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

1.1. Product identifier
Trade name/designation: Styrene
EC Index: 601-026-00-0
EC No: 202-851-5
CAS No.: 100-42-5
REACH registration No.: 01-2119457861-32-0092

1.2. Relevant identified uses of the substance or mixture and uses advised against
Main use category: Industrial use
Specific use(s): Further information: see exposure scenarios attached to this safety data sheet.

1.3. Details of the supplier of the safety data sheet
Company: Transcor Energy
Parc de L'Alliance, Boulevard de France 7
1420 Braine-L'Alleud, Belgium
Telephone: +32 2 663 19 00
Telefax: +32 2 675 49 99
E-mail: reach@transcor.be

1.4. Emergency telephone number
Emergency telephone: +32 3 575 03 30 (This telephone number is available 24 hours per day, 7 days per week.)

IRELAND (REPUBLIC OF)
National Poisons Information Centre
Beaumont Hospital
+353 18 37 99 64/+353 1 809 21 66

UNITED KINGDOM
National Poisons Information Service (Newcastle Centre)
Regional Drugs and Therapeutics Centre, Wolfson Unit
0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EU) 1272/2008
CLP-Classification: The product is classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

Flam. Liq. 3 H226
Acute Tox. 4 (Inhalation:dust,mist) H332
Skin Irrit. 2 H315
Eye Irrit. 2 H319
STOT SE 3 H335
STOT RE 1 H372
Asp. Tox. 1 H304

Full text of H-phrases: see section 16

2.1.2. Classification according to EU Directives 67/548/EEC or 1999/45/EC
Safety Data Sheet – Styrene

Revision Nr: 2
Issue date: 18/09/2013
Supersedes: 20/11/2009

Classification: This substance is classified as hazardous according to 67/548/EEC.
R10
Xn; R20
Xn; R48/20
Xn; R65
Xi; R36/37/38

Full text of R-phrases: see section 16

2.2. Label elements

2.2.1. Labelling according to Regulation (EU) 1272/2008

Hazard pictograms:
- GHS02
- GHS07
- GHS08

Signal word: Danger
Hazard statements:
- H226 - Flammable liquid and vapour.
- H304 - May be fatal if swallowed and enters airways.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H332 - Harmful if inhaled.
- H335 - May cause respiratory irritation.
- H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements:
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P235 - Keep cool.
- P243 - Take precautionary measures against static discharge.
- P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

2.2.2. Labelling according to Directives (67/548 - 1999/45)
Not relevant

2.3. Other hazards

Other hazards: PBT/vPvB data
This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
</table>
| Styrene        | (CAS No.) 100-42-5  | > 99 | R10
|                | (EC No) 202-851-5   |    | Xn; R20
|                | (EC Index) 601-026-00-0 |  | Xn; R48/20
|                | (REACH-no) 01-2119457861-32-0092 |  | Xn; R65
|                |                     |    | Xi; R36/37/38 |
Safety Data Sheet – Styrene

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<table>
<thead>
<tr>
<th>Substance name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene</td>
<td>(CAS No.) 100-42-5</td>
<td>&gt; 99</td>
<td>Acute Tox. 4 (Inhalation: Dust, Mist), H332</td>
</tr>
<tr>
<td></td>
<td>(EC No) 202-851-5</td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td>(EC Index) 601-028-00-0</td>
<td></td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td></td>
<td>(REACH-no) 01-2119457861-32-0092</td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT RE 1, H372</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Asp. Tox. 1, H304</td>
</tr>
</tbody>
</table>

Full text of R- and H-phrases: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures


Skin contact: Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. When in doubt or if symptoms are observed, get medical advice. Wash contaminated clothing before reuse.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical advice/attention.

In case of ingestion: 
Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person or a person with cramps. Call a physician immediately.

Additional advice: 
First aider: Pay attention to self-protection! See also section 8. Get medical advice/attention if you feel unwell. Treat symptomatically. Show this safety data sheet to the doctor in attendance.

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

Inhalation: Harmful by inhalation. May cause respiratory irritation. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. May cause damage to organs through prolonged or repeated exposure.

Skin contact: Irritating to skin. May cause damage to organs through prolonged or repeated exposure. The following symptoms may occur: erythema (redness), Pain.

Eye contact: Irritating to eyes. The following symptoms may occur: erythema (redness), Pain.

Ingestion: Dizziness Headache Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May be fatal if swallowed and enters airways.

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

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Water spray, alcohol resistant foam, Carbon dioxide, Dry extinguishing powder

Extinguishing media which must not be used for safety reasons: Strong water jet

5.2. Special hazards arising from the substance or mixture

Fire hazard: Flammable

Specific hazards:
- Vapours can form explosive mixtures with air.
- Vapours are heavier than air and may spread along floors.
- Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.
- Heating causes rise in pressure with risk of bursting.
- Hazardous decomposition products COx
- Do not allow run-off from fire-fighting to enter drains or water courses.
- Dispose according to legislation.

5.3. Advice for firefighters

Advice for firefighters: Special protective equipment for firefighters.
- In case of fire: Wear self-contained breathing apparatus.
- Use water spray jet to protect personnel and to cool endangered containers.
- Evacuate area.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Evacuate area.
- Provide adequate ventilation.
- Use personal protective equipment as required.
- Personal protection equipment: see section 8
- Do not breathe vapour/spray.
- Avoid contact with skin, eyes and clothes.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Ensure that the equipment is adequately grounded.

For emergency responders:
- Ensure procedures and training for emergency decontamination and disposal are in place.
- Personal protection equipment: see section 8.

6.2. Environmental precautions

Environmental precautions: Do not allow to enter into surface water or drains.
- Dispose according to legislation.
- Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:
- Clean-up methods - large spillage:
  - Stop leak if safe to do so.
  - Dam up.
  - Large spills should be collected mechanically (remove by pumping) for disposal.
  - Dispose according to legislation.
- Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.
- Clean-up methods - small spillage:
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal. Dispose of waste product or used containers according to local regulations.

6.4. Reference to other sections

Personal protection equipment: see section 8
Disposal: see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advises on general occupational hygiene:
- Keep good industrial hygiene.
- When using do not eat, drink or smoke.
- Wash hands and face before breaks and immediately after handling of the product.
- Take off contaminated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage:
- Storage of flammable liquids
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Take precautionary measures against static discharge.
- Protect from sunlight.
- Do not store near or with any of the incompatible materials listed in section 10.
- Inhibitor levels should be maintained.

Packaging materials:
- Keep/Store only in original container.

7.3 Specific end use(s)

see attached exposure scenario.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values:

<table>
<thead>
<tr>
<th>Country</th>
<th>Styrrene (100-42-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>MAK (mg/m³)</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK (ppm)</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK Short time value (mg/m³)</td>
</tr>
<tr>
<td>Austria</td>
<td>MAK Short time value (ppm)</td>
</tr>
<tr>
<td>Belgium</td>
<td>Limit value (mg/m³)</td>
</tr>
<tr>
<td>Belgium</td>
<td>Limit value (ppm)</td>
</tr>
<tr>
<td>Belgium</td>
<td>Short time value (mg/m³)</td>
</tr>
<tr>
<td>Belgium</td>
<td>Short time value (ppm)</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>OEL STEL (mg/m³)</td>
</tr>
<tr>
<td>Croatia</td>
<td>GVI (granična vrijednost izloženosti) (mg/m³)</td>
</tr>
<tr>
<td>Croatia</td>
<td>GVI (granična vrijednost izloženosti) (ppm)</td>
</tr>
<tr>
<td>Croatia</td>
<td>KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m³)</td>
</tr>
</tbody>
</table>
**Styrene (100-42-5)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)</td>
<td>250 ppm</td>
</tr>
<tr>
<td>France</td>
<td>VME (mg/m³)</td>
<td>215 mg/m³</td>
</tr>
<tr>
<td>France</td>
<td>VME (ppm)</td>
<td>50 ppm</td>
</tr>
<tr>
<td>Germany</td>
<td>TRGS 900 Occupational exposure limit value (mg/m³)</td>
<td>86 mg/m³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)</td>
</tr>
<tr>
<td>Germany</td>
<td>TRGS 900 Occupational exposure limit value (ppm)</td>
<td>20 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)</td>
</tr>
<tr>
<td>Germany</td>
<td>TRGS 903 (BGW)</td>
<td>600 mg/g (Medium: urine - Time: end of shift - Parameter: Mandelic acid plus Phenylglyoxylic acid (measured as mg/g Creatinine))</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (mg/m³)</td>
<td>425 mg/m³</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (ppm)</td>
<td>100 ppm</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL STEL (mg/m³)</td>
<td>1050 mg/m³</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL STEL (ppm)</td>
<td>250 ppm</td>
</tr>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>ACGIH TWA (ppm)</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>ACGIH STEL (ppm)</td>
<td>40 ppm</td>
</tr>
<tr>
<td>Latvia</td>
<td>OEL TWA (mg/m³)</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Spain</td>
<td>VLA-ED (mg/m³)</td>
<td>86 mg/m³ (endocrine disruptor)</td>
</tr>
<tr>
<td>Spain</td>
<td>VLA-ED (ppm)</td>
<td>20 ppm (endocrine disruptor)</td>
</tr>
<tr>
<td>Spain</td>
<td>VLA-EC (mg/m³)</td>
<td>172 mg/m³</td>
</tr>
<tr>
<td>Spain</td>
<td>VLA-EC (ppm)</td>
<td>40 ppm</td>
</tr>
<tr>
<td>Switzerland</td>
<td>VLE (mg/m³)</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>Switzerland</td>
<td>VLE (ppm)</td>
<td>40 ppm</td>
</tr>
<tr>
<td>Switzerland</td>
<td>VME (mg/m³)</td>
<td>85 mg/m³</td>
</tr>
<tr>
<td>Switzerland</td>
<td>VME (ppm)</td>
<td>20 ppm</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL TWA (mg/m³)</td>
<td>430 mg/m³</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL TWA (ppm)</td>
<td>100 ppm</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL STEL (mg/m³)</td>
<td>1080 mg/m³</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL STEL (ppm)</td>
<td>250 ppm</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Expoziční limity (PEL) (mg/m³)</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (mg/m³)</td>
<td>86 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (ppm)</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (15 min)</td>
<td>430 mg/m³</td>
</tr>
<tr>
<td>Hungary</td>
<td>AK-érték</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>Hungary</td>
<td>CK-érték</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (8 hours ref) (mg/m³)</td>
<td>85 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (8 hours ref) (ppm)</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (mg/m³)</td>
<td>170 mg/m³</td>
</tr>
</tbody>
</table>
### Styrene (100-42-5)

<table>
<thead>
<tr>
<th>Country</th>
<th>Exposure Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (ppm)</td>
<td>40 ppm</td>
</tr>
<tr>
<td>Lithuania</td>
<td>IPRV (mg/m³)</td>
<td>90 mg/m³</td>
</tr>
<tr>
<td>Lithuania</td>
<td>IPRV (ppm)</td>
<td>20 ppm</td>
</tr>
<tr>
<td></td>
<td>(10 ppm (for planning of new facilities or replacing the old ones))</td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td>TPRV (mg/m³)</td>
<td>200 mg/m³</td>
</tr>
<tr>
<td>Norway</td>
<td>Gjennomsnittsverdier (AN) (mg/m³)</td>
<td>105 mg/m³</td>
</tr>
<tr>
<td>Norway</td>
<td>Gjennomsnittsverdier (AN) (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>Norway</td>
<td>Gjennomsnittsverdier (Korttidsverdi) (mg/m³)</td>
<td>131,25 mg/m³</td>
</tr>
<tr>
<td>Norway</td>
<td>Gjennomsnittsverdier (Korttidsverdi) (ppm)</td>
<td>37,5 ppm</td>
</tr>
<tr>
<td>Poland</td>
<td>NDS (mg/m³)</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>Poland</td>
<td>NDSCh (mg/m³)</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL TWA (mg/m³)</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL TW (ppm)</td>
<td>12 ppm</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL STEL (mg/m³)</td>
<td>150 mg/m³</td>
</tr>
<tr>
<td>Romania</td>
<td>OEL STEL (ppm)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>Slovakia</td>
<td>NPHV (priemerná) (mg/m³)</td>
<td>86 mg/m³</td>
</tr>
<tr>
<td>Slovakia</td>
<td>NPHV (priemerná) (ppm)</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Slovakia</td>
<td>NPHV (Hraničná) (mg/m³)</td>
<td>200 mg/m³</td>
</tr>
<tr>
<td>Sweden</td>
<td>nivägränsvärde (NVG) (mg/m³)</td>
<td>43 mg/m³</td>
</tr>
<tr>
<td>Sweden</td>
<td>nivägränsvärde (NVG) (ppm)</td>
<td>10 ppm</td>
</tr>
<tr>
<td>Sweden</td>
<td>korttidsvärde (KTV) (mg/m³)</td>
<td>86 mg/m³</td>
</tr>
<tr>
<td>Sweden</td>
<td>korttidsvärde (KTV) (ppm)</td>
<td>20 ppm</td>
</tr>
</tbody>
</table>

**Recommended monitoring procedures:**
Concentration measurement in air
Personal air monitoring

### DNEL/DMEL (workers)

<table>
<thead>
<tr>
<th>Exposure Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute - systemic effects, inhalation</td>
<td>289 mg/m³</td>
</tr>
<tr>
<td>Acute - local effects, inhalation</td>
<td>306 mg/m³</td>
</tr>
<tr>
<td>Long-term - systemic effects, dermal</td>
<td>406 mg/kg bodyweight/day</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>85 mg/m³</td>
</tr>
</tbody>
</table>

### DNEL/DMEL (general population)

<table>
<thead>
<tr>
<th>Exposure Standard</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute - systemic effects, inhalation</td>
<td>174,25 mg/m³</td>
</tr>
<tr>
<td>Acute - local effects, inhalation</td>
<td>182,75 mg/m³</td>
</tr>
<tr>
<td>Long-term - systemic effects, oral</td>
<td>2,1 mg/kg bodyweight/day</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>10,2 mg/m³</td>
</tr>
<tr>
<td>Long-term - systemic effects, dermal</td>
<td>343 mg/kg bodyweight/day</td>
</tr>
</tbody>
</table>

### PNEC (water)

<table>
<thead>
<tr>
<th>Medium</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC aqua (freshwater)</td>
<td>0,028 mg/l</td>
</tr>
<tr>
<td>PNEC aqua (marine water)</td>
<td>0,0028 mg/l</td>
</tr>
<tr>
<td>PNEC aqua (intermittent, freshwater)</td>
<td>0,04 mg/l</td>
</tr>
<tr>
<td>PNEC sediment (freshwater)</td>
<td>0,614 mg/kg dwt</td>
</tr>
<tr>
<td>PNEC sediment (marine water)</td>
<td>0,0614 mg/kg dwt</td>
</tr>
</tbody>
</table>
Safety Data Sheet – Styrene

Revision Nr: 2
Issue date: 18/09/2013
Supersedes: 20/11/2009

Styrene (100-42-5)

<table>
<thead>
<tr>
<th>PNEC (soil)</th>
<th>0.2 mg/kg dwt</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC (STP)</td>
<td>5 mg/l</td>
</tr>
</tbody>
</table>

**8.2. Exposure controls**

- **Personal protection equipment**: The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- **Respiratory protection**: In case of insufficient ventilation, wear suitable respiratory equipment. Full face mask (EN 136) (EN 136)
  Half-face mask (DIN EN 140) (EN 140)
  Filter type: A (EN 141)

- **Hand protection**: Wear chemically resistant gloves (tested to EN374), The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves. Viton®, Barrier® (PE/PA/PE), Breakthrough time (maximum wearing time) > 480 min., Polyvinyl alcohol, Breakthrough time (maximum wearing time) > 240 min.

- **Eye protection**: Tightly fitting safety goggles Safety glasses EN 166

- **Body protection**: Overalls, apron and boots recommended.
  Flame-retardant protective clothing

- **Thermal hazard protection**: Not required under normal use.
  Use dedicated equipment.

- **Engineering control measures**: Provide adequate ventilation.
  Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
  Take precautionary measures against static discharge.
  Use only explosion-proof equipment.
  Organisational measures to prevent/limit releases, dispersion and exposure
  See also section 7

- **Environmental exposure controls**: Do not allow to enter into surface water or drains.
  Comply with applicable Community environmental protection legislation.

### SECTION 9: Physical and chemical properties

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

- **Appearance**: liquid
- **Colour**: colourless, yellow
- **Odour**: sweet
- **pH**: No data available
- **Melting point/freezing point**: $-31 \, ^\circ C$
- **Initial boiling point and boiling range**: $145 \, ^\circ C$
- **Flash point**: $31 \, ^\circ C$
- **Evaporation rate**: No data available
- **Flammability (solid, gas)**: Not applicable, liquid
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Upper/lower flammability or explosive limits:
- L.E.L: 1,1 vol %
- U.E.L: 8,9 vol %

Vapour pressure: 6 hPa (20°C)
Vapour density: 3,59
Relative density: 0,91
Water solubility: Insoluble
Solubility in different media: No data available
Partition coefficient n-octanol/water: 2,95
Auto-ignition temperature: 490 °C
Decomposition temperature: No data available
Viscosity: 0,7 cP (25°C)
Dynamic viscosity: 0,7 cP (25°C)

Explosive properties: Not applicable
The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.

Oxidising properties: Not applicable
The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.

9.2. Other information
Molecular weight: 104,15
VOC content: 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity: Flammable liquid
Reference to other sections: 10.5

10.2. Chemical stability
Stability: The product is stable under storage at normal ambient temperatures. Unstable upon depletion of inhibitor.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions: Vapours can form explosive mixtures with air. Hazardous polymerisation may occur upon depletion of inhibitor.

10.4. Conditions to avoid
Conditions to avoid: Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
Take precautionary measures against static discharges.
Inhibitor levels should be maintained.
See also section 7, Handling and storage

10.5. Incompatible materials
Incompatible materials: Oxidising substances, Strong acids, See also section 7, Handling and storage

10.6. Hazardous decomposition products
Hazardous decomposition products: Thermal decomposition can lead to the escape of irritating gases and vapours. Possible decomposition products are: Carbon oxides
**SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

**Acute toxicity**

- **Inhalation**: Dust, mist: Harmful if inhaled.

#### Styrene (100-42-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50/oral/rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LD50/dermal/rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LC50/inhalation/4h/rat (ppm)</td>
<td>2770 ppm/4h</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

- Causes skin irritation.

**Serious eye damage/eye irritation**

- Causes serious eye irritation.

**Respiratory or skin sensitisation**

- Not classified (Based on available data, the classification criteria are not met.)

**Germ cell mutagenicity**

- Not classified (Based on available data, the classification criteria are not met.)

**Carcinogenicity**

- Not classified (Based on available data, the classification criteria are not met.)

**Reproductive toxicity**

- Not classified (Based on available data, the classification criteria are not met.)

**STOT-single exposure**

- May cause respiratory irritation.

**STOT-repeated exposure**

- Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

- May be fatal if swallowed and enters airways.

### Other information

Symptoms related to the physical, chemical and toxicological characteristics. Reference to other sections: 4.2

**SECTION 12: Ecological information**

### 12.1. Toxicity

**Toxicity**

- Ecological injuries are not known or expected under normal use.

#### Styrene (100-42-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>3.24 - 4.99 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>3.3 - 7.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)</td>
</tr>
<tr>
<td>EC50 other aquatic organisms 1</td>
<td>1.4 mg/l (Exposure time: 72 h - Species: Pseudokirchneriiella subcapitata)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>19.03 - 33.53 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])</td>
</tr>
<tr>
<td>LC50 other aquatic organisms 2</td>
<td>500 mg/l Bacteria</td>
</tr>
<tr>
<td>EC50 other aquatic organisms 2</td>
<td>0.72 mg/l (Exposure time: 96 h - Species: Pseudokirchneriiella subcapitata)</td>
</tr>
</tbody>
</table>
Styrene (100-42-5)

EC50 72h algae [mg/l] (1) 1,4 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h algae [mg/l] (1) 0,72 mg/l (Species: Pseudokirchneriella subcapitata)
NOEC (acute) 44 mg/kg (Exposure time: 14 Days - Species: Eisenia fetida [soil dry weight])
NOEC (additional information) NOEC, Daphnia : 1,01 mg/l (21d)

12.2. Persistence and degradability
Persistence and degradability : Readily biodegradable

12.3. Bioaccumulative potential
Bioaccumulation : Low potential
Partition coefficient n-octanol/water : 2,95

12.4. Mobility in soil
Mobility : No data available

12.5. Results of PBT and vPvB assessment
PBT/vPvB data : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects
Other information :

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product waste: Handle with care.
Safe handling: see section 7
Handling and storage
Do not allow to enter into surface water or drains.
Dispose according to legislation.
Refer to manufacturer/supplier for information on recovery/recycling.
Collect and dispose of waste product at an authorised disposal facility.
Keep product and empty container away from heat and sources of ignition.

Contaminated packaging: Do not burn, or use a cutting torch on, the empty drum.
Do not puncture or incinerate.
Never use pressure to empty container.
Delivery to an approved waste disposal company.

List of proposed waste codes/waste designations in accordance with EWC: Classified as hazardous waste according to European Union regulations. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

14.1. UN number
UN number : 2055

14.2. UN proper shipping name
Proper Shipping Name : STYRENE MONOMER, STABILIZED
Proper shipping name IATA/IMDG : STYRENE MONOMER, STABILIZED
**14.3. Transport hazard class(es)**

**14.3.1. Overland transport**
- Class(es) : 3 - Flammable liquid
- Hazard identification number (Kemler No.) : 39
- Classification code : F1
- ADR/RID-Labels : 3 - Flammable liquid

**14.3.2. Inland waterway transport (ADN)**
- Class (UN) : 3

**14.3.3. Transport by sea**
- Class or Division : 3 - flammable liquids

**14.3.4. Air transport**
- Class or Division : 3 - flammable liquids

**14.4. Packing group**
- Packing group : III

**14.5. Environmental hazards**
- Other information : No supplementary information available.

**14.6 Special precautions for user**
- No data available

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
- No data available

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**SECTION 15: Regulatory information**

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

**15.1.1. EU-Regulations**

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:

- Styrene - Styrene

40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not:

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This product contains an ingredient according to the candidate list of Annex XIV of the REACH Regulation 1907/2006/EC:

- Not applicable
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Authorisations : Not applicable

VOC content : 100 %

15.1.2. National regulations
DE : WGK : 2
DE : German storage class (LGK) : LGK 3 - Flammable liquid materials (Flashpoint < 55 °C)
DE : Technische Regeln für Gefahrstoffe (TRGS) : applicable
DE : Risk classification according to VbF : A II - Liquids with a flashpoint between 21°C and 55°C
FR : Installations classées : 143X
NL : ABM : 11 - Weinig schadelijk voor in het water levende organismen (B)
NL : NeR (Nederlandse emissie Richtlijn) : Organic substances in vapour or gaseous form

15.2. Chemical safety assessment
Chemical Safety Assessment : For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:
Acute Tox. 4 (Inhalation:dust,mist) : Acute toxicity Category 4
Asp. Tox. 1 : Aspiration hazard, Category 1
Eye Irrit. 2 : Serious eye damage/eye irritation Category 2
Flam. Liq. 3 : Flammable liquids, Category 3
Skin Irrit. 2 : Skin corrosion/irritation, Category 2
STOT RE 1 : Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3 : Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226 : Flammable liquid and vapour.
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H332 : Harmful if inhaled.
H335 : May cause respiratory irritation.
H372 : Causes damage to organs through prolonged or repeated exposure.
R10 : Flammable.
R20 : Harmful by inhalation.
R36/37/38 : Irritating to eyes, respiratory system and skin.
R48/20 : Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65 : Harmful: may cause lung damage if swallowed.
Xi : Irritant
Xn : Harmful

Key literature references and sources : http://ecb.jrc.it, CSR
for data
Safety datasheet sections which have : 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
been updated


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