analytichem

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Toluene / 2-methylpropan-2-ol (tert-butanol) mixture for analysis mixed 1 : 1 volumetrically**



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

### 1.1. Product identifier

Toluene / 2-methylpropan-2-ol (tert-butanol) mixture for analysis mixed 1 : 1 volumetrically

UFI: JKSP-41U6-S00G-4GF0

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

**Use of the substance/mixture**

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

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


| | | | |
|---|---|---|---|
| Company name: | AnalytiChem GmbH<br>ACD | | |
| Street: | Stempelstraße 6 | | |
| Place: | D-47167 Duisburg | | |
| Telephone: | 0203/5194-0 | Telefax: | 0203/5194-290 |
| E-mail: | info@analytichem.de | | |
| Contact person: | Abteilung Produktsicherheit | Telephone: | 0203/5194-107/117 |
| E-mail: | produktsicherheit@analytichem.de | | |
| Internet: | www.analytichem.de | | |
| Responsible Department: | Abteilung Produktsicherheit | | |


### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

**Further Information**

This product is a mixture. REACH Registration Number see section 3.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

Flam. Liq. 2; H225
Repr. 2; H361d
Acute Tox. 4; H332
Skin Irrit. 2; H315
Eye Irrit. 2; H319
STOT SE 3; H335 H336
STOT RE 2; H373
Asp. Tox. 1; H304
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

**Regulation (EC) No 1272/2008**

**Hazard components for labelling**

toluene
2-methylpropan-2-ol

**Signal word:** Danger

**Pictograms:**

**Hazard statements**

| | |
|---|---|
| H225 | Highly 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. |
| 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. |

**Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P260 | Do not breathe mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing and eye protection/face protection. |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor. |
| P331 | Do NOT induce vomiting. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |

### 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

**Relevant ingredients**

| CAS No | Chemical name | | | Quantity |
|---|---|---|---|---|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 108-88-3 | toluene | | | 50 - < 55 % |
| | 203-625-9 | 601-021-00-3 | 01-2119471310-51 | |
| | Flam. Liq. 2, Repr. 2, Skin Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1, Aquatic Chronic 3; H225 H361d H315 H336 H373 H304 H412 | | | |
| 75-65-0 | 2-methylpropan-2-ol | | | 45 - < 50 % |
| | 200-889-7 | 603-005-00-1 | 01-2119444321-51 | |
| | Flam. Liq. 2, Acute Tox. 4, Eye Irrit. 2, STOT SE 3; H225 H332 H319 H335 | | | |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No | EC No | Chemical name | Quantity |
|---|---|---|---|
| | Specific Conc. Limits, M-factors and ATE | | |
| 108-88-3 | 203-625-9 | toluene | 50 - < 55 % |
| | inhalation: LC50 = 28,1 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = 5580 mg/kg | | |
| 75-65-0 | 200-889-7 | 2-methylpropan-2-ol | 45 - < 50 % |
| | inhalation: LC50 = > 10000 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 3384 mg/kg | | |

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**

No data available

**After inhalation**

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

**After contact with skin**

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

**After ingestion**

Observe risk of aspiration if vomiting occurs.
Call a physician immediately.

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

Irritant — skin irritation and eye damage, Headache
Dizziness, Dizziness
Vomiting, Inebriation
Spasms, Circulatory collapse
Respiratory complaints, Dyspnoea
Unconsciousness

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

No data available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media**

Foam.
Extinguishing powder
Carbon dioxide ($CO_2$)

**Unsuitable extinguishing media**

no restriction

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

Combustible liquids

Beware of reignition.

Hazardous combustion products

In case of fire may be liberated: Carbon dioxide ($CO_2$) Carbon monoxide

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Heating causes rise in pressure with risk of bursting.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

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

**General advice**

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

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

**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling**

Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

**Advice on protection against fire and explosion**

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.
Draw up and observe skin protection programme.
The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Further information on handling**

Take off immediately all contaminated clothing and wash it before reuse.
Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
If handled uncovered, arrangements with local exhaust ventilation have to be used.

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

**Requirements for storage rooms and vessels**

Keep in a cool, well-ventilated place.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**

national regulations

**Further information on storage conditions**

Keep cool. Protect from sunlight.

### 7.3. Specific end use(s)

Laboratory chemicals

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits**

| CAS No | Substance | ppm | mg/m³ | fib/cm³ | Category | Origin |
|---|---|---|---|---|---|---|
| 75-65-0 | 2-Methylpropan-2-ol | 100 | 300 | | TWA (8 h) | |
| 108-88-3 | Toluene | 50 | 192 | | TWA (8 h) | |
| | | 100 | 384 | | STEL (15 min) | |

**Biological limit values**

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|---|---|---|---|---|---|
| 108-88-3 | Toluene | Toluene | 0.02 mg/L | Blood | Prior to last shift of workweek |

**DNEL/DMEL values**

| CAS No | Substance | | | |
|---|---|---|---|---|
| DNEL type | | Exposure route | Effect | Value |
| 108-88-3 | toluene | | | |
| Worker DNEL, long-term | | inhalation | systemic | 192 mg/m³ |
| Worker DNEL, acute | | inhalation | systemic | 384 mg/m³ |
| Worker DNEL, long-term | | inhalation | local | 192 mg/m³ |
| Worker DNEL, acute | | inhalation | local | 384 mg/m³ |
| Worker DNEL, long-term | | dermal | systemic | 384 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 56,5 mg/m³ |
| Consumer DNEL, acute | | inhalation | systemic | 226 mg/m³ |
| Consumer DNEL, long-term | | inhalation | local | 56,5 mg/m³ |
| Consumer DNEL, acute | | inhalation | local | 226 mg/m³ |
| Consumer DNEL, long-term | | dermal | systemic | 226 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 8,13 mg/kg bw/day |
| 75-65-0 | 2-methylpropan-2-ol | | | |
| Worker DNEL, long-term | | inhalation | systemic | 2,7 mg/m³ |
| Worker DNEL, acute | | inhalation | systemic | 214 mg/m³ |
| Worker DNEL, long-term | | dermal | systemic | 5,5 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 0,5 mg/m³ |
| Consumer DNEL, acute | | inhalation | systemic | 159,8 mg/m³ |
| Consumer DNEL, long-term | | dermal | systemic | 2,7 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 0,3 mg/kg bw/day |

**PNEC values**

| CAS No | Substance |
|---|---|
| Environmental compartment | Value |
| 108-88-3 | toluene |
| Freshwater | 0,68 mg/l |
| Freshwater (intermittent releases) | 0,68 mg/l |
| Marine water | 0,68 mg/l |
| Freshwater sediment | 16,39 mg/kg |
| Marine sediment | 16,39 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 13,61 mg/l |
| Soil | 2,89 mg/kg |
| 75-65-0 | 2-methylpropan-2-ol |
| Freshwater | 2 mg/l |
| Freshwater (intermittent releases) | 9,33 mg/l |
| Marine water | 0,2 mg/l |
| Freshwater sediment | 8,04 mg/kg |
| Marine sediment | 0,804 mg/kg |
| Secondary poisoning | 88700000 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | 690 mg/l |
| Soil | 1 mg/kg |

## 8.2. Exposure controls

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

goggles

Face protection umbrella

**Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact
Trade name/designation: KCL 890 Vitoject®
Suitable material: FKM (fluoro rubber) 0,7 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Trade name/designation: KCL 890 Vitoject®
Suitable material: FKM (fluoro rubber) 0,7 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and

under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

**Skin protection**

Take off immediately all contaminated clothing and wash it before reuse.
Wear fire resistant or flame retardant clothing.
Wash hands and face before breaks and after work and take a shower if necessary.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.
Danger of explosion

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| Physical state: | Liquid |
| Colour: | clear |
| Odour: | characteristic |
| Odour threshold: | No data available |
| Melting point/freezing point: | No data available |
| Boiling point or initial boiling point and boiling range: | No data available |
| Flammability: | No data available |
| Lower explosion limits: | No data available |
| Upper explosion limits: | No data available |
| Flash point: | ~4 °C |
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | No data available |
| pH-Value: | No data available |
| Viscosity / kinematic: | No data available |
| Water solubility: | No data available |

Solubility in other solvents

No data available

| | |
|---|---|
| Dissolution rate: | No data available |
| Partition coefficient n-octanol/water: | No data available |
| Dispersion stability: | No data available |
| Vapour pressure: | No data available |
| Vapour pressure: | No data available |
| Density: | 0,82168 g/cm³ |
| Bulk density: | No data available |
| Relative vapour density: | No data available |
| Particle characteristics: | No data available |

### 9.2. Other information

**Information with regard to physical hazard classes**

Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

| | |
|---|---|
| Sustained combustibility: | Sustained combustibility |

Self-ignition temperature

| | |
|---|---|
| Solid: | No data available |
| Gas: | No data available |

Oxidizing properties

No data available

**Other safety characteristics**

| | |
|---|---|
| Evaporation rate: | No data available |
| Solvent separation test: | No data available |
| Solvent content: | No data available |
| Solid content: | No data available |
| Sublimation point: | No data available |
| Softening point: | No data available |
| Pour point: | No data available |
| | No data available |
| Viscosity / dynamic: | No data available |
| Flow time: | No data available |

**Further Information**

No data available

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Oxidising agent
Nitric acid
Acetic acid
Strong acid

**10.4. Conditions to avoid**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**10.5. Incompatible materials**

Plastic articles
Rubber articles

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

**Further information**

No data available

## SECTION 11: Toxicological information

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

**Toxicocinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Harmful if inhaled.

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) 3,152 mg/l

| CAS No | Chemical name | | | | | |
|---|---|---|---|---|---|---|
| | Exposure route | Dose | | Species | Source | Method |
| 108-88-3 | toluene | | | | | |
| | oral | LD50 mg/kg | 5580 | Rat | Toxicology 4, 5-15 (1975) | EU Method B.1 |
| | dermal | LD50 mg/kg | > 5000 | Rabbit | American Industrial Hygiene Association | Study investigated mortality in groups o |
| | inhalation (4 h) vapour | LC50 | 28,1 mg/l | Rat | Study report (1980) | OECD Guideline 403 |
| 75-65-0 | 2-methylpropan-2-ol | | | | | |
| | oral | LD50 mg/kg | 3384 | Rat | Study report (1981) | EPA OPPTS 870.1100 |
| | dermal | LD50 mg/kg | > 2000 | Rabbit | Study report (1981) | EPA OPPTS 870.1200 |
| | inhalation (4 h) vapour | LC50 mg/l | > 10000 | Rat | Study report (1981) | other: The test report did not specifiy |
| | inhalation dust/mist | ATE | 1,5 mg/l | | | |

**Irritation and corrosivity**

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of damaging the unborn child. (toluene)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

**STOT-single exposure**

May cause respiratory irritation. (2-methylpropan-2-ol)

May cause drowsiness or dizziness. (toluene)

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (toluene)

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Information on likely routes of exposure**

There are no data available on the mixture itself.

**Specific effects in experiment on an animal**

There are no data available on the mixture itself.

**Additional information on tests**

There are no data available on the mixture itself.

**Practical experience**

There are no data available on the mixture itself.

## 11.2. Information on other hazards

**Endocrine disrupting properties**

There are no data available on the mixture itself.

**Other information**

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

**Further information**

Irritant — skin irritation and eye damage, Headache
Dizziness, Dizziness
Vomiting, Inebriation
Spasms, Circulatory collapse
Respiratory complaints, Dyspnoea
Unconsciousness

## SECTION 12: Ecological information

### 12.1. Toxicity

Harmful to aquatic life with long lasting effects.

| CAS No | Chemical name | | | | | | |
|---|---|---|---|---|---|---|---|
| | Aquatic toxicity | Dose | | [h] \| [d] | Species | Source | Method |
| 108-88-3 | toluene | | | | | | |
| | Acute fish toxicity | LC50 | 5,5 mg/l | 96 h | Oncorhynchus kisutch | Transactions A. Fish. Soc. 110, 430-436. | Fry were exposed to toluene in a flow th |
| | Acute algae toxicity | ErC50 mg/l | > 433 | 96 h | Pseudokirchneriella subcapitata | REACh Registration Dossier | Method: other |
| | Acute crustacea toxicity | EC50 | 11,5 mg/l | 48 h | Daphnia magna | REACh Registration Dossier | Method: other |
| | Fish toxicity | NOEC mg/l | 1,39 | 40 d | Oncorhynchus kisutch | Transactions A. Fish. Soc. 110, 430-436. | Fry were exposed to toluene in a flow th |
| | Algae toxicity | NOEC mg/l | > 400 | 7 d | Scenedesmus quadricauda | REACh Registration Dossier | Method: other |
| | Crustacea toxicity | NOEC mg/l | 0,74 | 7 d | Ceriodaphnia dubia | Ecotoxicol. Environ. Saf. 39, 136-146. ( | other: US EPA 600/4-91-003 |
| 75-65-0 | 2-methylpropan-2-ol | | | | | | |
| | Acute fish toxicity | LC50 mg/l | > 961 | 96 h | Pimephales promelas | Study report (2003) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | > 1000 | 72 h | Desmodesmus subspicatus | Study report (1994) | EU Method C.3 |
| | Acute crustacea toxicity | EC50 | 933 mg/l | 48 h | Daphnia magna | Study report (1994) | EU Method C.2 |
| | Crustacea toxicity | NOEC | 100 mg/l | 21 d | Daphnia magna | Study report (2015) | OECD Guideline 211 |

### 12.2. Persistence and degradability

There are no data available on the mixture itself.

### 12.3. Bioaccumulative potential

There are no data available on the mixture itself.

**Partition coefficient n-octanol/water**

| CAS No | Chemical name | Log Pow |
|---|---|---|
| 108-88-3 | toluene | 2,73 |
| 75-65-0 | 2-methylpropan-2-ol | 2,08 |

**BCF**

| CAS No | Chemical name | BCF | Species | Source |
|---|---|---|---|---|
| 108-88-3 | toluene | 90 | Leuciscus idus melanotus | Chemosphere 14 (10). |

**12.4. Mobility in soil**

There are no data available on the mixture itself.

**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**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.
Avoid release to the environment.

**Further information**

There are no data available on the mixture itself.

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

## SECTION 14: Transport information

**Land transport (ADR/RID)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1993 |
| **14.2. UN proper shipping name:** | FLAMMABLE LIQUID, N.O.S. (toluene, 2-methylpropan-2-ol) |
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |
| Classification code: | F1 |
| Special Provisions: | 274 601 640D |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |
| Transport category: | 2 |
| Hazard No: | 33 |
| Tunnel restriction code: | D/E |

**Inland waterways transport (ADN)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1993 |
| **14.2. UN proper shipping name:** | FLAMMABLE LIQUID, N.O.S. (toluene, 2-methylpropan-2-ol) |

| | |
|---|---|
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |
| Classification code: | F1 |
| Special Provisions: | 274 601 640D |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |

**Marine transport (IMDG)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1993 |
| **14.2. UN proper shipping name:** | FLAMMABLE LIQUID, N.O.S. (toluene, 2-methylpropan-2-ol) |
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |
| Special Provisions: | 274 |
| Limited quantity: | 1 L |
| Excepted quantity: | E2 |
| EmS: | F-E, S-E |

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

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1993 |
| **14.2. UN proper shipping name:** | FLAMMABLE LIQUID, N.O.S. (toluene, 2-methylpropan-2-ol) |
| **14.3. Transport hazard class(es):** | 3 |
| **14.4. Packing group:** | II |
| Hazard label: | 3 |
| Special Provisions: | A3 |
| Limited quantity Passenger: | 1 L |
| Passenger LQ: | Y341 |
| Excepted quantity: | E2 |
| IATA-packing instructions - Passenger: | 353 |
| IATA-max. quantity - Passenger: | 5 L |
| IATA-packing instructions - Cargo: | 364 |
| IATA-max. quantity - Cargo: | 60 L |

**14.5. Environmental hazards**

| | |
|---|---|
| ENVIRONMENTALLY HAZARDOUS: | No |

## SECTION 15: Regulatory information

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

**EU regulatory information**

| | |
|---|---|
| Restrictions on use (REACH, annex XVII): Entry 3, Entry 40, Entry 48, Entry 75 | |
| Information according to Directive 2012/18/EU (SEVESO III): | P5c FLAMMABLE LIQUIDS |

**National regulatory information**

| | |
|---|---|
| Employment restrictions: | Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age. |
| Water hazard class (D): | 3 - highly hazardous to water |

## SECTION 16: Other information

**Changes**

This data sheet contains changes from the previous version in section(s): 1.

**Abbreviations and acronyms**

Flam. Liq. 2: Flammable liquids, hazard category 2
Acute Tox. 4: Acute toxicity, hazard category 4
Asp. Tox. 1: Aspiration hazard, hazard category 1
Skin Irrit. 2: Skin irritation, hazard category 2
Eye Irrit. 2: 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
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3

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

| Classification | Classification procedure |
|---|---|
| Flam. Liq. 2; H225 | On basis of test data |
| Repr. 2; H361d | Calculation method |
| Acute Tox. 4; H332 | Calculation method |
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |
| STOT SE 3; H335 | 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 |

**Relevant H and EUH statements (number and full text)**

| | |
|---|---|
| H225 | Highly 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. |
| 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. |

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.
The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.
The receiver of our product is singularly responsible for adhering to existing laws and regulations.
Provide appropriate information, instructions and training to users

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*