1. PRODUCT AND COMPANY IDENTIFICATION

Product name : o-Xylene
Product Number : 95660
Brand : Fluka
Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Flammable liquid, Harmful by skin absorption., Irritant, Reproductive hazard

Target Organs
Liver, Kidney, Nerves.

GHS Classification
Flammable liquids (Category 3)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Skin irritation (Category 2)
Acute aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)
H226 Flammable liquid and vapour.
H312 + H332 Harmful in contact with skin or if inhaled
H315 Causes skin irritation.
H401 Toxic to aquatic life.

Precautionary statement(s)
P280 Wear protective gloves/ protective clothing.

HMIS Classification
Health hazard: 2
Chronic Health Hazard: *
Flammability: 3
Physical hazards: 1
NFPA Rating
  Health hazard: 2
  Fire: 3
  Reactivity Hazard: 0

Potential Health Effects
  Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
  Skin: Causes skin irritation.
  Eyes: Causes eye irritation.
  Ingestion: May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

  Synonyms: 1,2-Dimethylbenzene
  Formula: C_8H_{10}
  Molecular Weight: 106.17 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>95-47-6</td>
</tr>
<tr>
<td>EC-No.</td>
<td>202-422-2</td>
</tr>
<tr>
<td>Index-No.</td>
<td>601-022-00-9</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

  General advice
  Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

  If inhaled
  If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

  In case of skin contact
  Wash off with soap and plenty of water. Consult a physician.

  In case of eye contact
  Flush eyes with water as a precaution.

  If swallowed
  Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

  Conditions of flammability
  Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

  Suitable extinguishing media
  Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

  Special protective equipment for firefighters
  Wear self contained breathing apparatus for fire fighting if necessary.

  Hazardous combustion products
  Hazardous decomposition products formed under fire conditions. - Carbon oxides

  Further information
  Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES
Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>STEL</td>
<td>150 ppm</td>
<td>USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000</td>
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<tr>
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<td></td>
<td></td>
<td>655 mg/m³</td>
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</tr>
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<td></td>
<td></td>
<td></td>
<td>434 mg/m³</td>
<td></td>
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<tr>
<td>Remarks</td>
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</table>

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: > 480 min
Material tested: Vitoject® (Aldrich Z677698, Size M)

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: > 30 min
Material tested: Camatril® (Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form liquid
Colour colourless

Safety data
pH no data available
Melting point/freezing point
Boiling point 143 - 145 °C (289 - 293 °F) - lit.
Flash point 31.0 °C (87.8 °F) - closed cup
Ignition temperature 464 °C (867 °F)
Autoignition temperature 464.0 °C (867.2 °F)
Lower explosion limit 0.9 % (V)
Upper explosion limit 6.7 % (V)
Vapour pressure 21.3 hPa (16.0 mmHg) at 37.7 °C (99.9 °F)
8.8 hPa (6.6 mmHg) at 25.0 °C (77.0 °F)
Density 0.879 g/mL at 20 °C (68 °F)
Water solubility no data available
Partition coefficient: log Pow: 3.12
n-octanol/water
Relative vapour density
Odour
Odour Threshold
Evaporation rate
no data available
no data available
no data available
no data available
no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Vapours may form explosive mixture with air.

Conditions to avoid
Heat, flames and sparks.

Materials to avoid
Oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral LD50
no data available

Inhalation LC50
no data available

Dermal LD50
no data available

Other information on acute toxicity
LD50 Intraperitoneal - mouse - 1,364 mg/kg

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (o-Xylene)
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a
known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Suspected human reproductive toxicant

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>May be harmful if inhaled. Causes respiratory tract irritation.</th>
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</thead>
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<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Skin</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Eyes</td>
<td>Causes eye irritation.</td>
</tr>
</tbody>
</table>

**Signs and Symptoms of Exposure**

narcosis, Lung irritation, chest pain, pulmonary edema, Central nervous system depression, Dermatitis, Gastrointestinal disturbance, Liver injury may occur., Kidney injury may occur., Blood disorders

**Synergistic effects**

no data available

**Additional Information**

RTECS: ZE2450000

12. ECOLOGICAL INFORMATION

**Toxicity**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 - Lepomis macrochirus (Bluegill) - 16.10 mg/l - 96 h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LC50 - Carassius auratus (goldfish) - 13.00 mg/l - 24 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 - Daphnia magna (Water flea) - 1.39 - 1.87 mg/l - 48 h</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>EC50 - Pseudokirchneriella subcapitata (green algae) - 4.70 mg/l - 72 h</td>
</tr>
<tr>
<td></td>
<td>EC50 - Chlorella vulgaris (Fresh water algae) - 55.00 mg/l - 24 h</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available
Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1307  Class: 3  Packing group: III
Proper shipping name: Xylenes
Reportable Quantity (RQ): 100 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 1307  Class: 3  Packing group: III  EMS-No: F-E, S-D
Proper shipping name: XYLENES
Marine pollutant: No

IATA
UN number: 1307  Class: 3  Packing group: III
Proper shipping name: Xylenes

15. REGULATORY INFORMATION

OSHA Hazards
Flammable liquid, Harmful by skin absorption., Irritant, Reproductive hazard

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
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<th>CAS-No.</th>
<th>Revision Date</th>
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<td>95-47-6</td>
<td>2007-07-01</td>
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</table>

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

<table>
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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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<td>o-Xylene</td>
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</table>
**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### 16. OTHER INFORMATION

**Further information**
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