SAFETY DATA SHEET
TOLUENE

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

1.1. Product identifier

Product name: TOLUENE
Product number: TOEN
REACH registration number: 01-2119471310-51-XXXX
CAS number: 108-88-3
EU Index number: 601-021-00-3
EC number: 203-625-9

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

Identified uses: Industrial Solvent
Uses advised against: The substance is not recommended for professional or consumer use other than the identified application above.

1.3. Details of the supplier of the safety data sheet

Supplier: FIS Chemicals Ltd.
Chapel Croft
Bucksburn
Aberdeen AB21 9TN
Tel: 01224 723796
Fax: 01224 722807
sds@fischem.co.uk

1.4. Emergency telephone number

Emergency telephone: 01224 723796 (Office hours only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards: Flam. Liq. 2 - H225
Health hazards: Skin Irrit. 2 - H315 Repr. 2 - H361d STOT SE 3 - H336 STOT RE 2 - H373 Asp. Tox. 1 - H304
Environmental hazards: Not Classified

Classification (67/548/EEC or 1999/45/EC)

F;R11 Repr. Cat. 3;R63 Xn;R48/20,R65 Xi;R38 R67

2.2. Label elements

EC number: 203-625-9
TOLUENE

Pictogram

Signal word
Danger

Hazard statements
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin 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.

Precautionary statements
P201 Obtain special instructions before use.
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/bond container and receiving equipment.
P241 Use explosion-proof electrical equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe vapour/spray.
P261 Avoid breathing vapour/spray.
P264 Wash contaminated skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352 IF ON SKIN: Wash with plenty of water.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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/doctor if you feel unwell.
P314 Get medical advice/attention if you feel unwell.
P321 Specific treatment (see medical advice on this label).
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 foam, carbon dioxide, dry powder or water fog 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 Store locked up.
P501 Dispose of contents/container in accordance with national regulations.
**TOLUENE**

**Supplementary precautionary statements**
- P201 Obtain special instructions before use.
- 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/ bond container and receiving equipment.
- P241 Use explosion-proof electrical equipment.
- P242 Use only non-sparking tools.
- P260 Do not breathe vapour/ spray.
- P264 Wash contaminated skin thoroughly after handling.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P308+P313 IF exposed or concerned: Get medical advice/ attention.
- P314 Get medical advice/ attention if you feel unwell.
- P321 Specific treatment (see medical advice on this label).
- P332+P313 If skin irritation occurs: Get medical advice/ attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P403+P235 Store in a well-ventilated place. Keep cool.

**2.3. Other hazards**
This substance is not classified as PBT or vPvB according to current EU criteria. Not available

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

### 3.1. Substances

<table>
<thead>
<tr>
<th>Product name</th>
<th>TOLUENE</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACH registration number</td>
<td>01-2119471310-51-XXXX</td>
</tr>
<tr>
<td>EU index number</td>
<td>601-021-00-3</td>
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<td>CAS number</td>
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<tr>
<td>EC number</td>
<td>203-625-9</td>
</tr>
</tbody>
</table>

**SECTION 4: First aid measures**

### 4.1. Description of first aid measures

**Inhalation**
Remove affected person from source of contamination. Keep affected person warm and at rest. Get medical attention immediately.

**Ingestion**
Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention.

**Skin contact**
Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention.

**Eye contact**
Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

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

**Inhalation**
May cause drowsiness or dizziness. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression. May cause unconsciousness, blindness and possibly death.

**Ingestion**
May be fatal if swallowed and enters airways.

**Skin contact**
Causes skin irritation.

**Eye contact**
May cause temporary eye irritation.
TOLUENE

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

Notes for the doctor
No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Specific hazards
Oxides of the following substances: Carbon. Highly flammable liquid and vapour. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

5.3. Advice for firefighters

Protective actions during firefighting
Containers close to fire should be removed or cooled with water.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
No smoking, sparks, flames or other sources of ignition near spillage. Take precautionary measures against static discharges. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions
Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up
Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections
Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions
Pregnant or breastfeeding women should not work with this product if there is any risk of exposure. Avoid spilling. Avoid contact with skin and eyes. Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Provide adequate ventilation. Static electricity and formation of sparks must be prevented.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions
Highly flammable liquid and vapour. Keep away from heat, sparks and open flame. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Take precautionary measures against static discharges.

Storage class
Flammable liquid storage.

7.3. Specific end use(s)
TOLUENE

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits
Long-term exposure limit (8-hour TWA): WEL 50 ppm 191 mg/m³
Short-term exposure limit (15-minute): WEL 100 ppm 384 mg/m³
Sk
WEL = Workplace Exposure Limit
Sk = Can be absorbed through skin.

DNEL
Industry - Inhalation; Long term systemic effects: 192 mg/m³
Industry - Inhalation; Short term systemic effects: 384 mg/m³
Industry - Inhalation; Long term local effects: 192 mg/m³
Industry - Inhalation; Short term systemic effects: 384 mg/m³
Industry - Dermal; Long term systemic effects: 384 mg/kg/day

PNEC
Industry - Fresh water; 0.68 mg/l
Industry - Marine water; 0.68 mg/l
Industry - Intermittent release; 0.68 mg/l
Industry - STP; 13.61 mg/l
Industry - Sediment (Freshwater); 16.39 mg/kg
Industry - Sediment (Marine water); 16.39 mg/kg

8.2. Exposure controls

Protective equipment
Appropriate engineering controls
Provide adequate general and local exhaust ventilation.

Eye/face protection
The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Polyvinyl alcohol (PVA), Viton rubber (fluoro rubber). EN 374

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact. Provide eyewash station and safety shower.

Hygiene measures
Good personal hygiene procedures should be implemented. When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection
If ventilation is inadequate, suitable respiratory protection must be worn. Combination filter, type A2/P2.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Clear liquid.
Colour Colourless.
# TOLUENE

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour</td>
<td>aromatic hydrocarbons</td>
</tr>
<tr>
<td>Melting point</td>
<td>~ -95°C</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>~ 110°C @ 760 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>4°C CC (Closed cup).</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Lower flammable/explosive limit: 1.2 % Upper flammable/explosive limit: 8 %</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>3 - 3.5 kPa @ °C</td>
</tr>
<tr>
<td>Vapour density</td>
<td>3.1</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.87 @ 20°C</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>480°C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>0.56-0.63 m²/s @ 35°C</td>
</tr>
</tbody>
</table>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity**

There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

**Stability**

Stable at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions**

Will not polymerise.

### 10.4. Conditions to avoid

**Conditions to avoid**

Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time.

### 10.5. Incompatible materials

**Materials to avoid**

Strong oxidising agents. Strong acids.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products**

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Other health effects**

Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Suspected of damaging the unborn child.

**General information**

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.
TOLUENE

**Inhalation**
May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure if inhaled.

**Ingestion**
May be fatal if swallowed and enters airways.

**Skin contact**
Causes skin irritation.

**Eye contact**
Vapour or spray in the eyes may cause irritation and smarting.

**Target organs**
Liver Kidneys Central nervous system

### SECTION 12: Ecological Information

**Ecotoxicity**
The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

**12.1. Toxicity**

- **Acute toxicity - fish**
  \( LC_{50}, 96 \) hours: \( > 25 \) mg/l, Algae

- **Acute toxicity - aquatic invertebrates**
  \( EC_{50}, 48 \) hours: \( 11.5 \) mg/l, Daphnia magna

- **Acute toxicity - aquatic plants**
  \( IC_{50}, 72 \) hours: \( 12.5 \) mg/l, Fish

**12.2. Persistence and degradability**
The product is biodegradable.

**12.3. Bioaccumulative potential**

- **Bioaccumulative potential**
  BCF: \( \sim 8.3, \)

**12.4. Mobility in soil**
The product has poor water-solubility.

**12.5. Results of PBT and vPvB assessment**

- **Results of PBT and vPvB assessment**
  This substance is not classified as PBT or vPvB according to current EU criteria.

**12.6. Other adverse effects**

- **Other adverse effects**
  No information required.

### SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

- **General information**
  When handling waste, the safety precautions applying to handling of the product should be considered. Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Do not puncture or incinerate, even when empty.

- **Disposal methods**
  Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### SECTION 14: Transport information

**14.1. UN number**

- **UN No. (ADR/RID)**
  1294

- **UN No. (IMDG)**
  1294

- **UN No. (ICAO)**
  1294
TOLUENE

14.2. UN proper shipping name
Proper shipping name (ADR/RID) — TOLUENE
Proper shipping name (IMDG) — TOLUENE
Proper shipping name (ICAO) — TOLUENE
Proper shipping name (ADN) — TOLUENE

14.3. Transport hazard class(es)
ADR/RID class — 3
ADR/RID label — 3
IMDG class — 3
ICAO class/division — 3

Transport labels

14.4. Packing group
ADR/RID packing group — II
IMDG packing group — II
ICAO packing group — II

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
EmS — F-E, S-D
Emergency Action Code — 3YE
Hazard Identification Number (ADR/RID) — 33
Tunnel restriction code — (D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code — The product contains a single, or a mixture of components, listed in Chapter 17 of Annex II MARPOL 73/78 and is assigned Pollution Category Y for Noxious Liquid Substances which, if discharged into the sea from cleaning operations, are deemed to present a hazard to the marine environment and therefore, justify a limitation on the quantity of discharge.

SECTION 15: Regulatory information

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

EU legislation


Restrictions (Title VIII Regulation 1907/2006)


15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

General information

Only trained personnel should use this material.

Key literature references and sources for data


Revision date

25/08/2017

Revision

3

Supersedes date

29/12/2016

Risk phrases in full

R11 Highly flammable.
R38 Irritating to skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

Hazard statements in full

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin 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.

Signature

Auguste Kavaliauskaité

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