odour threshold	
Remarks	not determined
Melting point	
Remarks	not determined
Freezing point	
Remarks	not determined
Initial boiling point and boiling range	
Value	78 to 200 °C
Flash point	
Value	12 °C
Evaporation rate	
Remarks	not determined
Flammability (solid, gas)	
	not determined
Upper/lower flammability or explosive limits	
Remarks	not determined
Vapour pressure	
Remarks	not determined
Vapour density	
Remarks	not determined
Density	
Value	appr. 0,989 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
Decomposition temperature	
Remarks	not determined
Viscosity	
Remarks	not determined

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Efflux time

Value	49	to	61	s
Temperature	20	°C		
Method	DIN 53211 4 mm			

Explosive properties

evaluation not determined

Oxidising properties

Remarks not determined

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

Value	44,2	%
Method	calculated value	

Other information

This information is not available.

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**

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

Acute oral toxicity (Components)**formaldehyde**

Species	rat		
LD50	299	mg/kg	

Acute dermal toxicity

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

Acute dermal toxicity (Components)**formaldehyde**

Species rabbit
 LD50 270 mg/kg

Acute inhalational toxicity

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

Acute inhalative toxicity (Components)**formaldehyde**

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

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-methylpropan-1-ol**

Species rabbit
 Duration of exposure 8 d
 Observation Period 24 h
 evaluation Skin irritation
 Method Value taken from the literature
 Source 2 (reliable with restrictions)

formaldehyde

evaluation Causes burns.

Serious eye damage/irritation

evaluation irritant
 Method Calculation method (Regulation (EC) No. 1272/2008)
 Remarks The classification criteria are met.

Serious eye damage/irritation (Components)**propan-2-ol**

Species rabbit
 Observation Period 14 d
 evaluation Irritating to eyes.
 Source 1 (reliable without restriction)

2-methylpropan-1-ol

Species rabbit
 Observation Period 14 d
 evaluation irritant - risk of serious damage to eyes
 Source 1 (reliable without restriction)

formaldehyde**Sensitization**

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

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Sensitization (Components)**formaldehyde**

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.

Mutagenicity (Components)**formaldehyde**

evaluation

Mutagenic Category 2

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.

Carcinogenicity (Components)**formaldehyde**

evaluation

Carcinogenic Category 1

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

Method

Calculation method (Regulation (EC) No. 1272/2008)

Remarks

The classification criteria are met.

evaluation

May cause drowsiness or dizziness.

Repeated exposure

Remarks

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

Specific Target Organ Toxicity (STOT) (Components)**propan-2-ol****Specific target organ toxicity - single exposure**

Remarks

Organs: Nervous system

Possible narcotic effects (drowsiness, dizziness).

2-methylpropan-1-ol**Specific target organ toxicity - single exposure**

Remarks

Organs: Respiratory tract

May cause respiratory irritation.

2-methylpropan-1-ol**Specific target organ toxicity - single exposure**

Remarks

Organs: Nervous system

Possible narcotic effects (drowsiness, dizziness).

n-butyl acetate**Specific target organ toxicity - repeated exposure**

Remarks

Organs: Nervous system

Possible narcotic effects (drowsiness, dizziness).

Aspiration hazard

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

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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.

Daphnia toxicity (Components)**formaldehyde**

Species	Daphnia magna (Water flea)		
NOEC	25		mg/l
Duration of exposure	35	d	

formaldehyde

Species	Daphnia magna (Water flea)		
EC50	5,8		mg/l
Duration of exposure	48	h	

12.2. Persistence and degradability**General information**

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

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

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.

General information / ecology

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

13. Disposal considerations**13.1. Waste treatment methods****Disposal recommendations for the product**

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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 080113 - sludges from paint or varnish containing organic solvents or other dangerous substances
 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
Tunnel restriction code	D/E		
14.1. UN number	1263	1263	1263
14.2. UN proper shipping name	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	5 l		
Transport category	2		

15. Regulatory information

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

Trade name: Hesse 2C Reactive systems, matt RSE 95452

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VOC

VOC (EU)	54,4	%	538	g/l
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15.2. Chemical safety assessment

For this substance / mixture a chemical safety assessment was not carried out.

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

EUH066	Repeated exposure may cause skin dryness or cracking.
H201	Explosive; mass explosion hazard.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic 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.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

CLP categories listed in Chapter 3

Acute Tox. 2	Acute toxicity, Category 2
Acute Tox. 3	Acute toxicity, Category 3
Carc. 1B	Carcinogenicity, Category 1B
Expl. 1.1	Explosive, Division 1.1
Eye Dam. 1	Serious eye damage, Category 1
Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
Muta. 2	Germ cell mutagenicity, Category 2
Skin Corr. 1B	Skin corrosion, Category 1B
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1A	Skin sensitization, Category 1A
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Abbreviations

Flam. Liq - Flammable liquids
 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

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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

ES003 - 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.

Volatile organic substances will volatilise into the atmospheric air inside.

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.

Trade name: Hesse 2C Reactive systems, matt RSE 95452

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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

Multilayer gloves made from

Appropriate Material Fluorinated rubber / butyl-rubber

Material thickness \geq 0,7

Breakthrough time \geq 30

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

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	PROC11
Assessment method	Long-term inhalative
Exposure assessment	242 mg/m ³
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,504
Lead substance	n-butyl acetate

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

ES001 - Industrial applications: industrial spraying (inside)

Use of the substance/preparation

Surface treatment of wood and other materials

Trade name: Hesse 2C Reactive systems, matt RSE 95452

Version: 28 / GB

Revision: 11.08.2021

Replaces Version: 27 / GB

Print date: 24.09.21

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.
 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	080113 - sludges from paint or varnish containing organic solvents or other dangerous substances
	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
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Disposal recommendations for packaging

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

Trade name: Hesse 2C Reactive systems, matt RSE 95452

Version: 28 / GB

Revision: 11.08.2021

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Print date: 24.09.21

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.
 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

Multilayer gloves made from

Appropriate Material Fluorinated rubber / butyl-rubber

Material thickness >= 0,7

Breakthrough time >= 30

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

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)

PROC

PROC7

Trade name: Hesse 2C Reactive systems, matt RSE 95452

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Assessment method	inhalation, long-term - local and systemic Indoor use
Exposure assessment	60,5 mg/m ³
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,126
Lead substance	n-butyl acetate

Workers (industrial)

PROC	PROC10
Assessment method	inhalation, long-term - systemic Indoor use
Exposure assessment	242 mg/m ³
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,504
Lead substance	n-butyl acetate

Workers (industrial)

PROC	PROC10
Assessment method	inhalation, long-term - systemic Outdoor use
Exposure assessment	242 mg/m ³
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,504
Lead substance	n-butyl acetate

Workers (industrial)

PROC	PROC13
Assessment method	inhalation, long-term - systemic Indoor use
Exposure assessment	242 mg/m ³
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,504
Lead substance	n-butyl acetate

Workers (industrial)

PROC	PROC13
Assessment method	inhalation, long-term - systemic Outdoor use
Exposure assessment	242 mg/m ³
Exposure assessment (method)	ECETOC TRA
Risk characterisation ratio (RCR)	0,504
Lead substance	n-butyl acetate

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.