1. Identification

Product Name  
o-Xylene

Cat No. :  
O5081-4; O5081-4LC; O5081-500; O5081FB-200; DO5081-500

CAS-No  
95-47-6

Synonyms  
1,2-Dimethylbenzene (Certified)

Recommended Use  
Laboratory chemicals.

Uses advised against  
Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company  
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number  
CHEMTREC®, Inside the USA:
800-424-9300
CHEMTREC®, Outside the USA:
001-703-527-3887

2. Hazard(s) identification

Classification  
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids  
Category 3
Acute dermal toxicity  
Category 4
Acute Inhalation Toxicity - Vapors  
Category 4
Skin Corrosion/irritation  
Category 2
Serious Eye Damage/Eye Irritation  
Category 2
Specific target organ toxicity (single exposure)  
Category 3
Target Organs - Respiratory system, Central nervous system (CNS).  
Specific target organ toxicity - (repeated exposure)  
Category 2
Target Organs - Liver.  
Aspiration Toxicity  
Category 1

Label Elements

Signal Word  
Danger
Hazard Statements
Flammable liquid and vapor
May be fatal if swallowed and enters airways
Harmful in contact with skin
Causes skin irritation
Causes serious eye irritation
Harmful if inhaled
May cause respiratory irritation
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool
Response
Get medical attention/advice if you feel unwell
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
Skin
Call a POISON CENTER or doctor/physician if you feel unwell
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Harmful to aquatic life with long lasting effects
3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
If symptoms persist, call a physician.

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

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation
Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Risk of serious damage to the lungs.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Call a physician or Poison Control Center immediately. If vomiting occurs naturally, have victim lean forward.

Most important symptoms and effects
Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire

Flash Point
31 °C / 87.8 °F

Method -
No information available

Autoignition Temperature
465 °C / 869 °F

Explosion Limits
Upper 6.7 vol %
Lower 0.9 vol %

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO₂)

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>
6. Accidental release measures

Personal Precautions
Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling
Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>TWA: 100 ppm</td>
<td>STEL: 150 ppm</td>
<td>IDLH: 900 ppm</td>
<td>TWA: 100 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 100 ppm</td>
<td>STEL: 150 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 435 mg/m³</td>
<td>STEL: 655 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 100 ppm</td>
<td>STEL: 150 ppm</td>
</tr>
</tbody>
</table>

Legend
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Long sleeved clothing.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>aromatic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactive Hazard  None known, based on information available
Stability  Stable under normal conditions.
Conditions to Avoid  Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials  Strong oxidizing agents, Strong acids
Hazardous Decomposition Products  Carbon monoxide (CO), Carbon dioxide (CO₂)
Hazardous Polymerization  Hazardous polymerization does not occur.
Hazardous Reactions  None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information
Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>LD50 = 3608 mg/kg (Rat)</td>
<td>14100 mg/kg (Rabbit)</td>
<td>LC50 = 4330 ppm (Rat) 6 h</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products  No information available
Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation  Irritating to eyes and skin
Sensitization  No information available
Carcinogenicity  The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects  No information available
Reproductive Effects  No information available.
Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
Respiratory system Central nervous system (CNS)

STOT - repeated exposure
Liver

Aspiration hazard
Category 1

Symptoms / effects, both acute and delayed
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting delayed

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. The product contains following substances which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>EC50: = 4.2 mg/L, 192h (Pseudokirchneriella subcapitata)</td>
<td>LC50: 16.1 mg/L/96h (Lepomis macrochirus)</td>
<td>EC50 = 0.0084 mg/L 24 h</td>
<td>EC50: 2.61 - 5.59 mg/L, 48h Flow through (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>EC50: = 4.7 mg/L, 72h static (Pseudokirchneriella subcapitata)</td>
<td>LC50: 13 mg/L/24h (Carassius auratus)</td>
<td></td>
<td>EC50: = 0.78 - 2.51 mg/L, 48h Static (Daphnia magna)</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Insoluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation
No information available.

Mobility
Will likely be mobile in the environment due to its volatility.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>3.12</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1307</th>
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</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>XYLENES</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
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</table>

TDG
<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1307</th>
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<tr>
<td>Proper Shipping Name</td>
<td>XYLENES</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
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<tr>
<td>Packing Group</td>
<td>III</td>
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</table>

IATA
<table>
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<tr>
<th>UN-No</th>
<th>UN1307</th>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>Xylenes</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
</tbody>
</table>
**15. Regulatory information**

**United States of America Inventory**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
- **TSCA** - Toxic Substances Control Act, (40 CFR Part 710)
- **X** - Listed
- ‘-’ - Not Listed

**TSCA 12(b) - Notices of Export**

Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
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</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>X</td>
<td>-</td>
<td>202-422-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-35429</td>
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</tbody>
</table>

**U.S. Federal Regulations**

**SARA 313**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>95-47-6</td>
<td>&gt;95</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

See section 2 for more information

**CWA (Clean Water Act)**

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Clean Air Act**

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depletors</th>
<th>Class 2 Ozone Depletors</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OSHA - Occupational Safety and Health Administration**

Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Xylene</td>
<td>1000 lb</td>
<td></td>
</tr>
</tbody>
</table>

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
</table>

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16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
15-Jun-2010
Revision Date
31-Jul-2019
Print Date
31-Jul-2019
Revision Summary
SDS sections updated. 11. 16.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS