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

1.1. Product identifier

Nitroverdünner BAG 43041

Item No. 15630000

Substance / product identification

UFI W7KH-81TR-S00H-EANX

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

Use of the substance/preparation

Thinner for adhesive agent, Thinner for paint

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Hänseler AG
Industriestrasse 35
9100 Herisau

Telephone no.	0041 (0)71 353 58 58
E-mail address of person responsible for this SDS	sdb@haenseler.ch

1.4. Emergency telephone number

Switzerland :145 / Abroad +41 (0)44 251 51 51

SECTION 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
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Carc. 2	H351
Repr. 2	H361d
STOT SE 3	H336
STOT RE 2	H373
Asp. Tox. 1	H304
Aquatic Chronic 3	H412

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

Hazard pictograms

Signal word

Danger

Hazard statements ***

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements ***

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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 expsoed or concerned: Get medicinal advice/attention.
P331	Do NOT induce vomiting.

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

contains	Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics; 4-methylpentan-2-one; toluene; acetone; n-butyl acetate

Reduced labeling (<= 125 ml)

Hazard pictograms ***

Signal word ***

Danger

Hazard statements ***

H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H304	May be fatal if swallowed and enters airways.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements ***

P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P308+P313	IF expsoed or concerned: Get medicinal advice/attention.
P331	Do NOT induce vomiting.
P501.3	Disposal in compliance with local and national regulations.

2.3. Other hazards

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

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

SECTION 3: Composition/information on ingredients

Hazardous ingredients

toluene

CAS No.	108-88-3					
EINECS no.	203-625-9					
Registration no.	01-2119471310-51-XXXX					
Concentration	>=	20	<	25	%	
Classification (Regulation (EC) No. 1272/2008)						
	Flam. Liq. 2		H225			
	Asp. Tox. 1		H304			
	Skin Irrit. 2		H315			
	Repr. 2		H361d			
	STOT SE 3		H336			Nervous system
	STOT RE 2		H373			Nervous system
	Aquatic Chronic 3		H412			

4-methylpentan-2-one

CAS No.	108-10-1					
EINECS no.	203-550-1					
Concentration	>=	20	<	25	%	
Classification (Regulation (EC) No. 1272/2008)						
	Flam. Liq. 2		H225			
	Acute Tox. 4		H332			
	Eye Irrit. 2		H319			
	Carc. 2		H351			
	STOT SE 3		H336			

cATpE	inhalative, Dust/Mist	1.5	mg/l
ATE	inhalative, Vapors	11	mg/l

n-butyl acetate

CAS No.	123-86-4					
EINECS no.	204-658-1					
Concentration	>=	20	<	25	%	
Classification (Regulation (EC) No. 1272/2008)						
	Flam. Liq. 3		H226			
	STOT SE 3		H336			

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

EINECS no.	920-750-0					
Registration no.	01-21199473851-33-XXXX					
Concentration	>=	10	<	20	%	
Classification (Regulation (EC) No. 1272/2008)						
	Flam. Liq. 2		H225			
	STOT SE 3		H336			
	Asp. Tox. 1		H304			
	Aquatic Chronic 2		H411			

acetone

CAS No.	67-64-1
EINECS no.	200-662-2

Concentration >= 1 < 10 %
Classification (Regulation (EC) No. 1272/2008)
Flam. Liq. 2 H225
Eye Irrit. 2 H319
STOT SE 3 H336

4-methylpentan-2-ol
CAS No. 108-11-2
EINECS no. 203-551-7
Concentration >= 1 < 10 %
Classification (Regulation (EC) No. 1272/2008)
Flam. Liq. 3 H226
STOT SE 3 H335

Concentration limits (Regulation (EC) No. 1272/2008)
STOT SE 3 H335 >= 25 %

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Take affected person to fresh air. Remove contaminated, soaked clothing immediately and dispose of safely. Adhere to personal protective measures when giving first aid

After inhalation

Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. In the event of symptoms take medical treatment. If the patient is likely to become unconscious, place and transport in stable sideways position.

After skin contact

Wash off immediately with soap and water and rinse well. Consult a doctor if skin irritation persists.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

After ingestion

Do not induce vomiting. Summon a doctor immediately. Rinse out mouth and give plenty of water to drink. Administer activated charcoal.

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

Irritation of mucosa, Headache, Dizziness, Gastrointestinal complaints, Nausea, Intoxication, Narcosis

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

Hints for the physician / hazards

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide, Water spray jet, Dry powder, Extinguish greater fire with water spray or alcohol-resistant foam.

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Carbon monoxide (CO); Forms esplosive mixture with air are possible. Carbon dioxide (CO2)

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Use self-contained breathing apparatus.

Other information

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep away unprotected persons.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Prevent spread over a wide area (e.g. by containment or oil barriers). In case the product spills into sewage waters, immediately inform the authorities.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material (eg sand, kieselguhr, universal binder). Dispose of absorbed material in accordance with the regulations. Ensure adequate ventilation.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Provide good room ventilation even at ground level (vapours are heavier than air). Keep container tightly closed. Avoid inhalation of vapour and spray mist.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take action to prevent static discharges. Use explosion-proof equipment/fittings and non-sparking tools. Vapours can form an explosive mixture with air. Risk of explosion if the liquid enters the drains.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage temperature

Value	15	25	°C

Requirements for storage rooms and vessels

explosion proof. Provide solvent-resistant and impermeable floor.

Hints on storage assembly

Do not store with oxidizing agents.

Storage classes

Storage class according to TRGS 510	3	Flammable liquid
Storage category (Switzerland)	3	Flammable liquid

Further information on storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection ***

8.1. Control parameters

Exposure limit values

toluene

List	SUVA			
Type	MAK			
Value	190	mg/m³	50	ppm(V)
Short term exposure limit	760	mg/m³	200	ppm(V)

Skin resorption / sensibilisation: H; Pregnancy group: S Remarks: H OL B R2F R2D SSc; Sehen, ZNS; DFG, HSE, INRS, NIOSH

acetone

List	SUVA			
Type	MAK			
Value	1200	mg/m³	500	ppm(V)
Short term exposure limit	2400	mg/m³	1000	ppm(V)

Remarks: B ZNS; AugeKT HU & AWKT HU; NIOSH

4-methylpentan-2-one

List	SUVA			
Type	MAK			
Value	82	mg/m³	20	ppm(V)
Short term exposure limit	164	mg/m³	40	ppm(V)

Skin resorption / sensibilisation: H; Pregnancy group: S Remarks: H B SSc; OAW, ZNS, AugeKT HU; DFG, INRS, NIOSH

n-butyl acetate

List	SUVA			
Type	MAK			
Value	240	mg/m³	50	ppm(V)
Short term exposure limit	720	mg/m³	150	ppm(V)

Pregnancy group: S Remarks: SSc; AW Auge; INRS NIOSH

4-methylpentan-2-ol

List	SUVA			
Type	MAK			
Value	85	mg/m³	20	ppm(V)
Short term exposure limit	85	mg/m³	20	ppm(V)

Skin resorption / sensibilisation: H Remarks: H; ZNS, Auge, OAWKT HU; NIOSH

Derived No/Minimal Effect Levels (DNEL/DMEL)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	773	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	2035	mg/m³

Type of value	Derived No Effect Level (DNEL)
Reference group	Consumer
Duration of exposure	Long term

Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	699	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	608	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	699	mg/kg/d

toluene

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	192	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	192	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	384	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	384	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	384	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	56.5	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	56.5	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	226	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	226	mg/m³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	226	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	8.13	mg/kg/d

acetone

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	186	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	1210	mg/m³
Type of value	Derived No Effect Level (DNEL)	

Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	2420	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	62	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	200	mg/m³

4-methylpentan-2-one

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	208	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	83	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	11.8	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	14.7	mg/m³

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	155.2	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	4.2	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	4.2	mg/kg/d

n-butyl acetate

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	7	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	48	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	3.4	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	inhalative	
Concentration	12	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Concentration	3.4	mg/kg/d

4-methylpentan-2-ol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	208	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	104	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	83	mg/m³

Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	11.8	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	155.2	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	52.1	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	14.7	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	4.2	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Concentration	4.2	mg/kg/d

Predicted No Effect Concentration (PNEC)

toluene

Type of value	PNEC	
Type	Freshwater	
Concentration	0.68	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0.68	mg/l
Type of value	PNEC	
Conditions	Intermittend	
Concentration	0.68	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	13.61	mg/l
Type of value	PNEC	
Type	Sediment	
Concentration	16.39	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	16.39	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	2.89	mg/kg

acetone

Type of value	PNEC	
Type	Freshwater	
Concentration	10.6	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	1.06	mg/l
Conditions	Intermittend	
Concentration	21	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	100	mg/l
Type of value	PNEC	
Type	Sediment	
Concentration	30.4	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	3.04	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	29.5	mg/kg

4-methylpentan-2-one

Type of value	PNEC	
Type	Freshwater	
Concentration	0.6	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0.06	mg/l
Type of value	PNEC	
Type	Water	
Conditions	Intermittend	
Concentration	1.5	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	27.5	mg/l
Type of value	PNEC	
Type	Sediment	
Concentration	8.27	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	0.83	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	1.3	mg/kg

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	
Conditions	Intermittend	
Concentration	0.36	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	35.6	mg/l
Type of value	PNEC	
Type	Sediment	
Concentration	0.981	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0.0903	mg/kg

4-methylpentan-2-ol

Type of value	PNEC	
Type	Freshwater	
Concentration	0.6	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0.06	mg/l
Type of value	PNEC	
Conditions	Intermittend	
Concentration	3.3	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	1	mg/l
Type of value	PNEC	
Type	Marine sediment	
Concentration	0.3	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0.24	mg/kg

8.2. Exposure controls

General protective and hygiene measures

Keep away from food-stuffs, beverages and feed-stocks. Wash hands before breaks and after work. Avoid contact with skin and eyes. Hold eye wash fountain available. Do not inhale gases/vapours/aerosols. At work do not eat, drink, smoke or take drugs.

Respiratory protection

Breathing apparatus in the event of vapours. Breathing apparatus in the event of aerosol or mist formation. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. At intensive and longer exposition use self-contained breathing apparatus. Short term: filter apparatus; combination filter A-P2

Hand protection ***

The glove material must be sufficient impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location.

Appropriate Material	nitrile rubber - NBR	
Material thickness	0.4	mm

Eye protection

Tightly fitting safety glasses

Body protection

Solvent-resistant protective clothing

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Melting point	
Remarks	not determined

Boiling point or initial boiling point and boiling range

Value		56	to	165	°C

Upper and lower explosive limits

Lower explosion limit		0.9	to	15	%(V)

Flash point

Value	<	0			°C

Auto-ignition temperature

Value	>	200			°C

Vapour pressure

Remarks	No data available

Density and/or relative density

Value	0.82		g/cm³
Temperature	20	°C	

9.2. Other information

Solubility in water

Remarks	slightly soluble

Solvent content

Value	100	%

Other information

The product is dangerous for explosions. Forms esplosive mixture with air are possible.

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical stability

No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions

To avoid thermal decomposition, do not overheat. Vapours can form an explosive mixture with air. Possible incompatibility with materials lister under section 10.5.

10.4. Conditions to avoid

Keep away from sources of heat and ignition. Flames. Sparks. Protect from direct sunlight.

10.5. Incompatible materials

Reaction with nitric acid. Strong oxidising agents, strong reducing agents, Acids, Bases, Reactions with halogenated compounds. peroxides, amines, Alkaline metals, Reactions with earth alkali metals. acetic acid anhydride

10.6. Hazardous decomposition products

In the event of fire the following can be released: Carbon monoxide and carbon dioxide, Aldehydes, Toxic gases/vapours

Other information

Formation of explosive gas/air mixtures.

SECTION 11: Toxicological information

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

Acute oral toxicity

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

Acute oral toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	rat		
LD50	>	5000	mg/kg
Method	OECD 401		

toluene

Species	rat		
LD50		5580	mg/kg
Duration of exposure	-		
Method	OECD 401		

acetone

Species	rat		
LD50		5800	mg/kg
Method	OECD 401		

4-methylpentan-2-one

Species	rat		
LD50		2080	mg/kg
Method	OECD 401		

n-butyl acetate

Species	rat		
LD50		10760	mg/kg
Method	OECD 423		

4-methylpentan-2-ol

Species	rat		
LD50		2590	mg/kg
Method	OECD 401		

Acute dermal toxicity

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

Acute dermal toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	rabbit		
LD50	>	2800	mg/kg
Method	OECD 402		

toluene

Species	rabbit		
LD50	>	5000	mg/kg

acetone

Species	rat		
LD50	>	15800	mg/kg

4-methylpentan-2-one

Species	rat		
LD50	>	16000	mg/kg

n-butyl acetate

Species	rabbit		
LD50	>	14112	mg/kg
Method	OECD 402		

4-methylpentan-2-ol

Species	rabbit		
LD50		2870	mg/kg

Method	OECD 402		

Acute inhalational toxicity

ATE	44.0176		mg/l
Administration/Form	Vapors		
Method	calculated value according to GHS (e.g see UN GHS)		
ATE	6.0024		mg/l
Administration/Form	Dust/Mist		
Method	calculated value according to GHS (e.g see UN GHS)		
Remarks	Based on available data, the classification criteria are not met.		

Acute inhalative toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	rat			
LC50	>	23.3		mg/l
Duration of exposure		4	h	
Method	OECD 403			

toluene

Species	Rats (male/female)			
LC50		28.1		mg/l
Duration of exposure		4	h	
Method	OECD 403			

toluene

Species	rat (male)			
LC50		25.7		mg/l
Administration/Form	Vapors			
Method	OECD 403			

toluene

Species	rat (female)			
LC50		30		mg/l
Administration/Form	Vapors			
Method	OECD 403			

acetone

Species	rat			
LC50	appr.	76		mg/l
Duration of exposure		4	h	
Remarks	May cause pain in nose and throat, nausea, dizziness, headache, loss of responsiveness and unconsciousness at high concentrations.			

4-methylpentan-2-one

Species	rat			
LC50	>	2000		ppm(V)
Duration of exposure		4	h	

4-methylpentan-2-one

Species	rat			
NOAEC		450		ppm(V)
Administration/Form	Vapors			

4-methylpentan-2-one

ATE		11.00		mg/l
Administration/Form	Vapors			
Source	ECHA			

n-butyl acetate

Species	rat			
LC50		23.4		mg/l
Duration of exposure		4	h	
Administration/Form	Dust/Mist			

Method	OECD 403	

4-methylpentan-2-ol

Species	rat	
LC50	< 16	mg/l
Method	OECD 403	

Skin corrosion/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Skin corrosion/irritation (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available.

toluene

Species	rabbit
evaluation	irritant
Method	OECD 404
Remarks	Danger of resorption through the skin.

acetone

Remarks	Frequent persistent contact with the skin can cause skin irritation.

4-methylpentan-2-one

Species	rabbit
evaluation	non-irritant
Method	OECD 404

4-methylpentan-2-one

Species	Human
Remarks	Repeated and prolonged skin contact may lead to defatting and irritation of the skin.

n-butyl acetate

Method	OECD 404
Remarks	None

4-methylpentan-2-ol

Species	rabbit
evaluation	irritant
Method	OECD 404

Serious eye damage/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Serious eye damage/irritation (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available.

toluene

Species	rabbit
Method	OECD 405
Remarks	None

acetone

evaluation	irritant - risk of serious damage to eyes

4-methylpentan-2-one

Species	rabbit
evaluation	slightly irritant
Method	OECD 405

4-methylpentan-2-one

Species	Human

Remarks	Eye contact with the product may lead to irritation.

n-butyl acetate

Species	rabbit
evaluation	non-irritant
Method	OECD 405

4-methylpentan-2-ol

Species	rabbit
evaluation	irritant
Method	OECD 405

Sensitization

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

Sensitization (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available.

toluene

Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406

acetone

Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406

4-methylpentan-2-one

Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406

n-butyl acetate

Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406

n-butyl acetate

Species	mouse
evaluation	non-sensitizing

Subacute, subchronic, chronic toxicity

Remarks	Repeated absorption/exposure may cause disorder of liver and kidneys.

Subacute, subchronic, chronic toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available

Mutagenicity

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

Mutagenicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available.

toluene

evaluation	No mutagenicity according to various in vitro tests.

acetone

evaluation	No mutagenicity according to various in vitro tests.

4-methylpentan-2-one

Remarks	negative

n-butyl acetate

Method	Ames test
Remarks	negative

4-methylpentan-2-ol

Remarks	None

Reproductive toxicity

evaluation	Suspected of damaging the unborn child.
Remarks	The classification criteria are met.

Reproduction toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available.

toluene

evaluation	Suspected of damaging the unborn child.
Remarks	Indications of toxic effects are available from reproduction studies in animals.

acetone

Remarks	No indications of toxic effects were observed in reproduction studies in animals.

4-methylpentan-2-one

Remarks	negative

4-methylpentan-2-ol

Route of exposure	inhalative
Dose	4.16 mg/l
evaluation	No negative effects
Remarks	Test conducted with a similar formulation.

Carcinogenicity

evaluation	Suspected of causing cancer.
Remarks	The classification criteria are met.

Carcinogenicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available.

toluene

Species	mammal, species unspecified
evaluation	No indications of carcinogenic effects are available from long-term trials.

acetone

Remarks	No evidence available on carcinogenicity.

4-methylpentan-2-one

evaluation	No negative effects

4-methylpentan-2-one

evaluation	No negative effects
Method	Ames test

4-methylpentan-2-ol

Dose	1.84 mg/l
Remarks	No evidence available on carcinogenicity.

Specific Target Organ Toxicity (STOT)

Single exposure

Remarks	The classification criteria are met.
evaluation	May cause drowsiness or dizziness.

Repeated exposure

Remarks	The classification criteria are met.
evaluation	May cause damage to organs through prolonged or repeated exposure

Specific Target Organ Toxicity (STOT) (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Remarks	No data available

toluene

Single exposure

Route of exposure inhalative
Organs: Nervous system

toluene

Repeated exposure

evaluation	May cause damage to organs.

Route of exposure inhalative

acetone

Repeated exposure

Route of exposure oral

Species	rat	
NOAEL	900	mg/kg/d
Duration of exposure	90	Days

acetone

Repeated exposure

Route of exposure inhalative

Species	rat	
NOAEC	22500	mg/m³
Duration of exposure	8	Weeks

4-methylpentan-2-ol

Route of exposure inhalative
Organs: Respiratory tract

Aspiration hazard

The classification criteria are met.
Harmful: may cause lung damage if swallowed.

Aspiration hazard (Components)

toluene

Harmful: may cause lung damage if swallowed.

11.2. Information on other hazards

Endocrine disrupting properties with respect to humans

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

Experience in practice

Can be absorbed through skin.

Other information

When inhaled or swallowed depending on the time and amount, it can give rise to the following symptoms: narcosis, headache, dizziness...

SECTION 12: Ecological information ***

12.1. Toxicity

Fish toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	rainbow trout (Oncorhynchus mykiss)

LLC	>	13.4	mg/l
Duration of exposure		96 h	

toluene

Species	Oncorhynchus kisutch		
LC50		5.5	mg/l
Duration of exposure		96 h	

acetone

Species	rainbow trout (Oncorhynchus mykiss)		
LC50		5540	mg/l
Duration of exposure		96 h	

acetone

Species	bleak		
LC50		11000	mg/l
Duration of exposure		96 h	

4-methylpentan-2-one

Species	zebra fish (Brachydanio rerio)		
LC50	>	179	mg/l
Duration of exposure		96 h	
Method	OECD 203		

n-butyl acetate

Species	Fathead minnow (Pimephales promelas)		
LC50		18	mg/l
Duration of exposure		96 h	

4-methylpentan-2-ol

Species	Fathead minnow (Pimephales promelas)		
LC50	>	92.4	mg/l
Method	OECD 203		

Daphnia toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	Daphnia magna		
		3	mg/l
Duration of exposure		48 h	
Remarks	Test conducted with a similar formulation.		

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	Daphnia magna		
NOEC		0.17	mg/l
Duration of exposure		21 d	

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	Daphnia magna		
LOEC		0.32	mg/l
Duration of exposure		21 d	

toluene

Species	Ceriodaphnia spec		
LC50		3.78	mg/l
Duration of exposure		48 h	

toluene

Species	Ceriodaphnia dubia		
NOEC		0.74	mg/l
Duration of exposure		7 d	

acetone

Species	Daphnia pulex		
LC50		8800	mg/l
Duration of exposure		48 h	

acetone

Species	Daphnia pulex			
	2212			mg/l
Duration of exposure	28	d		

4-methylpentan-2-one

Species	Daphnia magna			
EC50	> 200			mg/l
Duration of exposure	48	h		

4-methylpentan-2-one

Species	Daphnia magna			
NOEC	30	to	35	mg/l
Duration of exposure	21	d		
Method	OECD 211			

n-butyl acetate

Species	Daphnia magna			
EC50	44			mg/l
Duration of exposure	48	h		

4-methylpentan-2-ol

Species	Daphnia magna			
EC50	337			mg/l
Duration of exposure	48	h		
Method	OECD 201			

Algae toxicity (Components)

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	Raphidocelis subcapitata			
NOEC	10			mg/l
Duration of exposure	72	h		

Hydrocarbons C7-C9, n-alkanes, isoalkanes, cyclics

Species	Raphidocelis subcapitata			
EC50	10	to	30	mg/l
Duration of exposure	72	h		
Source	BM000318 SDS Brenntag 20140730.pdf			

toluene

Species	Chlamydomonas angulosa			
EC50	134			mg/l
Duration of exposure	3	h		
Source	LS-3542-00 SDS Brenntag 20160517			

acetone

Species	Prorocentrum minimum			
NOEC	430			mg/l
Duration of exposure	96	h		

n-butyl acetate

Species	Desmodesmus subspicatus			
EC50	647.7			mg/l
Duration of exposure	72	h		

n-butyl acetate

Species	Desmodesmus subspicatus			
NOEC	200			mg/l

4-methylpentan-2-ol

Species	Raphidocelis subcapitata			
	334			mg/l
Duration of exposure	96	h		
Method	OECD 201			

Bacteria toxicity (Components)

toluene

Species	Nitrosomonas sp		
EC50	84		mg/l
Duration of exposure	24	h	

acetone

Species	activated sludge		
	1000		mg/l
Duration of exposure	0.5	h	
Method	OECD 209		

4-methylpentan-2-one

Species	Pseudomonas putida		
	275		mg/l
Duration of exposure	16	h	

n-butyl acetate

Species	Tetrahymena		
IC50	356		mg/l
Duration of exposure	40	h	

4-methylpentan-2-ol

Species	activated sludge		
EC50	> 100		mg/l
Duration of exposure	3	h	
Method	OECD 209		

12.2. Persistence and degradability

Physico-chemical eliminability (Components)

toluene

Remarks The product is readily biodegradable according to OECD criteria.

acetone

Remarks The product is readily biodegradable according to OECD criteria.

4-methylpentan-2-one

Remarks The product is readily biodegradable according to OECD criteria.

n-butyl acetate

Remarks The product is readily biodegradable according to OECD criteria.

4-methylpentan-2-ol

Remarks The product is readily biodegradable according to OECD criteria.

Biodegradability

evaluation Moderately/partially biodegradable

Biodegradability (Components)

toluene

Value	86		%
Duration of test	20	d	
Remarks	The product is readily biodegradable according to OECD criteria.		

acetone

Value	91		%
Duration of test	28	d	
evaluation	Readily biodegradable		
Method	OECD 301 B		

4-methylpentan-2-one

Value	83		%
Duration of test	28	d	

evaluation	Readily biodegradable		
Method	OECD 301		

n-butyl acetate

Value	83		%
Duration of test	28	d	
evaluation	Readily biodegradable		
Method	OECD 301		

4-methylpentan-2-ol

Value	85		%
Duration of test	28	d	
Method	OECD 301		
Remarks	The product is readily biodegradable according to OECD criteria.		

Chemical oxygen demand (COD) (Components)

toluene

Value	700	mg/g

acetone

Value	2100	mg/g

Biochemical oxygen demand (BOD5) (Components)

acetone

Value	1760		mg/g
Duration of test	5	d	

12.3. Bioaccumulative potential

Octanol/water partition coefficient (log Pow) (Components)

toluene

log Pow	2.73	
Temperature	20	°C

acetone

log Pow	-0.24	

Bioconcentration factor (BCF) (Components)

acetone

BCF	<	10

12.4. Mobility in soil

General information

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

Mobility in soil (Components)

toluene
Mobile in soils

toluene
The product is insoluble and floats on water.

acetone
Mobile in soils

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

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

12.7. Other adverse effects

General information / ecology

Harmful to aquatic organisms. Do not allow it to reach ground water, water bodies or sewage system. Hazard for drinking water supplies.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Disposal in compliance with local and national regulations.

EWC waste code No not dispose with rubbish.

EWC waste code Should not be released into the sanitary sewer system.

Disposal recommendations for packaging

Unpurified packings can contain mixtures of gas and air which are capable of explosion.
Disposal in compliance with local and national regulations.

SECTION 14: Transport information ***

	Land transport ADR/RID ***	Marine transport IMDG/GGVSee ***	Air transport ICAO/IATA ***
14.1. UN number or ID number	1993	1993	1993
14.2. UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (toluene, 4-methylpentan-2-one)	FLAMMABLE LIQUID, N.O.S. (toluene, 4-methylpentan-2-one)	FLAMMABLE LIQUID, N.O.S. (toluene, 4-methylpentan-2-one)
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	II	II	II
Special provision	640D		
Limited Quantity	1 l	1 l	
Transport category	2		
14.5. Environmental hazards	-		
Tunnel restriction code	D/E		

SECTION 15: Regulatory information ***

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

Water Hazard Class (Germany) ***

Water Hazard Class (Germany)	WGK 3
Remarks	Derivation of WGK according to Annex 1 No. 5.2 AwSV

Other information ***

The product does not contain substances according to Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH) with a content of >= 0.1% w/w.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

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

Flam. Liq. 2	H225	On basis of test data
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Carc. 2	H351	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 3	H336	Calculation method
STOT RE 2	H373	Calculation method
Asp. Tox. 1	H304	Calculation method
Aquatic Chronic 3	H412	Calculation method

Hazard statements listed in Chapter 2/3

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 2/3

Acute Tox. 4	Acute toxicity, Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin irritation, Category 2
STOT RE 2	Specific target organ toxicity - repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.