

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

- **1.1 Product identifier**
- **Trade name: Thinner**
- **Article number: 996/3**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Cleaning agent/ Cleaner
Solvents
Thinner, Diluent
Organic solvent
Restricted to professional users.
- **Uses advised against** Not suitable for use in homemaker (DIY) applications.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Jakob Keck Chemie GmbH
Zweibrückerstr.189
66954 Pirmasens
Tel.: 06331 537-0
Fax.: 06331 537-211
- **Informing department:**
Product safety department.
e-mail: sdb@keck-chemie.com
- **1.4 Emergency telephone number:**
Monday - Friday 9 a.m. - 4 p.m.,
Mr. Eric Zimmer Tel.: +49 6331 537 170
 Fax.: +49 6331 537 211

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS02, GHS07, GHS08
- **Signal word** Danger

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· Hazard-determining components of labelling:

toluene
ethyl acetate

· Hazard statements

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
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.

· Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

· Information pertaining to particular dangers for man and environment

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
Take precautionary measures against static discharge.
Fumes are heavier than air
Vapour may travel across the ground and reach remote ignition sources, causing a flashback fire danger.

· 2.3 Other hazards**· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

CAS: 141-78-6 EINECS: 205-500-4 Index number: 607-022-00-5 Reg.nr.: 01-2119475103-46-XXXX	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	25-<50%
CAS: 78-93-3 EINECS: 201-159-0 Index number: 606-002-00-3 Reg.nr.: 02-2119752535-35-XXXX 01-2119457290-43-XXXX	methyl ethyl ketone ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	40-50%
CAS: 108-88-3 EINECS: 203-625-9 Index number: 601-021-00-3 Reg.nr.: 01-2119471310-51-XXXX	toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	≤10%

· Description:

Mixture consisting of the following components.
Mixture of the substances listed below with harmless additions.

· Dangerous components:

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CAS: 141-78-6 EINECS: 205-500-4 Index number: 607-022-00-5 Reg.nr.: 01-2119475103-46-XXXX	ethyl acetate ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	25-<50%
CAS: 78-93-3 EINECS: 201-159-0 Index number: 606-002-00-3 Reg.nr.: 02-2119752535-35-XXXX 01-2119457290-43-XXXX	methyl ethyl ketone ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	40-50%
CAS: 108-88-3 EINECS: 203-625-9 Index number: 601-021-00-3 Reg.nr.: 01-2119471310-51-XXXX	toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	≤10%

· **Additional information** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information

Instantly remove any clothing soiled by the product.

Take affected persons out of danger area and instruct to lie down.

Take affected persons into the open air.

Keep warm, position comfortably and cover well.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Personal protection for the First Aider.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Laundry contaminated clothing before reuse.

Seek immediate medical advice

· After inhalation

Supply fresh air; consult doctor in case of symptoms.

In case of unconsciousness bring patient into stable side position for transport.

· After skin contact

Instantly wash with water and rinse thoroughly.

Consult a doctor in the event of a skin reaction.

If skin irritation continues, consult a doctor.

· After eye contact

Use eye protection.

Rinse opened eye for several minutes under running water. Then consult doctor.

Remove contact lenses, if present and easy to do. Continue rinsing.

· After swallowing

Rinse out mouth.

Do NOT induce vomiting!

If swallowed or in case of vomiting, danger of entering the lungs

May be fatal if swallowed and enters airways.

Immediately call a POISON CENTER/doctor.

A person vomiting while lying on their back should be turned onto their side.

Never give anything by mouth to an unconscious person.

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

Breathing difficulty

Disziness

Unconsciousness

Coughing

Nausea

Headache

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

· **Information for doctor** treat symptomatically

· **Danger** Danger of pneumonia.

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

If swallowed or in case of vomiting, danger of entering the lungs
Subsequent observation for pneumonia and pulmonary oedema

* **SECTION 5: Firefighting measures**

· **5.1 Extinguishing media**

· **Suitable extinguishing agents**

CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.

· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.

· **5.2 Special hazards arising from the substance or mixture**

Can form explosive gas-air mixtures.

Fumes are heavier than air

Vapour may travel across the ground and reach remote ignition sources, causing a flashback fire danger.

Can be released in case of fire

Products of incomplete combustion.

Carbon monoxide and carbon dioxide

Ethanoic acid

The product is insoluble or has a low solubility in water and floats on water.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear self-contained breathing apparatus.

Put on breathing apparatus.

Wear full protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Cool endangered containers with water spray jet.

Keep people at a distance and stay on the windward side.

· **Fire class: Class B: Flammable liquid**

* **SECTION 6: Accidental release measures**

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Keep people at a distance and stay on the windward side.

Use breathing protection against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

Keep away from ignition sources

Avoid contact with spilled material.

Avoid contact with the eyes and skin.

· **6.2 Environmental precautions:**

Prevent from spreading (e.g. by damming-in or oil barriers).

Do not allow to enter drainage system, surface or ground water.

Inform respective authorities in case product reaches water or sewage system.

Prevent material from reaching sewage system, holes and cellars.

Do not allow to enter the ground/soil.

If material reaches soil inform authorities responsible for such cases.

· **6.3 Methods and material for containment and cleaning up:**

Stop leak if you can do so without risk.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

For large amounts: Pump off product.

Remove from the surface of water (e.g. skim or vacuum off)

Send for recovery or disposal in suitable containers.

Ensure adequate ventilation.

Dispose of contaminated material as waste according to item 13.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling

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See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

- Do not eat, drink or smoke while working.*
- The usual precautionary measures should be adhered to general rules for handling chemicals.*
- Store in cool, dry place in tightly closed containers.*
- Keep away from heat and direct sunlight.*
- Ensure good ventilation/exhaustion at the workplace.*
- Open and handle container with care.*
- Prevent formation of aerosols.*
- Work only in fume cupboard.*
- Carry out filling operations only at sites with extractors available.*
- Use solvent-proof equipment.*
- Restrict the quantity stored in the work place.*
- Use only in well ventilated areas.*
- Extractor required on object.*
- Avoid contact with the eyes and skin.*
- Keep away from ignition sources*
- Do not inhale gases / fumes / aerosols.*
- Instantly remove any clothing soiled by the product.*
- Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).*

· Information about protection against explosions and fires:

- Protect against electrostatic charges.*
- Use explosion-proof apparatus / fittings and spark-proof tools.*
- Use only in explosion-proof area.*
- Wear shoes with insulated soles.*
- Fumes can combine with air to form an explosive mixture.*
- Flammable mixtures may be formed in empty containers.*
- Protect from heat.*
- Keep ignition sources away - Do not smoke.*
- Danger of explosion if fluid enters the drainage system*

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage

· Requirements to be met by storerooms and containers:

- Provide floor trough without outlet.*
- Prevent any penetration into the ground.*
- Store in cool location.*
- Store only in the original container.*
- Provide solvent resistant, sealed floor.*
- Additional advices: 'American Petroleum Institute 2003' (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or in 'National Fire Protection Agency 77' (Recommended Practice on Static Electricity) or in 'CENELEC CLC/TR 50404' (Electrostatics - Code of practice for the avoidance of hazards due to static electricity)*
- Unsuitable material for container:*
- Natural rubber, NR*
- Butyl rubber, BR*
- polystyrene*

· Information about storage in one common storage facility:

- Store away from foodstuffs.*
- Do not store together with alkalis (caustic solutions).*
- Store away from reducing agents.*
- Do not store together with acids.*
- Store away from oxidising agents.*

· Further information about storage conditions:

- Keep container tightly sealed.*
- Store in a locked cabinet or with access restricted to technical experts or their assistants.*

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- Protect from heat and direct sunlight.
 Store container in a well ventilated position.
 Store in a cool place. Heat will increase pressure and may lead to the container exploding.
- **Recommended storage temperature:** 5 - 30 °C
 - **Storage class 3A** (flammable liquids)
 - **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

· 8.1 Control parameters

- **Components with limit values that require monitoring at the workplace:**

141-78-6 ethyl acetate (25-<50%)

WEL (Great Britain)	Short-term value: 400 ppm Long-term value: 200 ppm
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78-93-3 methyl ethyl ketone (40-50%)

WEL (Great Britain)	Short-term value: 899 mg/m ³ , 300 ppm Long-term value: 600 mg/m ³ , 200 ppm Sk, BMGV
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IOELV (European Union)	Short-term value: 900 mg/m ³ , 300 ppm Long-term value: 600 mg/m ³ , 200 ppm
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STEL (European Union)	Short-term value: 900 mg/m ³ , 300 ppm
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TWA (European Union)	Long-term value: 600 mg/m ³ , 200 ppm
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108-88-3 toluene (≤10%)

WEL (Great Britain)	Short-term value: 384 mg/m ³ , 100 ppm Long-term value: 191 mg/m ³ , 50 ppm Sk
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STEL (ELV) (European Union)	Short-term value: 384 mg/m ³ , 100 ppm
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TWA (ELV) (European Union)	Long-term value: 192 mg/m ³ , 50 ppm
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· **DNELs**

* not relevant

*¹ most sensitive endpoint: Irritation (respiratory tract)

*² no quantitative risk assessment possible.

141-78-6 ethyl acetate

Oral	DNEL (Langzeit, oral, systemisch)	4.5 mg/kg bw/day (customer) * ¹
	DNEL (akut, oral, systemisch)	- mg/kg bw/day (customer) *
Dermal	DNEL (Langzeit, dermal, lokal)	- mg/cm ² (customer) * ²
		- mg/kg bw/day (worker) * ²
		- mg/cm ² (worker) * ²
	DNEL (Langzeit, dermal, systemisch)	37 mg/kg bw/day (customer) 63 mg/kg bw/day (worker)
	DNEL (akut, dermal, lokal)	- mg/kg bw/day (customer) *
		- mg/kg bw/day (worker) *

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Inhalative	DNEL (akut, dermal, systemisch)	- mg/kg bw/day (customer) *
		- mg/kg bw/day (worker) *
	DNEL (Langzeit, inhalativ, lokal)	367 mg/m ³ (customer) *1
		734 mg/m ³ (worker) *1
	DNEL (Langzeit, inhalativ, systemisch)	37 mg/m ³ (customer) *1
		734 mg/m ³ (worker) *1
	DNEL (akut, inhalativ, lokal)	734 mg/m ³ (customer) *1
		1468 mg/m ³ (worker) *1
	DNEL (akut, inhalativ, systemisch)	734 mg/m ³ (customer) 1468 mg/m ³ (worker)

78-93-3 methyl ethyl ketone

Oral	DNEL (Langzeit, oral, systemisch)	31 mg/kg bw/day (customer)
Dermal	DNEL (Langzeit, dermal, systemisch)	1161 mg/kg bw/day (worker)
	DNEL (akut, dermal, lokal)	412 mg/cm ² (customer)
Inhalative	DNEL (Langzeit, inhalativ, systemisch)	106 mg/m ³ (customer) 600 mg/m ³ (worker)

108-88-3 toluene

Oral	DNEL (Langzeit, oral, systemisch)	8.13 mg/kg bw/day (customer)
Dermal	DNEL (Langzeit, dermal, systemisch)	226 mg/kg bw/day (customer) 384 mg/kg bw/day (worker)
Inhalative	DNEL (Langzeit, inhalativ, lokal)	192 mg/m ³ (worker)
	DNEL (Langzeit, inhalativ, systemisch)	56.5 mg/m ³ (customer) 192 mg/m ³ (worker)
	DNEL (akut, inhalativ, lokal)	226 mg/m ³ (customer) 343 mg/m ³ (worker)
	DNEL (akut, inhalativ, systemisch)	226 mg/m ³ (customer) 384 mg/m ³ (worker)

· PNECs**141-78-6 ethyl acetate**

PNEC (Predicted No Effect Concentration)	0.24 mg/kg (soil (dry matter)) 650 mg/l (sewage treatment plant) 0.026 mg/l (marine water) 200 mg/kg (oral, secondary poisoning) 0.125 mg/kg (marine sediment (dry matter)) 1.25 mg/kg (fresh water sediment (dry matter)) 0.26 mg/l (fresh water) 1.65 mg/l (intermittent release)
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78-93-3 methyl ethyl ketone

PNEC (Predicted No Effect Concentration)	22.5 mg/kg (soil (dry matter)) 709 mg/l (sewage treatment plant) 55.8 mg/l (marine water)
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	284.7 mg/kg (sediment (dry matter)) 55.8 mg/l (fresh water) (rat, male and female) (Inhalation; vapour; 4 month; 6 hours/day) No adverse effect has been observed with repeated intake in toxicity tests. 55.8 mg/l (intermittent release)
108-88-3 toluene	
<i>PNEC (Predicted No Effect Concentration)</i>	2.89 mg/kg (soil (dry matter)) 13.61 mg/l (sewage treatment plant) 16.39 mg/kg (sediment (dry matter))

· **Ingredients with biological limit values:**

78-93-3 methyl ethyl ketone (40-50%)

<i>BMGV (Great Britain)</i>	70 µmol/L Medium: urine Sampling time: post shift Parameter: butan-2-one
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· **Additional information:**

The lists that were valid during the compilation were used as basis.
TRGS 900 - "Threshold limit values"

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s): for the United Kingdom: UK Health and Safety Executive (HSE)

· **8.2 Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures**

The usual precautionary measures should be adhered to general rules for handling chemicals.

Use skin protection cream for preventive skin protection.

Keep away from foodstuffs, beverages and food.

Take off immediately all contaminated clothing

Wash hands during breaks and at the end of the work.

Pregnant women must strictly avoid inhalation or contact with the skin.

Do not inhale gases / fumes / aerosols.

Do not eat, drink or smoke while working.

Avoid contact with the eyes and skin.

Avoid close or long term contact with the skin.

Do not carry cleaning cloths impregnated with the product in trouser pockets.

· **Breathing equipment:**

Filter A/P2.

Not necessary if room is well-ventilated.

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

· **Protection of hands:**

Solvent resistant gloves

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

Only use chemical-protective gloves with CE-labelling of category III.

Check protective gloves prior to each use for their proper condition.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Protective gloves should be replaced at first signs of wear.

· **Material of gloves**

Butyl rubber, BR

Recommended thickness of the material: >0,5 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **As protection from splashes gloves made of the following materials are suitable: Butyl rubber, BR**
- **Not suitable are gloves made of the following materials:**
Strong gloves
Nitrile rubber, NBR
Leather gloves
- **Eye protection:**
Tightly sealed safety glasses.
Face protection
- **Body protection:** Solvent resistant protective clothing
- **Limitation and supervision of exposure into the environment**
Do not allow to enter drainage system, surface or ground water.
Do not allow to enter the ground/soil.
Prevent from spreading (e.g. by damming-in or oil barriers).

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Colour:	Colourless
- **Odour:** like solvents
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	76 °C
- **Flash point:** -6 °C
- **Ignition temperature:** 460 °C
- **Decomposition temperature:** Not determined.
- **Self-inflammability:** No self ignition was observed up to the specified temperature.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/steam mixtures is possible.
- **Critical values for explosion:**

Lower:	1.0 Vol %
Upper:	11.5 Vol %
- **Vapour pressure at 20 °C:** 105 hPa
- **Density at 20 °C** 0,86 g/cm³
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with**

Water:	Partly soluble
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- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**

dynamic:	Not determined.
kinematic at 20 °C:	10.2 s (DIN 53211/4)
- **Solvent content:**

Organic solvents:	100.0 %
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- | | |
|--------------------------------|--|
| · VOC (EU): | 860.0 g/l |
| · Water: | 0.0 % |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Protect against electrostatic charges.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Protect from heat and direct sunlight.
- **10.3 Possibility of hazardous reactions**
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised
Reacts with strong acids and alkali
Forms explosive gas mixture with air
Used empty containers may contain product gases which form explosive mixtures with air
Reacts with oxygen
Possible formation of peroxide
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
oxidizing agents
alkali
Acids
- **10.6 Hazardous decomposition products:**
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **LD/LC50 values that are relevant for classification:**
*⁵vapour

141-78-6 ethyl acetate

Oral	LD ₅₀ Acute toxicity, oral:	5600 mg/kg (rat) 4935 mg/kg (rabbit)
Dermal	LD ₅₀ Acute toxicity, dermal:	18000 mg/kg (canine)
Inhalative	LC ₅₀ (4 h) Acute toxicity, inhalative:	1600 mg/l (rat)
	LC ₅₀ Acute toxicity, inhalative:	> 22.5 mg/l (rat) (6h) * ⁵
	LC ₅₀ (8 h) Acute toxicity, inhalative:	58 mg/l (rat)

78-93-3 methyl ethyl ketone

Oral	LD ₅₀ Acute toxicity, oral:	3000 mg/kg (mouse) > 2193 mg/kg (rat) (OECD 423)
Dermal	LD ₅₀ Acute toxicity, dermal:	> 5000 mg/kg (canine) (OECD 402) 5000 mg/kg (rabbit)
Inhalative	LC ₅₀ (4 h) Acute toxicity, inhalative:	40 mg/l (mouse) 34.5 mg/l (rat)
	LC ₅₀ (8 h) Acute toxicity, inhalative:	> 15 mg/l (rat)

108-88-3 toluene

Oral	LD ₅₀ Acute toxicity, oral:	5300 - 5910 mg/kg (rat)
Dermal	LD ₅₀ Acute toxicity, dermal:	12124 mg/kg (rabbit)
Inhalative	LC ₅₀ (4 h) Acute toxicity, inhalative:	19 mg/l (rat)

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- **Primary irritant effect:**

- **Skin corrosion/irritation**

Irritant to skin and mucous membranes.

Repeated exposure may cause skin dryness or cracking.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

141-78-6 ethyl acetate	
Irritation of skin	- neg. (canine)
78-93-3 methyl ethyl ketone	
Irritation of skin	- neg. (canine) (OECD 404)
108-88-3 toluene	
Irritation of skin	+ pos. (canine) (OECD TG 404)

- **Serious eye damage/irritation**

Irritant effect.

The product has not been tested. The statement has been derived from the properties of the individual components.

141-78-6 ethyl acetate	
Irritation of eyes	+ pos. (canine)
78-93-3 methyl ethyl ketone	
Irritation of eyes	+ pos. (canine) (OECD 405)
108-88-3 toluene	
Irritation of eyes	+ pos. (canine) (OECD 405)

- **Respiratory or skin sensitisation**

No sensitizing effect known.

The product has not been tested. The statement has been derived from the properties of the individual components.

141-78-6 ethyl acetate	
Sensitization	- neg. (guinea pig) (OECD 406)
78-93-3 methyl ethyl ketone	
Sensitization	Skin sensitisation (maximizing test): neg. (guinea pig)
108-88-3 toluene	
Sensitization	- neg. (rat)

- **Subacute to chronic toxicity:**

Suspected of damaging fertility.

Possible risk of impaired fertility.

Suspected of damaging fertility or the unborn child.

141-78-6 ethyl acetate		
Oral	NOAEL (oral)	900 mg/kg bw/day (rat) Species: rat, male/female Dose Levels: 0 - 300 - 900 - 3600 mg/kg Exposure duration: 13 w Frequency of treatment: daily
Inhalative	LOAEL (inhalativ)	350 ppm (rat) (OECD 413) Species: rat, male/female Dose Levels: 0 - 350 - 750 - 1500 ppm Exposure duration: 13 w Frequency of treatment: 6 hours a day, 5 days a week Target Organs: Nasal inner lining Test substance: vapour
78-93-3 methyl ethyl ketone		
Inhalative	NOEC (chronic, inhalative)	5041 mg/m ³ (rat) (OECD 413)

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

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Irritant

May cause drowsiness or dizziness.

Danger by skin resorption.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

If swallowed or in case of vomiting, danger of entering the lungs

May be fatal if swallowed and enters airways.

· **Acute effects (acute toxicity, irritation and corrosivity)**

Irritant to skin and mucous membranes.

Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

Causes serious eye irritation.

May be fatal if swallowed and enters airways.

· **Specific target organ systemic toxicity (STOT), single exposure:** May cause drowsiness or dizziness.· **Repeated dose toxicity**

May cause damage to organs through prolonged or repeated exposure.

Liver injury may occur by inhalation.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Suspected of damaging fertility or the unborn child.

Repr. 2

· **Germ cell mutagenicity** No data available concerning mutagenic effects.· **Carcinogenicity** No data available concerning carcinogenic effects.· **Reproductive toxicity** No data available concerning reproduction toxicity.· **Developmental toxicity (teratogenicity)****141-78-6 ethyl acetate**

NOAEL (Teratogenicity)

16000 ppm (female rat)

20000 ppm (rat)

Teratogenicity (developmental toxicity)

20000 ppm (female rat) (OECD 414)

Application Route: Inhalative

Dose Levels: 0 - 10000 - 16000 - 20000 ppm

Studies of a comparable product.

· **Germ cell mutagenicity****141-78-6 ethyl acetate**

Micronucleustest . (mouse) (OECD 474)

Test type: In vivo micronucleus test

Species: mouse, male

Application Route: intraperitoneal

Dose: 0 -100 - 200 - 400 - 800 mg/kg

Result: negative

· **STOT-single exposure** May cause drowsiness or dizziness.· **STOT-repeated exposure** The available information is not sufficient for evaluation.· **Aspiration hazard** May be fatal if swallowed and enters airways.**SECTION 12: Ecological information**· **12.1 Toxicity**· **Aquatic toxicity:***²¹ Fresh water study*²² Salt water study**141-78-6 ethyl acetate**EC₁₀-Bacterial toxicity650 mg/l (*Pseudomonas putida*)

(18 h)

EC₅₀-Toxicity for daphnia346 mg/l (brine shrimp (*Artemia salina*))(24 h) *²²165 mg/l (*Daphnia cucullata*)(48 h) *²¹

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<i>EC₅₀</i> -Toxicity for algae	717 mg/l (daphnia (<i>Daphnia magna</i>)) (48 h)
<i>ErC₅₀</i> -Toxicity for algae (growth inhibition)	3300 mg/l (algae (<i>Desmodesmus subspicatus</i>)) (48 h)
Fish toxicity	> 100 mg/l (algae (<i>Desmodesmus subspicatus</i>)) (OECD 201) (72 h)
<i>IC₅₀</i> -Toxicity for algae	333 mg/l (golden orfe (<i>Leuciscus idus</i>)) (48 h)
<i>LC₀</i> -Fish toxicity	3300 mg/l (<i>Scenedesmus subspicatus</i>) (48 h)
<i>LC₅₀</i> -Fish toxicity	431 mg/l (zebrafish (<i>Danio rerio</i>)) (48 h)
NOEC (aquatic)	230 mg/l (fathead minnow (<i>Pimephales promelas</i>)) (96 h)
Toxicity for algae	< 9.65 mg/l (fathead minnow (<i>Pimephales promelas</i>)) ((32d) Early-Life-Stage-Test)
Toxicity for algae	17.9 mg/l (algae (<i>Desmodesmus subspicatus</i>))

78-93-3 methyl ethyl ketone

<i>EC₀</i> -Bacterial toxicity (static)	1150 mg/l (<i>Pseudomonas putida</i>) (DIN 38412) (16 h)
<i>EC₅₀</i> -Toxicity for daphnia (static)	308 mg/l (daphnia (<i>Daphnia magna</i>)) (OECD 203) (48 h)
<i>EC₅₀</i> -Toxicity for algae (static)	1972 mg/l (<i>Pseudokirchneriella subcapitata</i>) (OECD 201) (72 h)
<i>EC₅</i> -Bacterial toxicity	1150 mg/l (<i>Pseudomonas putida</i>) (16 h)
<i>IC₅</i> -Toxicity for algae	4300 mg/l (<i>Scenedesmus quadricauda</i>) (16 h)
<i>LC₅₀</i> -Fish toxicity	> 5000 mg/l (Goldfish (<i>Carassius auratus</i>)) (24 h)
	4600 mg/l (golden orfe (<i>Leuciscus idus</i>)) (96 h)
	2990 - 3220 mg/l (fathead minnow (<i>Pimephales promelas</i>)) (OECD 203) (96 h)
NOEC (aquatic)	1150 mg/l (<i>Pseudomonas putida</i>) (16 h)
	4300 mg/l (<i>Scenedesmus subspicatus</i>) (8 d)

108-88-3 toluene

<i>EC₅₀</i> -Toxicity for daphnia	1 - 10 mg/l (daphnia (<i>Daphnia magna</i>)) (48 h)
<i>EC₅₀</i> -Bacterial toxicity(respiration inhibition)	20 mg/l (<i>Photobacter phosphoreum</i>) (30 min.)
<i>EC₅₀</i> -Toxicity for algae	> 100 mg/l (algae) (96 h)
	134 mg/l (<i>Chlorella vulgaris</i>) (3 h)
<i>IC₅₀</i> -Toxicity for algae	12 mg/l (<i>Pseudokirchneriella subcapitata</i>) (72 h)
	12 mg/l (<i>Selenastrum capricornutum</i>) (72 h)

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<i>LC₅₀</i> -Fish toxicity	13 mg/l (Goldfish (<i>Carassius auratus</i>)) (96 h) 24 mg/l (rainbow trout (<i>Oncorhynchus mykiss</i>)) (96 h) 5.5 mg/l (Coho salmon (<i>Oncorhynchus kisutch</i>)) (96 h) 36.2 mg/l (fathead minnow (<i>Pimephales promelas</i>)) (96 h)
<i>LC₅₀</i> -Toxicity for daphnia	3.78 mg/l (<i>Ceriodaphnia Dubia</i>) (48 h)
<i>NOEC</i> (aquatic)	456 mg/l (<i>Entosiphon sulcatum</i>) (72 h) 29 mg/l (<i>Pseudomonas putida</i>) (16 h)

· **12.2 Persistence and degradability****141-78-6 ethyl acetate**

Hydrolysis | (25 °C)

· **Degree of elimination:****141-78-6 ethyl acetate**

Biodegradability	79 % (.) (OECD 301 D) (20 d) 100% (28 d) (OECD 301 D)
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78-93-3 methyl ethyl ketone

Biodegradability	98% (28 d) (OECD 301 D)
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108-88-3 toluene

Biodegradability	86% (.) (20 d) 73% (25 °C) (BOD 5)
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· **Behaviour in environmental systems:**

Water:

Partly soluble

· **Components:** The product is partially soluble and floats on water.· **12.3 Bioaccumulative potential** No further relevant information available.· **Bioconcentration factor (BCF):****141-78-6 ethyl acetate**

Bioconcentration factor (BCF):	30 (.) (3 d)
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· **12.4 Mobility in soil** Low solubility and floats.· **Ecotoxicological effects:**· **Remark:****78-93-3 methyl ethyl ketone**

theoretical oxygen demand (ThOD)	2.44 g O ₂ /g (calculated)
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· **Additional ecological information:**· **CSB-value:****78-93-3 methyl ethyl ketone**

COD (Chemical Oxygen Demand)	2.32 g O ₂ /g (.)
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108-88-3 toluene

COD (Chemical Oxygen Demand)	0.7 g O ₂ /g (.)
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· **BSB5-value:****108-88-3 toluene**

BOD (Biochemical Oxygen demand)	0.860 g O ₂ /g (.) (5 d)
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· **According to recipe contains the following heavy metals and compounds according to EC guideline NO. 76/464 EC:**

contains no adsorbable organically bound halogens (AOX)

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Avoid transfer into the environment.

Do not allow product to reach ground water, water bodies or sewage system.

Harmful to aquatic organisms

Danger to drinking water if even small quantities leak into soil.

· **12.6 Other adverse effects** No further relevant information available.* **SECTION 13: Disposal considerations**· **13.1 Waste treatment methods**· **Recommendation**

Can be burnt with household garbage after consulting with the operator of the waste disposal facility and the pertinent authorities and under adherence to the necessary technical regulations.

Disposal must be made according to official regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

None disposal into waste water.

· **Waste disposal key number:**

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

· **European waste catalogue**

08 01 12

Waste generated from production, formulation, application and removal of paints and varnishes - waste paint and varnish other than those mentioned in 08 01 11.

Please check the waste code from the origin in your company.

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

· **Uncleaned packagings:**· **Recommendation:**

Disposal must be made according to official regulations.

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

Packaging can be reused or recycled after cleaning.

Flammable mixtures may be formed in empty containers.

DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.* **SECTION 14: Transport information**· **14.1 UN-Number**· **ADR, IMDG, IATA**

UN1263

· **14.2 UN proper shipping name**· **ADR**

1263 PAINT RELATED MATERIAL

· **IMDG, IATA**

PAINT RELATED MATERIAL

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· **14.3 Transport hazard class(es)**· **ADR**

- **Class** 3 (F1) Flammable liquids.
- **Label** 3

· **IMDG, IATA**

- **Class** 3 Flammable liquids.
- **Label** 3

· **14.4 Packing group**

- **ADR, IMDG, IATA** II

· **14.5 Environmental hazards:**

- **Marine pollutant:** No

· **14.6 Special precautions for user**

- **Warning:** Flammable liquids.
- **Kemler Number:** 33
- **EMS Number:** F-E,S-E

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADR**

- **Limited quantities (LQ)** 5L
- **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
- **Transport category** 2
- **Tunnel restriction code** (D/E)

· **IMDG**

- **Limited quantities (LQ)** 5L
- **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN1263, PAINT RELATED MATERIAL, 3, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS02, GHS07, GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**
toluene
ethyl acetate
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.

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*H319 Causes serious eye irritation.**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.***· Precautionary statements***P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***· Directive 2012/18/EU****· Named dangerous substances - ANNEX I** None of the ingredients is listed.**· Seveso category P5c FLAMMABLE LIQUIDS****· Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t**· Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t**· National regulations****· Information about limitation of use:***Employment restrictions concerning young persons must be observed.**Employment restrictions concerning pregnant and lactating women must be observed.***· Technical instructions (air):**

Class	Share in %
II	≤10
NK	50 - 100

· Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.**· Other regulations, limitations and prohibitive regulations***ChemVerbotsV (Chemikalienverbotsverordnung)**EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC)**Listed Point Nos.: 48**EC Number: 203-625-9**TRGS 400 "Risk assessment for activities involving hazardous substances"**TRGS 401 "Risks resulting from skin contact - identification, assessment, measures"**TRGS 500: "precautions: minimum standards"**TRGS 600 "Substitution"**TRGS 510 "Storage of hazardous substances in non-stationary containers "**TRGS 800 "Fire protection measures"***· 15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**SECTION 16: Other information***These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.***· Relevant phrases***H225 Highly flammable liquid and vapour.**H304 May be fatal if swallowed and enters airways.**H315 Causes skin irritation.**H319 Causes serious eye irritation.**H336 May cause drowsiness or dizziness.**H361d Suspected of damaging the unborn child.**H373 May cause damage to organs through prolonged or repeated exposure.*

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· **Department issuing data specification sheet:** Laboratory

· **Contact:**

Monday - Friday 9 a.m. - 4 p.m.,

Mr. Eric Zimmer Tel.: +49 6331 537 170

 Fax.: +49 6331 537 211

· **Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organisation

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

DNEL: Derived No-Effect Level (REACH)

bw: bodyweight

Langz., Langzeit: chronic exposure,

akut: acute (exposure)

lokal: local effects

system., systemisch: systemic effects

PNEC (Predicted No-Effect Concentration)

LC₅₀: lethal concentration for 50 percent of the animals or plants used for testing

LD₅₀: lethal dose for 50 percent of the animals used for testing

LD₀: lethal concentration for 0 percent

LD₀: lethal dose for 0 percent

nb / n.b. : not determined

theoret. O₂-Bedarf: theoretical oxygen demand

biolog. O₂-Bedarf: biological oxygen demand

chem. O₂-Bedarf: chemical oxygen demand

AOX: adsorbable organically bound halogens

TRGS: technische Regeln für Gefahrstoffe (technical rules for dealing with dangerous substances)

Merkblatt BG-Chemie: datasheet of the "Berufsgenossenschaft Rohstoffe und chemische Industrie" (former: "Berufsgenossenschaft Chemie") (German insurance in case of accidents at work)

Langz., Langzeit: Long-term exposure

akut: Acute / short-term exposure

systemisch: systemic

lokal: local

n.a.: not applicable

(derived fr. data f. similar substances, intern. rep.) = derived from data from tests with similar substances, internal reports, not published

Vert.koeff.Bod./Wass = Partition Coefficient soil / water

n.v.: not available

Susp.: suspension

H: the product is skin-resorbing

Algentoxizität: toxicity for algae

Bakterientoxizität: toxicity for bacteria

Daphnientoxizität: toxicity for Daphnia

Fischtoxizität: toxicity for fishes

biologische Abbaubarkeit: Biodegradation

DOC: dissolved organic carbon

Halbwertszeit: half-life

DIN: Norm des Deutschen Instituts für Normung = standard of the German Institute for Standardization

EN: Europäische Norm = standard of the European Committee for Standardization (CEN)

OECD: OECD Test Guideline

pos. : positive

neg. : negative

inh., inhal. : inhalative

NOEC (No Observed Effect Concentration),

NOEL (No Observed Effect Level),

NOAEL (No Observed Adverse Effect Level): denotes the level of exposure of an organism at which there is no effect in the exposed population.

NOELR (No-Observed-Effect-Loading Rate)

ATE (Acute Toxicity Estimates)

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

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Asp. Tox. 1: Aspiration hazard, Hazard Category 1

- **Sources** <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp>
- *** Data compared to the previous version altered.**