Safety Data Sheet according to (EC) No 1907/2006 as amended

SDS No. : 76601
V025.0

TEROSON SB 2444

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

1.1. Product identifier
TEROSON SB 2444
UFI: 88MH-AWES-4204-JG60

This mixture contains nanoforms

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Contact adhesive

1.3. Details of the supplier of the safety data sheet
Henkel Ltd
Adhesives
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.com.

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Flammable liquids	Category 2
H225 Highly flammable liquid and vapour.	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - single exposure	Category 3
H336 May cause drowsiness or dizziness.	
Target organ: Central nervous system	
Acute hazards to the aquatic environment	Category 1
H400 Very toxic to aquatic life.	
Chronic hazards to the aquatic environment	Category 1
H410 Very toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains cyclohexane

Ethyl acetate

Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol

rosin

Signal word: Danger

Hazard statement:
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement: Prevention
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing vapors.
P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection.

Precautionary statement: Response
P370+P378 In case of fire: Use CO2, dry chemical, or foam for extinction.

Precautionary statement: Storage
P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

Solvents contained in the product evaporate during processing and their vapors can form explosive/highly inflammable air/vapor mixtures.
The solvent vapors are heavier than air and may collect in high concentrations at floor level.

Following substances are present in a concentration ≥ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

None

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS No. EC No UK-REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Ethyl acetate 141-78-6 205-500-4	20- < 40 %	Flam. Liq. 2, H225 STOT SE 3, H336 Eye Irrit. 2, H319		EU OEL
cyclohexane 110-82-7 203-806-2	20- < 40 %	Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Flam. Liq. 2, H225 Skin Irrit. 2, H315	M acute = 1 M chronic = 1	EU OEL
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	10- < 20 %	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411		
Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol 25085-50-1	1- < 5 %	Skin Sens. 1, H317		
rosin 8050-09-7 232-475-7	1- < 3 %	Skin Sens. 1, H317		
zinc oxide 1314-13-2 215-222-5	0,25- < 2,5 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M acute = 1 M chronic = 1	Nanoform
n-Hexane 110-54-3 203-777-6	0,1- < 1 %	Aquatic Chronic 2, H411 Flam. Liq. 2, H225 Repr. 2, H361f Asp. Tox. 1, H304 STOT RE 1, H372 Skin Irrit. 2, H315 STOT SE 3, H336		SVHC EU OEL
Disulfiram 97-77-8 202-607-8	0,01- < 0,1 %	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 STOT RE 2, H373	M acute = 10 M chronic = 10	

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.
For full text of the H - statements and other abbreviations see section 16 "Other information".

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air, consult doctor if complaint persists.

Skin contact:
IF ON SKIN: Wash with plenty of soap and water.
In case of adverse health effects seek medical advice.

Eye contact:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

Vapors may cause drowsiness and dizziness.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:
Water jet (solvent-containing product).

5.2. Special hazards arising from the substance or mixture
In case of fire toxic gases can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus.
Wear protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective equipment.
Avoid contact with skin and eyes.
Danger of slipping on spilled product.
Keep unprotected persons away.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.
Inform authorities in the event of product spillage to water courses or sewage systems.

6.3. Methods and material for containment and cleaning up
Remove with liquid-absorbing material (sand, peat, sawdust).
Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid open flames and sources of ignition.
Ground/bond container and receiving equipment.
Use explosion proof electric equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

Hygiene measures:

Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.
Store in a cool, frost-free place.
Temperatures between + 5 °C and + 25 °C.

7.3. Specific end use(s)

Contact adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):	Indicative	ECTLV
Ethyl acetate 141-78-6 [ETHYL ACETATE]	400	1.468	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):		EH40 WEL
Ethyl acetate 141-78-6 [ETHYL ACETATE]	400	1.468	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Cyclohexane 110-82-7 [CYCLOHEXANE]	100	350	Time Weighted Average (TWA):		EH40 WEL
Cyclohexane 110-82-7 [CYCLOHEXANE]	200	700	Time Weighted Average (TWA):	Indicative	ECTLV
Cyclohexane 110-82-7 [CYCLOHEXANE]	300	1.050	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Rosin 8050-09-7 [ROSIN-BASED SOLDER FLUX FUME]		0,05	Time Weighted Average (TWA):		EH40 WEL
Rosin 8050-09-7 [ROSIN-BASED SOLDER FLUX FUME]		0,15	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Magnesium oxide 1309-48-4 [MAGNESIUM OXIDE (AS MG), FUME AND RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Magnesium oxide 1309-48-4 [MAGNESIUM OXIDE (AS MG), INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Zinc oxide 1314-13-2 [Dust, inhalable dust]		10	Time Weighted Average (TWA):		EH40 WEL
Zinc oxide 1314-13-2 [Dust, respirable dust]		4	Time Weighted Average (TWA):		EH40 WEL
n-Hexane 110-54-3 [N-HEXANE]	20	72	Time Weighted Average (TWA):		EH40 WEL
n-Hexane 110-54-3 [N-HEXANE]	20	72	Time Weighted Average (TWA):	Indicative	ECTLV

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):	Indicative	ECTLV
Ethyl acetate	400	1.468	Short Term Exposure	Indicative	ECTLV

141-78-6 [ETHYL ACETATE]			Limit (STEL):		
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Ethyl acetate 141-78-6 [ETHYL ACETATE]	400	1.468	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
Cyclohexane 110-82-7 [CYCLOHEXANE]	200	700	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Cyclohexane 110-82-7 [CYCLOHEXANE]	200	700	Time Weighted Average (TWA):	Indicative	ECTLV
Rosin 8050-09-7 [ROSIN CORE SOLDER PYROLYSIS PRODUCTS]		0,05	Time Weighted Average (TWA):		IR_OEL
Rosin 8050-09-7 [ROSIN CORE SOLDER PYROLYSIS PRODUCTS]		0,15	Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Magnesium oxide 1309-48-4 [MAGNESIUM OXIDE]		10	Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Magnesium oxide 1309-48-4 [MAGNESIUM OXIDE]		5	Time Weighted Average (TWA):		IR_OEL
Magnesium oxide 1309-48-4 [MAGNESIUM OXIDE]		10	Time Weighted Average (TWA):		IR_OEL
Magnesium oxide 1309-48-4 [MAGNESIUM OXIDE]		4	Time Weighted Average (TWA):		IR_OEL
Zinc oxide 1314-13-2 [ZINC OXIDE,]		2	Time Weighted Average (TWA):		IR_OEL
Zinc oxide 1314-13-2 [ZINC OXIDE,]		10	Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
n-Hexane 110-54-3 [N-HEXANE]			Skin designation:	Can be absorbed through the skin.	IR_OEL
n-Hexane 110-54-3 [N-HEXANE]	20	72	Time Weighted Average (TWA):	Indicative	ECTLV
n-Hexane 110-54-3 [n-Hexane]	20	72	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Disulfiram 97-77-8 [Disulfiram]		2	Time Weighted Average (TWA):		IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Ethyl acetate 141-78-6	aqua (freshwater)		0,24 mg/l				
Ethyl acetate 141-78-6	aqua (marine water)		0,024 mg/l				
Ethyl acetate 141-78-6	aqua (intermittent releases)		1,65 mg/l				
Ethyl acetate 141-78-6	sewage treatment plant (STP)		650 mg/l				
Ethyl acetate 141-78-6	sediment (freshwater)				1,15 mg/kg		
Ethyl acetate 141-78-6	sediment (marine water)				0,115 mg/kg		
Ethyl acetate 141-78-6	Air						no hazard identified
Ethyl acetate 141-78-6	Soil				0,148 mg/kg		
Ethyl acetate 141-78-6	oral				200 mg/kg		
cyclohexane 110-82-7	aqua (freshwater)		0,0447 mg/l				
cyclohexane 110-82-7	Freshwater - intermittent		0,009 mg/l				
cyclohexane 110-82-7	aqua (marine water)		0,00447 mg/l				
cyclohexane 110-82-7	Marine water - intermittent		0,0009 mg/l				
cyclohexane 110-82-7	sediment (freshwater)				3,6 mg/kg		
cyclohexane 110-82-7	sediment (marine water)				0,36 mg/kg		
cyclohexane 110-82-7	Soil				0,694 mg/kg		
cyclohexane 110-82-7	sewage treatment plant (STP)		3,24 mg/l				
rosin 8050-09-7	aqua (freshwater)		0,002 mg/l				
rosin 8050-09-7	aqua (marine water)		0,0002 mg/l				
rosin 8050-09-7	sediment (freshwater)				0,007 mg/kg		
rosin 8050-09-7	sediment (marine water)				0,001 mg/kg		
rosin 8050-09-7	Soil				0 mg/kg		
rosin 8050-09-7	sewage treatment plant (STP)		1000 mg/l				
rosin 8050-09-7	aqua (intermittent releases)		0,016 mg/l				
zinc oxide 1314-13-2	aqua (freshwater)		19,7 µg/l				
zinc oxide 1314-13-2	aqua (marine water)		7,7 µg/l				
zinc oxide 1314-13-2	sewage treatment plant (STP)		100 µg/l				
zinc oxide 1314-13-2	sediment (freshwater)				146,9 mg/kg		
zinc oxide 1314-13-2	sediment (marine water)				162,2 mg/kg		
zinc oxide 1314-13-2	Soil				83,1 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Ethyl acetate 141-78-6	Workers	inhalation	Acute/short term exposure - systemic effects		1468 mg/m3	no hazard identified
Ethyl acetate 141-78-6	Workers	inhalation	Acute/short term exposure - local effects		1468 mg/m3	no hazard identified
Ethyl acetate 141-78-6	Workers	dermal	Long term exposure - systemic effects		63 mg/kg	no hazard identified
Ethyl acetate 141-78-6	Workers	inhalation	Long term exposure - systemic effects		734 mg/m3	no hazard identified
Ethyl acetate 141-78-6	Workers	inhalation	Long term exposure - local effects		734 mg/m3	no hazard identified
Ethyl acetate 141-78-6	General population	Inhalation	Acute/short term exposure - systemic effects		734 mg/m3	no hazard identified
Ethyl acetate 141-78-6	General population	inhalation	Acute/short term exposure - local effects		734 mg/m3	no hazard identified
Ethyl acetate 141-78-6	General population	dermal	Long term exposure - systemic effects		37 mg/kg	no hazard identified
Ethyl acetate 141-78-6	General population	inhalation	Long term exposure - systemic effects		367 mg/m3	no hazard identified
Ethyl acetate 141-78-6	General population	oral	Long term exposure - systemic effects		4,5 mg/kg	no hazard identified
Ethyl acetate 141-78-6	General population	inhalation	Long term exposure - local effects		367 mg/m3	no hazard identified
cyclohexane 110-82-7	Workers	inhalation	Acute/short term exposure - local effects		700 mg/m3	
cyclohexane 110-82-7	Workers	inhalation	Acute/short term exposure - systemic effects		700 mg/m3	
cyclohexane 110-82-7	Workers	inhalation	Long term exposure - systemic effects		700 mg/m3	
cyclohexane 110-82-7	Workers	inhalation	Long term exposure - local effects		700 mg/m3	
cyclohexane 110-82-7	Workers	dermal	Long term exposure - systemic effects		2016 mg/kg	
cyclohexane 110-82-7	General population	inhalation	Acute/short term exposure - systemic effects		412 mg/m3	
cyclohexane 110-82-7	General population	inhalation	Acute/short term exposure - local effects		412 mg/m3	
cyclohexane 110-82-7	General population	dermal	Long term exposure - systemic effects		1186 mg/kg	
cyclohexane 110-82-7	General population	oral	Long term exposure - systemic effects		59,4 mg/kg	
cyclohexane 110-82-7	General population	inhalation	Long term exposure - systemic effects		206 mg/m3	
cyclohexane 110-82-7	General population	inhalation	Long term exposure - local effects		206 mg/m3	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Workers	inhalation	Long term exposure -		2035 mg/m3	

-----			systemic effects			
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	Workers	dermal	Long term exposure - systemic effects		773 mg/kg	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	General population	inhalation	Long term exposure - systemic effects		608 mg/m3	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	General population	dermal	Long term exposure - systemic effects		699 mg/kg	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	General population	oral	Long term exposure - systemic effects		699 mg/kg	
rosin 8050-09-7	Workers	inhalation	Long term exposure - local effects		10 mg/m3	
rosin 8050-09-7	Workers	dermal	Long term exposure - systemic effects		2,131 mg/kg	
rosin 8050-09-7	General population	dermal	Long term exposure - systemic effects		1,065 mg/kg	
rosin 8050-09-7	General population	oral	Long term exposure - systemic effects		1,065 mg/kg	
n-Hexane 110-54-3	Workers	inhalation	Long term exposure - systemic effects		75 mg/m3	
n-Hexane 110-54-3	Workers	dermal	Long term exposure - systemic effects		11 mg/kg	
n-Hexane 110-54-3	General population	inhalation	Long term exposure - systemic effects		16 mg/m3	
n-Hexane 110-54-3	General population	dermal	Long term exposure - systemic effects		5,3 mg/kg	
n-Hexane 110-54-3	General population	oral	Long term exposure - systemic effects		4 mg/kg	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Use only in well ventilated areas.

Respiratory protection:
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).
This recommendation should be matched to local conditions.

Hand protection:
Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Goggles which can be tightly sealed.
Protective eye equipment should conform to EN166.

Skin protection:
Wear protective equipment.
Protective clothing that covers arms and legs.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.
Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Delivery form	liquid
Colour	Beige
Odor	Solvent
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 5 °C (< 41 °F)
Initial boiling point (1.013 hPa)	70 °C (158 °F)
Flammability	Flammable liquid
Explosive limits	
lower	0,47 %(V); Upper explosion limit not applicable for safe processing practices.
Flash point	< 0 °C (< 32 °F); DIN 51755 Closed cup flash point
Auto-ignition temperature	> 200 °C (> 392 °F)
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Product is non-soluble (in water)., Not applicable
Viscosity (kinematic) (40 °C (104 °F);)	3.700 mm2/s ;.Dummy
Viscosity, dynamic (Brookfield; Instrument: RVT; 20,0 °C (68 °F); Spindle No: 4)	3.000 mPa.s Brookfield viscosity (LVT, RVT, HBT)
Flow cup viscosity (; Nozzle: 6 mm DIN EN ISO 2431; QP2017.1, QP1580.0; Running out time with flow cups)	115 s DIN EN ISO 2431 Running out time with flow cups
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not miscible or difficult to mix
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (55 °C (131 °F))	450 mbar
Vapour pressure (20 °C (68 °F))	140 hPa
Vapour pressure (50 °C (122 °F))	510 hPa
Density (20 °C (68 °F))	0,87 g/cm3 UK-NO. 4/2, density pycnometer
Relative vapour density: (20 °C)	> 1
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity
Oxidizers.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Heat, flames, sparks and other sources of ignition.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
No decomposition if used according to specifications.

SECTION 11: Toxicological information

General toxicological information:
An allergic reaction cannot be excluded after repeated skin contact.

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

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Ethyl acetate 141-78-6	LD50	6.100 mg/kg	rat	not specified
cyclohexane 110-82-7	LD50	> 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	LD50	> 5.840 mg/kg	rat	not specified
Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol 25085-50-1	LD50	> 5.000 mg/kg	rat	not specified
rosin 8050-09-7	LD50	2.800 mg/kg	rat	not specified
zinc oxide 1314-13-2	LD50	> 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
n-Hexane 110-54-3	LD50	16.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Disulfiram 97-77-8	LD50	1.860 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Ethyl acetate 141-78-6	LD50	> 20.000 mg/kg	rabbit	Draize Test
cyclohexane 110-82-7	LD50	> 2.000 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	LD50	> 2.800 mg/kg	rat	not specified
Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol 25085-50-1	LD50	> 2.000 mg/kg	rabbit	not specified
rosin 8050-09-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
zinc oxide 1314-13-2	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
n-Hexane 110-54-3	LD50	> 2.000 mg/kg	rabbit	not specified
Disulfiram 97-77-8	LD50	> 2.000 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Ethyl acetate 141-78-6	LC50	57,7 mg/l	vapour	4 h	rat	not specified
Ethyl acetate 141-78-6	LC50	> 22,5 mg/l	vapour	6 h	rat	other guideline:
cyclohexane 110-82-7	LC50	> 32,880 mg/l	vapour	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	LC50	> 25,2 mg/l	vapour	4 h	rat	not specified
zinc oxide 1314-13-2	LC50	> 5,7 mg/l	dust/mist	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
n-Hexane 110-54-3	LC50	> 31,86 mg/l	vapour	4 h	rat	not specified
Disulfiram 97-77-8	LC50	3,464 mg/l	dust/mist	4 h	rat	EPA OPP 81-3 (Acute inhalation toxicity)

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Ethyl acetate 141-78-6	slightly irritating	24 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
cyclohexane 110-82-7	irritating		rabbit	Weight of evidence
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
rosin 8050-09-7	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
zinc oxide 1314-13-2	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
n-Hexane 110-54-3	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Disulfiram 97-77-8	not irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Ethyl acetate 141-78-6	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
cyclohexane 110-82-7	slightly irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	not irritating		rabbit	FDA Guideline
rosin 8050-09-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
zinc oxide 1314-13-2	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
n-Hexane 110-54-3	not irritating		rabbit	not specified
Disulfiram 97-77-8	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Ethyl acetate 141-78-6	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
cyclohexane 110-82-7	not sensitising	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
zinc oxide 1314-13-2	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
n-Hexane 110-54-3	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Disulfiram 97-77-8	sensitising	Split adjuvant test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Ethyl acetate 141-78-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethyl acetate 141-78-6	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
cyclohexane 110-82-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
cyclohexane 110-82-7	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
rosin 8050-09-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
rosin 8050-09-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
rosin 8050-09-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
zinc oxide 1314-13-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
zinc oxide 1314-13-2	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
zinc oxide 1314-13-2	ambiguous	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
n-Hexane 110-54-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
n-Hexane 110-54-3	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Disulfiram 97-77-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Disulfiram 97-77-8	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Disulfiram 97-77-8	ambiguous	mammalian cell gene mutation assay	without		OECD Guideline 490 (In Vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene)
Ethyl acetate 141-78-6	negative	oral: gavage		hamster, Chinese	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
cyclohexane 110-82-7	negative	inhalation: vapour		rat	equivalent or similar to OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
zinc oxide 1314-13-2	negative	inhalation: aerosol		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
zinc oxide 1314-13-2	negative	inhalation: aerosol		rat	OECD Guideline 489 (In Vivo Mammalian Alkaline Comet Assay)
n-Hexane	negative	inhalation: vapour		mouse	not specified

110-54-3					
n-Hexane 110-54-3	negative	inhalation: vapour		rat	not specified
Disulfiram 97-77-8	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Disulfiram 97-77-8	negative	oral: gavage		mouse	equivalent or similar to OECD Guideline 484 (Genetic Toxicology: Mouse Spot Test)
Disulfiram 97-77-8	negative	oral: gavage		mouse	OECD Guideline 483 (Mammalian Spermatogonial Chromosome Aberration Test)

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
zinc oxide 1314-13-2	not carcinogenic	oral: drinking water	1 y daily	mouse	male/female	not specified
n-Hexane 110-54-3	not carcinogenic	inhalation: vapour	2 y 6 h/d; 5 d/w	mouse	female	OECD Guideline 451 (Carcinogenicity Studies)
Disulfiram 97-77-8	not carcinogenic	oral: feed	108 w daily	mouse	male	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)
Disulfiram 97-77-8	not carcinogenic	oral: feed	107 w daily	rat	male/female	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Ethyl acetate 141-78-6	NOAEL P 1500 ppm	other:	inhalation	rat	other guideline:
cyclohexane 110-82-7	NOAEL F1 7000 ppm	two-generation study	inhalation: vapour	rat	equivalent or similar to OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
rosin 8050-09-7	NOAEL P 3000 ppm NOAEL F1 3000 ppm	screening	oral: feed	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
zinc oxide 1314-13-2	NOAEL P 7,5 mg/kg NOAEL F1 15 mg/kg	Two generation study	oral: gavage	rat	equivalent or similar to OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
n-Hexane 110-54-3	NOAEL P 9000 ppm NOAEL F1 3000 ppm NOAEL F2 3000 ppm	Two generation study	inhalation: vapour	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
Disulfiram 97-77-8	NOAEL P 30 ppm NOAEL F1 60 ppm NOAEL F2 60 ppm	Two generation study	oral: feed	rat	equivalent or similar to OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Assessment	Route of exposure	Target Organs	Remarks
Ethyl acetate 141-78-6	May cause drowsiness or dizziness.			
cyclohexane 110-82-7	May cause drowsiness or dizziness.			
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	May cause drowsiness or dizziness.			
n-Hexane 110-54-3	May cause drowsiness or dizziness.			

STOT-repeated exposure:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Ethyl acetate 141-78-6	NOAEL 900 mg/kg	oral: gavage	90 d daily	rat	EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
cyclohexane 110-82-7		inhalation: vapour	13-14 w 6 h/d, 5 d/w	mouse	EPA OPPTS 870.3465 (90-Day Inhalation Toxicity)
rosin 8050-09-7	NOAEL 5000 ppm	oral: feed	90 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
zinc oxide 1314-13-2	NOAEL 31,52 mg/kg	oral: gavage	90 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
zinc oxide 1314-13-2	NOAEL 1.5 mg/m3	inhalation	3 m 6 h/d, 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
zinc oxide 1314-13-2	NOAEL 1.000 mg/kg	dermal	90 d 6 h/d, daily	rat	OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
n-Hexane 110-54-3	NOAEL 40 mg/kg	oral: gavage	13 weeks daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
n-Hexane 110-54-3	NOAEL 13,2 mg/kg	oral: gavage	90-120 d 5 d / week	rat	not specified
Disulfiram 97-77-8	NOAEL 0,84 mg/kg	oral: feed	52 weeks daily	dog	EPA OPP 83-1 (Chronic Toxicity)
Disulfiram 97-77-8	NOAEL 2,54 mg/kg	oral: feed	52 weeks daily	dog	EPA OPP 83-1 (Chronic Toxicity)
Disulfiram 97-77-8	NOAEL 300 mg/kg	dermal	21-22 d daily	rabbit	OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Aspiration hazard:

No Aspiration toxicity classification

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

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
cyclohexane 110-82-7	0,41 mm2/s	40 °C	not specified	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	0,61 mm2/s	25 °C	not specified	
n-Hexane 110-54-3	0,45 mm2/s	25 °C	not specified	

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

No data available.

SECTION 12: Ecological information

General ecological information:

Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Ethyl acetate 141-78-6	LC50	220 mg/l	96 h	Pimephales promelas	other guideline:
cyclohexane 110-82-7	LC50	4,53 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	LL50	11,4 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
rosin 8050-09-7	LC50		96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
zinc oxide 1314-13-2	LC50	0,142 mg/l	96 h	Thymallus arcticus	OECD Guideline 203 (Fish, Acute Toxicity Test)
zinc oxide 1314-13-2	NOEC	0,44 mg/l	72 d	Oncorhynchus mykiss	other guideline:
n-Hexane 110-54-3	LC50	> 1 - 10 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)
Disulfiram 97-77-8	NOEC	0,0032 mg/l	10 d	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 210 (fish early life stage toxicity test)
Disulfiram 97-77-8	LC50	0,067 mg/l	96 h	Lepomis macrochirus	

Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Ethyl acetate 141-78-6	EC50	164 mg/l	48 h	Daphnia cucullata	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
cyclohexane 110-82-7	EC50	0,9 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	EL50	3 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol 25085-50-1	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
rosin 8050-09-7	EL50		48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
zinc oxide 1314-13-2	EC50	1 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
n-Hexane 110-54-3	EC50	2,1 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Disulfiram 97-77-8	EC50	0,24 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Ethyl acetate 141-78-6	NOEC	2,4 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	NOEC	0,17 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
zinc oxide 1314-13-2	NOEC	0,058 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Ethyl acetate 141-78-6	EC50	> 2.000 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethyl acetate 141-78-6	NOEC	2.000 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
cyclohexane 110-82-7	EC50	9,317 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
cyclohexane 110-82-7	NOEC	0,95 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	EL50	> 30 - 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	NOELR	3 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
rosin 8050-09-7	EL50		72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
rosin 8050-09-7	NOELR		72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
zinc oxide 1314-13-2	NOEC	0,017 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
zinc oxide 1314-13-2	EC50	0,17 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
n-Hexane 110-54-3	EC50	> 1 - 10 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Disulfiram 97-77-8	EC50	1,8 mg/l	96 h	Chlorella pyrenoidosa	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Ethyl acetate 141-78-6	EC10	2.900 mg/l	18 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
cyclohexane 110-82-7	IC50	29 mg/l	15 h	other:	not specified
rosin 8050-09-7	EC20		3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
zinc oxide 1314-13-2	IC50	5,2 mg/l	3 h	not specified	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
n-Hexane 110-54-3	EC50	> 1 - 10 mg/l	3 h	not specified	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Biodegradability (Screening Tests):
The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Ethyl acetate 141-78-6	readily biodegradable	aerobic	100 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
cyclohexane 110-82-7	readily biodegradable	aerobic	77 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane -----	readily biodegradable	aerobic	98 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
rosin 8050-09-7	readily biodegradable	aerobic	71 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
n-Hexane 110-54-3	readily biodegradable	aerobic	81 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Disulfiram 97-77-8	not readily biodegradable.	aerobic	20 - 40 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

(Bio)degradability (Simulation Tests):
No data available.

12.3. Bioaccumulative potential

Partition Coefficient (octanol/water)
The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Ethyl acetate 141-78-6	0,68	25 °C	EPA OPPTS 830.7560 (Partition Coefficient, n-octanol / H2O, Generator Column Method)
cyclohexane 110-82-7	3,44	25 °C	QSAR (Quantitative Structure Activity Relationship)
rosin 8050-09-7	> 3 - 6,2		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
n-Hexane 110-54-3	4	20 °C	other guideline:
Disulfiram 97-77-8	3,88		not specified

Bioconcentration factor (BCF)
The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Ethyl acetate 141-78-6	30	3 d	22,5 °C	Leuciscus idus melanotus	other guideline:
cyclohexane 110-82-7	167			Pimephales promelas	QSAR (Quantitative Structure Activity Relationship)

12.4. Mobility in soil

No data available.

12.5. Results of PBT / vPvB / PMT / vPvM assessment

PBT/vPvB
The following table contains only substances that fulfill the criteria as PBT and/or vPvB.
The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	PBT	vPvB
zinc oxide 1314-13-2	According to Annex XIII to Regulation (EC) No 1907/2006, a PBT and vPvB assessment shall not be conducted for inorganic substances.	

PMT/vPvM
This mixture does not contain any substances that are assessed to be a PMT or vPvM.
Based on available data, the classification criteria are not met.

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
In consultation with the responsible local authority, must be subjected to special treatment.

Waste code
080409

Waste code
The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information

14.1. UN number or ID number

ADR	1133
RID	1133
ADN	1133
IMDG	1133
IATA	1133

14.2. UN proper shipping name

ADR	ADHESIVES
RID	ADHESIVES
ADN	ADHESIVES
IMDG	ADHESIVES (Cyclohexane)
IATA	Adhesives

14.3. Transport hazard class(es)

ADR	3
RID	3
ADN	3
IMDG	3
IATA	3

14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

14.5. Environmental hazards

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
IMDG	Marine Pollutant
IATA	not applicable

14.6. Special precautions for user

ADR	Special provision 640D Tunnelcode: (D/E)
RID	Special provision 640D
ADN	Special provision 640D
IMDG	not applicable
IATA	not applicable

Packed goods < 450 L (ADR/IMDG) can be classified in packaging group III, based of the viscosity (ADR 2.2.3.1.4 und IMDG 2.3.2.2)

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable

VOC content (2010/75/EU)	72,0 %

VOC Paints and Varnishes (EU):

Product (sub)category:	This product is not a subject of the Directive 2004/42/EC
Seveso III (2012/18/EU):	E1, Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1 P5c, Flammable liquids, Categories 2 or 3 not covered by P5a and P5b

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H361f Suspected of damaging fertility.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED:Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level
NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development

OEL: Occupational Exposure Limit
OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances
PBT: Persistent, bioaccumulative, toxic
PMT: Persistent, mobile and toxic
(Q)SAR: (Quantitative) structure–activity relationship
REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet
STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
vPvM: Very persistent and very mobile
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

Further information:

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