

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)  
according to Regulation (EU) 2020/878

Article No.: 328  
Print date: 26.12.2022  
Version: 8.0

Putz-Verdünner G4  
Revision date: 10.12.2022  
Issue date: 10.12.2022

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

### 1.1. product identifiers

Article No. (manufacturer/supplier) 328  
Trade name/designation Putz-Verdünner G4

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

#### Relevant identified uses:

Coating material to protecting surfaces

### 1.3. Details of the supplier of the safety data sheet

#### supplier (manufacturer/importer/downstream user/distributor)

Vismara Unternehmungen CH-5000 Aarau www.farbladen.ch

#### Department responsible for information:

laboratory Manager

E-mail (competent person)

info@knuchel.ch

### 1.4. Emergency telephone number

Emergency telephone number 145 (+41 (0)44 251 51 51)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [CLP]

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Repr. 2 / H361	Reproductive toxicity	Suspected of damaging the unborn child.
STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.
STOT RE 2 / H373	STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1 / H304	Aspiration hazard	May be fatal if swallowed and enters airways.
Aquatic Chronic 3 / H412	Hazardous to the aquatic environment	Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

##### Hazard pictograms



Danger

##### Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H361	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

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P260	Do not breathe vapour.

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P261	Avoid breathing vapours.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use extinguishing powder or sand to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Keep locked up.
P501	Dispose of contents/container to industrial incineration plant.

**Hazard components for labelling**

Toluene  
 Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics

**Supplemental hazard information**

not applicable

2.3. **Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**

3.2. **Mixtures**

**Description** Solvents/Thinner

**Classification according to Regulation (EC) No 1272/2008 [CLP]**

EC No.	REACH No.	weight-%
CAS No.	Designation	
Index No.	classification // Remark	
919-857-5	01-2119463258-33 Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics STOT SE 3 H336 / Asp. Tox. 1 H304 / Flam. Liq. 3 H226	40 - 60
203-625-9 108-88-3 601-021-00-3	01-2119471310-51 Toluene Flam. Liq. 2 H225 / Repr. 2 H361 / Asp. Tox. 1 H304 / STOT RE 2 H373 / Skin Irrit. 2 H315 / STOT SE 3 H336	25 - 40
204-658-1 123-86-4 607-025-00-1	01-2119485493-29 n-butyl acetate Flam. Liq. 3 H226 / STOT SE 3 H336 / EUH066	15 - 25
918-668-5	01-2119455851-35 Hydrocarbons, C9, aromatics, <0.1% benzene STOT SE 3 H336 / Asp. Tox. 1 H304 / Aquatic Chronic 2 H411	5 - 10

**Additional information**

Full text of classification: see section 16

**SECTION 4: First aid measures**

4.1. **Description of first aid measures**

**General information**

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

**In case of inhalation**

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Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

#### Following skin contact

Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

#### After eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

#### Following ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

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

In all cases of doubt, or when symptoms persist, seek medical advice.

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

First Aid, decontamination, treatment of symptoms.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

alcohol resistant foam, carbon dioxide, Powder, spray mist, (water)

##### Unsuitable extinguishing media

strong water jet

#### 5.2. Special hazards arising from the substance or mixture

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

#### 5.3. Advice for firefighters

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Keep away from sources of ignition. Ventilate affected area. Do not breathe vapours.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

#### 6.3. Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Clean using cleansing agents. Do not use solvents.

#### 6.4. Reference to other sections

Observe protective provisions (see section 7 and 8).

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advices on safe handling

Avoid formation of flammable and explosive vapour concentrations in the air and exceeding the exposure limit values. Only use the material in places where open light, fire and other flammable sources can be kept away. Electrical equipment must be protected meeting the accepted standard. Product may become electrostatically charged. Provide earthing of containers, equipment, pumps and ventilation facilities. Anti-static clothing including shoes are recommended. Floors must be electrically conductive. Keep away from heat sources, sparks and open flames. Use only spark proof tools. Avoid contact with skin, eyes and clothes. Do not inhale dusts, particulates and spray mist when using this preparation. Avoid respiration of swarf. When using do not eat, drink or smoke. Personal protection equipment: refer to section 8. Do not empty containers with pressure - no pressure vessel!! Always keep in containers that correspond to the material of the original container. Follow the legal protection and safety regulations.

##### Further information

Vapours are heavier than air. Vapours form explosive mixtures with air.

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

### Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Keep container tightly closed. Do not empty containers with pressure - no pressure vessel! Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)".

### Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers.

### Further information on storage conditions

Take care of instructions on label. Store in a well-ventilated and dry room at temperatures between 15 °C and 30 °C. Protect from heat and direct sunlight. Keep container tightly closed. Remove all sources of ignition. Smoking is forbidden. Access only for authorised persons. Store carefully closed containers upright to prevent any leaks.

## 7.3. Specific end use(s)

Observe technical data sheet. Observe instructions for use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limit values:

Toluene

Index No. 601-021-00-3 / EC No. 203-625-9 / CAS No. 108-88-3

WEL, TWA: 191 mg/m<sup>3</sup>; 50 ppm

WEL, STEL: 384 mg/m<sup>3</sup>; 100 ppm

Remark: (may be absorbed through the skin)

#### Additional information

TWA : Long-term occupational exposure limit value

STEL : short-term occupational exposure limit value

Ceiling : peak limitation

#### DNEL:

Toluene

Index No. 601-021-00-3 / EC No. 203-625-9 / CAS No. 108-88-3

DNEL long-term dermal (systemic), Workers: 384 mg/kg bw/day

DNEL acute inhalative (local), Workers: 384 mg/m<sup>3</sup>

DNEL acute inhalative (systemic), Workers: 384 mg/m<sup>3</sup>

DNEL long-term inhalative (local), Workers: 192 mg/m<sup>3</sup>

DNEL long-term inhalative (systemic), Workers: 192 mg/m<sup>3</sup>

DNEL long-term oral (repeated), Consumer: 8,13 mg/kg bw/day

DNEL long-term dermal (systemic), Consumer: 226 mg/kg bw/day

DNEL acute inhalative (local), Consumer: 226 mg/m<sup>3</sup>

DNEL acute inhalative (systemic), Consumer: 226 mg/m<sup>3</sup>

DNEL long-term inhalative (local), Consumer: 56,5 mg/m<sup>3</sup>

DNEL long-term inhalative (systemic), Consumer: 56,5 mg/m<sup>3</sup>

n-butyl acetate

Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4

DNEL short-term oral (acute), Workers:

DNEL long-term inhalative (systemic), Workers: 480 mg/m<sup>3</sup>

DNEL long-term inhalative (systemic), Consumer: 102,34 mg/m<sup>3</sup>

#### PNEC:

Toluene

Index No. 601-021-00-3 / EC No. 203-625-9 / CAS No. 108-88-3

PNEC aquatic, freshwater: 0,68 mg/L

PNEC aquatic, marine water: 0,68 mg/L

PNEC sediment, freshwater: 16,39 mg/kg

PNEC sediment, marine water: 16,39 mg/kg

PNEC, soil: 2,89 mg/kg

PNEC sewage treatment plant (STP): 13,61 mg/L

PNEC Waters, sporadic release: 0,68 mg/L

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n-butyl acetate  
Index No. 607-025-00-1 / EC No. 204-658-1 / CAS No. 123-86-4  
PNEC aquatic, freshwater: 0,18 mg/L  
PNEC aquatic, marine water: 0,018 mg/L  
PNEC aquatic, intermittent release: 0,36 mg/L  
PNEC sediment, freshwater: 0,981 mg/kg Sediment dry weight  
PNEC sediment, marine water: 0,0981 mg/kg Sediment dry weight  
PNEC, soil: 0,0903 mg/kg Sediment dry weight  
PNEC sewage treatment plant (STP): 35,6 mg/L

## 8.2. Exposure controls

Provide good ventilation. This can be achieved with local or room suction. If this should not be sufficient to keep aerosol and solvent vapour concentration below the exposure limit values, a suitable respiratory protection must be used.

### Personal protection equipment

#### **Respiratory protection**

If concentration of solvents is beyond the occupational exposure limit values, approved and suitable respiratory protection must be used. Use only respiratory protection equipment with CE-symbol including four digit test number.

#### **Hand protection**

For prolonged or repeated handling the following glove material must be used: NBR (Nitrile rubber)

Thickness of the glove material > 0,4 mm ; Breakthrough time: > 480 min.

Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin. Recommended glove articles EN ISO 374

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### **Eye/face protection**

Wear closely fitting protective glasses in case of splashes.

#### **Body protection**

Wear antistatic clothing of natural fibers (cotton) or heat resistant synthetic fibers.

#### **Protective measures**

After contact clean skin thoroughly with water and soap or use appropriate cleanser.

### Environmental exposure controls

Do not allow to enter into surface water or drains. See section 7. No additional measures necessary.

## SECTION 9: Physical and chemical properties

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

<b>Physical state:</b>	<b>Liquid</b>
<b>Colour:</b>	<b>refer to label</b>
<b>Odour:</b>	<b>characteristic</b>
<b>Odour threshold:</b>	<b>not applicable</b>
<b>Melting point/freezing point:</b>	<b>not applicable</b>
<b>Initial boiling point and boiling range:</b>	<b>111 °C</b> Source: Toluene
<b>Flammability:</b>	<b>Flammable liquid and vapour.</b>
<b>Lower and upper explosion limit:</b>	
<b>Lower explosion limit:</b>	<b>1.23 Vol-%</b>
<b>Upper explosion limit:</b>	<b>7 Vol-%</b> Source: Toluene
<b>Flash point:</b>	<b>25 °C</b> Method: DIN 53213
<b>Auto-ignition temperature:</b>	<b>240 °C</b> Source: Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics
<b>Decomposition temperature:</b>	<b>not applicable</b>
<b>pH at 20 °C:</b>	<b>not applicable</b>
<b>Cinematic viscosity (40°C):</b>	<b>&lt; 20 mm<sup>2</sup>/s</b>

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**Viscosity at 20 °C:** 10 - 12 sec DIN 4 mm

**Solubility(ies):**  
**Water solubility at 20 °C:** insoluble

**Partition coefficient: n-octanol/water:** see section 12

**Vapour pressure at 20 °C:** 29 mbar  
Source: Toluene

**Density and/or relative density:**  
**Density at 20 °C:** 0.81 g/cm<sup>3</sup>

**Relative vapour density:** not applicable

**particle characteristics:** not applicable

## 9.2. Other information

**Solid content:** 0 weight-%

**solvent content:**

**Organic solvents:** 100 weight-%

**Water:** 0 weight-%

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No information available.

### 10.2. Chemical stability

Stable when applying the recommended regulations for storage and handling. Further information on correct storage: refer to section 7.

### 10.3. Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

### 10.4. Conditions to avoid

Hazardous decomposition byproducts may form with exposure to high temperatures.

### 10.5. Incompatible materials

not applicable

### 10.6. Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures, e.g.: carbon dioxide, carbon monoxide, smoke, nitrogen oxides.

## SECTION 11: Toxicological information

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

#### Acute toxicity

Toluene

oral, LD50, Rat: 636 mg/kg

Neurotoxicology. Vol. 2, Pg. 567, 1981

dermal, LD50, Rat: 12200 mg/kg

American Industrial Hygiene Association Journal. Vol. 30, Pg. 470, 1969

inhalative (vapours), LC50, Rat: 28,1 mg/L (4 h)

Method: OECD 403

oral, LD50, Rat, male: 5580 mg/kg

Method: EU Test B.1

dermal, LD50, Rabbit, male: > 5000

n-butyl acetate

oral, LD50, Rat: 10760 mg/kg

Method: OECD 423

dermal, LD50, Rabbit: 14112 mg/kg

Method: OECD 402

inhalative (dust and mist), LC50, Rat: 23,4 mg/L (4 h)

Method: OECD 403

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics

oral, LD50, Rat: > 5000 mg/kg

Method: OECD 401

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dermal, LD50, Rabbit: > 5000 mg/kg  
Method: OECD 402  
inhalative (dust and mist), LC50, Rat: > 5 mg/L (4 h)  
Method: OECD 403

Hydrocarbons, C9, aromatics, <0.1% benzene  
oral, LD50, Rat: 3492 mg/kg  
dermal, LD50, Rabbit: > 3160 mg/kg  
inhalative (vapours), LC50, Rat: 6 mg/m<sup>3</sup> 10 (4 h)

## Skin corrosion/irritation; Serious eye damage/eye irritation

Causes skin irritation.

n-butyl acetate  
Skin, Rabbit (4 h)  
Method: OECD 404  
No skin irritation  
eyes  
Method: OECD 405  
No eye irritation

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics  
Skin (4 h)  
Repeated exposure may cause skin dryness or cracking.  
eyes  
No data available

Hydrocarbons, C9, aromatics, <0.1% benzene  
Skin (4 h)  
Method: OECD 404  
Not to be classified as skin etching/irritant.  
eyes  
Method: OECD 405  
Not to be classified as severe eye damage or eye irritation.

## Respiratory or skin sensitisation

n-butyl acetate  
Skin, Guinea pig: ; Evaluation not sensitising.  
Method: OECD 406  
Mouse mouse ear swelling test (MEST)

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics  
Skin:  
Based on available data, the classification criteria are not met.  
Respiratory system:  
No data available

Hydrocarbons, C9, aromatics, <0.1% benzene  
Skin:  
Method: OECD 406  
Not to be classified as skin sensitising.  
Respiratory system:  
No data available

## CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Suspected of damaging the unborn child.

n-butyl acetate  
Germ cell mutagenicity; Evaluation Ames test negative.

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
No data available  
Reproductive toxicity  
No data available  
Lactation

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No data available

Hydrocarbons, C9, aromatics, <0.1% benzene

Germ cell mutagenicity

Not to be classified as germ cell mutagen (mutagen).

Carcinogenicity

There are in vivo studies that indicate positive results of kidney cancer.

Reproductive toxicity

Does not qualify as a carcinogen.

In vitro mutagenicity; Evaluation positive

## STOT-single exposure; STOT-repeated exposure

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

n-butyl acetate

Specific target organ toxicity (single exposure)

central nervous system; May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure)

human; Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).; Steam in high concentration leads to unconsciousness.

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics

Specific target organ toxicity (single exposure)

May cause drowsiness or dizziness.; After absorption: cardiovascular disorders, cyanosis, agitation After absorption of large quantities: Drowsiness, CNS disorders Other dangerous properties cannot be excluded.

Specific target organ toxicity (repeated exposure)

No data available

Hydrocarbons, C9, aromatics, <0.1% benzene

Specific target organ toxicity (single exposure)

May cause respiratory irritation and depression of central nervous system with drowsiness, dizziness, weakness, loss of consciousness, nausea and headache.

Specific target organ toxicity (repeated exposure)

No data available

## Aspiration hazard

May be fatal if swallowed and enters airways.

n-butyl acetate

Aspiration hazard; Evaluation No classification for aspiration toxicity

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics

Aspiration hazard

Aspiration can lead to pulmonary edema and pneumonia.; May be fatal if swallowed and enters airways.

Hydrocarbons, C9, aromatics, <0.1% benzene

Aspiration hazard

May be fatal if swallowed and enters airways.

## Practical experience/human evidence

Inhaling of solvent components above the MWC-value can lead to health damage, e.g. irritation of the mucous membrane and respiratory organs, as well as damage to the liver, kidneys and the central nerve system. Indications for this are: headache, dizziness, fatigue, amyosthenia, drowsiness, in serious cases: unconsciousness. Solvents may cause some of the aforementioned effects through skin resorption. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin. Splashing may cause eye irritation and reversible damage.

## Overall assessment on CMR properties

The ingredients in this mixture do not meet the criteria for classification as CMR category 1A or 1B according to CLP.

### 11.2. Information on other hazards

#### Endocrine disrupting properties

No information available.

## SECTION 12: Ecological information

Classification according to Regulation (EC) No 1272/2008 [CLP]

Do not allow to enter into surface water or drains.



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## 12.1. Toxicity

### Toluene

Fish toxicity, LC50, Oncorhynchus kisutch (silver salmon): 5,5 mg/L (96 h)  
Daphnia toxicity, EC50, Daphnia pulex (water flea): 3,78 mg/L (48 h)  
Algae toxicity, EC50, Chlamydomonas angulosa: 134 mg/L (3 h)  
Bacteria toxicity, EC50, Nitrosomonas sp: 84 mg/L (24 h)

### n-butyl acetate

Fish toxicity, LC50, Pimephales promelas (fathead minnow): 18 mg/L (96 h)  
Method: OECD 203  
Daphnia toxicity, EC50, Daphnia magna (Big water flea): 44 mg/L (48 h)  
Algae toxicity, ErC50  
Algae toxicity, EC50, Desmodesmus subspicatus: 647,7 mg/L (72 h)  
(Growth inhibition)  
Algae toxicity, NOEC, Desmodesmus subspicatus: 200 mg/L  
Bacteria toxicity, IC50, Tetrahymena: 356 mg/L (40 h)

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics  
Daphnia toxicity, NOEC, Oncorhynchus mykiss (Rainbow trout): 0,21 mg/L (28 d)

Hydrocarbons, C9, aromatics, <0.1% benzene

Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 9,2 mg/L (96 h)  
Daphnia toxicity, EC50, Daphnia magna: 1,6 mg/L (48 h)

### Long-term Ecotoxicity

Harmful to aquatic life with long lasting effects.

### Toluene

Fish toxicity, NOEC, Oncorhynchus kisutch (silver salmon): 1,39 mg/L (40 d)  
Daphnia toxicity, NOEC, Daphnia pulex (water flea): 0,74 mg/L (7 d)  
Fish toxicity, LOEC, Oncorhynchus kisutch (silver salmon): 2,77 mg/L (40 d)

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics  
Daphnia toxicity, NOEC, Daphnia magna (Big water flea): 0,02 mg/L (21 d)  
Method: OECD 211

## 12.2. Persistence and degradability

### Toluene

Persistence and degradability: Evaluation Rapid photochemical oxidation in air  
Biodegradation: 86 percent (20 d)  
Readily biodegradable (according to OECD criteria)

### n-butyl acetate

Persistence and degradability: Evaluation No data available  
Biodegradation: 83 percent (28 d); Evaluation Readily biodegradable (according to OECD criteria).  
Method: OECD 301D  
aerobic.

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics  
Biodegradation: Evaluation Not readily biodegradable (according to OECD criteria)

Hydrocarbons, C9, aromatics, <0.1% benzene

Biodegradation: Evaluation Readily biodegradable (according to OECD criteria).

## 12.3. Bioaccumulative potential

### Toluene

Distribution coefficient n-octanol/water (log KOW): 2,65  
Method: BCF: 90  
The product has a low bioaccumulation potential

### n-butyl acetate

Distribution coefficient n-octanol/water (log KOW):  
No data available

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics  
Distribution coefficient n-octanol/water (log KOW):  
No data available

Hydrocarbons, C9, aromatics, <0.1% benzene

Distribution coefficient n-octanol/water (log KOW): 3,7 - 4,5

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## Bioconcentration factor (BCF)

Toluene

Bioconcentration factor (BCF): 90 ; Evaluation The product has a low bioaccumulation potential

## 12.4. Mobility in soil

Toluene

Water: Evaluation Floats on the water

soil: Evaluation Mobile in the ground

n-butyl acetate

:

No data available

Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics

soil:

No data available

Hydrocarbons, C9, aromatics, <0.1% benzene

soil:

No data available

## 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

## 12.6. Endocrine disrupting properties

No information available.

## 12.7. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Appropriate disposal / Product Recommendation

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Dispose of waste according to applicable legislation.

#### List of proposed waste codes/waste designations in accordance with EWC

140603\* other solvents and solvent mixtures

\*Hazardous waste according to Directive 2008/98/EC (waste framework directive).

#### Appropriate disposal / Package Recommendation

#### Recommendation

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

## SECTION 14: Transport information

### 14.1. UN number or ID number

UN 1993

### 14.2. UN proper shipping name

Land transport (ADR/RID):

Flammable liquid, n.o.s.  
(KOHLENWASSERSTOFFE FLUESSIG)

Sea transport (IMDG):

FLAMMABLE LIQUID, N.O.S.  
(KOHLENWASSERSTOFFE FLUESSIG)

Air transport (ICAO-TI / IATA-DGR):

Flammable liquid, n.o.s.  
(KOHLENWASSERSTOFFE FLUESSIG)

### 14.3. Transport hazard class(es)

3

### 14.4. Packing group

III

### 14.5. Environmental hazards

Land transport (ADR/RID)

not applicable

Marine pollutant

not applicable

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## 14.6. Special precautions for user

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

### Further information

#### Land transport (ADR/RID)

Tunnel restriction code D/E

#### Sea transport (IMDG)

EmS-No. F-E, S-E

## 14.7. Maritime transport in bulk according to IMO instruments

No transport as bulk according IBC - Code.

## SECTION 15: Regulatory information

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

#### EU legislation

##### Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]

VOC-value (in g/L): 811

#### National regulations

##### Restrictions of occupation

Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable.

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

### 15.2. Chemical Safety Assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

EC No. CAS No.	Designation	REACH No.
919-857-5	Hydrocarbons, C9-C11, n-alkanes, iso-alkanes, cyclic compounds, <2% aromatics	01-2119463258-33
203-625-9 108-88-3	Toluene	01-2119471310-51
204-658-1 123-86-4	n-butyl acetate	01-2119485493-29
918-668-5	Hydrocarbons, C9, aromatics, <0.1% benzene	01-2119455851-35

## SECTION 16: Other information

### Full text of classification in section 3

STOT SE 3 / H336	STOT-single exposure	May cause drowsiness or dizziness.
Asp. Tox. 1 / H304	Aspiration hazard	May be fatal if swallowed and enters airways.
Flam. Liq. 3 / H226	Flammable liquids	Flammable liquid and vapour.
Flam. Liq. 2 / H225	Flammable liquids	Highly flammable liquid and vapour.
Repr. 2 / H361	Reproductive toxicity	Suspected of damaging the unborn child.
STOT RE 2 / H373	STOT-repeated exposure	May cause damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Skin Irrit. 2 / H315	Skin corrosion/irritation	Causes skin irritation.
Aquatic Chronic 2 / H411	Hazardous to the aquatic environment	Toxic to aquatic life with long lasting effects.

### Classification procedure

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 3	Flammable liquids	On basis of test data.
Skin Irrit. 2	Skin corrosion/irritation	Calculation method.
Repr. 2	Reproductive toxicity	Calculation method.
STOT SE 3	STOT-single exposure	Calculation method.

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STOT RE 2	STOT-repeated exposure	Calculation method.
Asp. Tox. 1	Aspiration hazard	Calculation method.
Aquatic Chronic 3	Hazardous to the aquatic environment	Calculation method.

## Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL	Occupational Exposure Limit Value
BLV	Biological Limit Value
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic and Reprotoxic
DIN	German Institute for Standardization / German industrial standard
DNEL	Derived No-Effect Level
EAKV	European Waste Catalogue Directive
EC	Effective Concentration
EC	European Community
EN	European Standard
IATA-DGR	International Air Transport Association – Dangerous Goods Regulations
IBC Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO-TI	International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG Code	International Maritime Code for Dangerous Goods
ISO	International Organization for Standardization
LC	Lethal Concentration
LD	Lethal Dose
MARPOL	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	very persistent and very bioaccumulative

## Further information

Classification according to Regulation (EC) No 1272/2008 [CLP]

The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. Without written approval, the product must not be used for purposes different from those mentioned in section 1. It is always the user's duty to take any necessary measures for meeting the requirements laid down by local rules and regulations. The details in this safety data sheet describe the safety requirements of our product and are not to be regarded as guaranteed attributes of the product.