













Guide to Europe's new Safety Data Sheets

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Safety Data Sheet Chapters

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-  2. Hazards Identification
-  3. Composition/Information on ingredients
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-  5. Fire Fighting Measures
-  6. Accidental Release Measures
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-  11. Toxicological Information
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-  13. Disposal Considerations
-  14. Transport Information
-  15. Regulatory Information
-  16. Other Information
-  Exposure Scenarios Annex

 : Major changes  : Minor changes  : No changes

You can navigate the Safety Data Sheet Guide by using the menu on the left. You can jump back to this menu page at any time by clicking the “Back to Menu” button in the bottom left hand corner in the chapter sections.

Alternatively, if you wish to view the whole slide pack, you can navigate page-by-page, using the arrow buttons in the bottom right hand corner.

In each chapter, you can roll over the yellow squares  for new sections added, and green squares  for details of what has been modified.

Chapter 1: Identification of the Substance/Mixture and of the Company/Undertaking

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Safety Data Sheet

Ortho-xylene
Version .

Effective Date 26.11.2010

Regulation 1907/2006/EC

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Material Name : Ortho-xylene
Product Code : Q9163, Q9167, Q9304
Other Identifier : o-Xylene
REACH Registration No. : 01-2119485822-30-0007, 01-2119485822-30-0009,
01-2119485822-30-0010

1.2 Relevant identified uses of the substance or mixture

Product use : Raw material for use in the chemical industry.
Please refer to Ch16 and/or the annexes for the registered uses under REACH.

1.3 Details of the supplier of the substance or mixture

Manufacturer/Supplier :

Local Contact : Shell Chemicals UK
Telephone : +31 (0)10231 7425
Fax : +31 (0)10231 7115
Email contact for MSDS : sccmsds@shell.com

1.4 Emergency Telephone Number

: +44 (0) 1235 239 670

2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Regulation (EC) No 1272/2008 (CLP)	
Hazard Class & Category	Hazard statement
Flammable liquids; Category 3;	H226
Acute toxicity; Category 4;	H312
Acute toxicity; Category 4;	H332
Skin irritation; Category 2;	H315
SHELL PROVIDES THE FOLLOWING ADDITIONAL CLASSIFICATION DATA: ;	
SERIOUS EYE DAMAGE/IRRITATION; Category 2A, (SHELL Classification);	H319
ASPIRATION HAZARD; Category 1, (SHELL Classification);	H304
SPECIFIC TARGET ORGAN SYSTEMIC	H335


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Chapter 2: Hazards Identification

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Material Name : Ortho-xylene
Product Code : Q9163, Q9167, Q9304
Other Identifier : o-Xylene
REACH Registration No. : 01-2119485822-30-0007, 01-2119485822-30-0009,
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1.2 Relevant identified uses of the substance or mixture

Product use : Raw material for use in the chemical industry.
Please refer to Ch16 and/or the annexes for the registered uses under REACH.

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Manufacturer/Supplier :

Local Contact : Shell Chemicals UK
Telephone : +31 (0)10231 7425
Fax : +31 (0)10231 7115
Email contact for MSDS : scmsds@shell.com

1.4 Emergency Telephone Number

: +44 (0) 1235 239 670

2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Regulation (EC) No 1272/2008 (CLP)	
Hazard Class & Category	Hazard statement
Flammable liquids; Category 3;	H226
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SERIOUS EYE DAMAGE/IRRITATION; Category 2A; (SHELL Classification);	H319
ASPIRATION HAZARD; Category 1; (SHELL Classification);	H304
SPECIFIC TARGET ORGAN SYSTEMIC	H335

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TOXICITY (SINGLE EXPOSURE); Category 3; respiratory irritation, (SHELL Classification);	
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67/548/EEC or 1999/45/EC Hazard characteristics	R-phrases
Harmful.	R10, R20/21, R38

2.2 Label Elements

Label Name : ORTHO XYLENE
EC Number : 202-422-2
EC Annex I Number : 601-022-00-9

Labeling according to Regulation (EC) No 1272/2008

Signal words : SHELL PROVIDES THE FOLLOWING ADDITIONAL CLASSIFICATION DATA

Symbol(s) :



Danger

CLP Hazard statements :


- : PHYSICAL HAZARDS:
- H226: Flammable liquid and vapor.
- : HEALTH HAZARDS:
- H332: Harmful if inhaled.
- H312: Harmful in contact with skin.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H304: May be fatal if swallowed and enters airways.
- H335: May cause respiratory irritation.
- : ENVIRONMENTAL HAZARDS:
- : Not classified as environmental hazard according to CLP criteria.

CLP Precautionary statements

Prevention :

- P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P243: Take precautionary measures against static discharge.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

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Response : P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P332+P313: If skin irritation occurs: Get medical advice/attention.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting.

Labeling according to Directive 1999/45/EC

EC Symbols	: Xn Harmful.
	
EC Classification	: Flammable, Harmful.
EC Risk Phrases	: R10 Flammable. R20/21 Harmful by inhalation and in contact with skin. R38 Irritating to skin.
EC Safety Phrases	: S2 Keep out of reach of children. S25 Avoid contact with eyes.

2.3 Other Hazards

Health Hazards : Harmful by inhalation and in contact with skin. Vapours may cause drowsiness and dizziness. Slightly irritating to respiratory system. Irritating to skin. Moderately irritating to eyes. Harmful: may cause lung damage if swallowed. Possibility of organ or organ system damage from prolonged exposure; see Chapter 11 for details. Target organ(s): Central nervous system (CNS).

Safety Hazards : Highly flammable. In use, may form flammable/explosive vapour-air mixture. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.

Environmental Hazards : Toxic to aquatic organisms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance


Synonyms	: o-Xylene
CAS No.	: 95-47-6
INDEX No.	: 601-022-00-9
EC Number	: 202-422-2

3.2 Mixtures

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Chapter 3: Composition/Information on Ingredients

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Response : P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
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P331: Do NOT induce vomiting.

Labeling according to Directive 1999/45/EC

EC Symbols	: Xn Harmful.
	
EC Classification	: Flammable, Harmful.
EC Risk Phrases	: R10 Flammable. R20/21 Harmful by inhalation and in contact with skin. R38 Irritating to skin.
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2.3 Other Hazards

Health Hazards	: Harmful by inhalation and in contact with skin. Vapours may cause drowsiness and dizziness. Slightly irritating to respiratory system. Irritating to skin. Moderately irritating to eyes. Harmful: may cause lung damage if swallowed. Possibility of organ or organ system damage from prolonged exposure; see Chapter 11 for details. Target organ(s): Central nervous system (CNS).
Safety Hazards	: Highly flammable. In use, may form flammable/explosive vapour-air mixture. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Environmental Hazards	: Toxic to aquatic organisms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Synonyms	: o-Xylene
CAS No.	: 95-47-6
INDEX No.	: 601-022-00-9
EC Number	: 202-422-2

3.2 Mixtures

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Chapter 3: Composition/Information on Ingredients

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Preparation Description : Product is not a mixture according regulation 1907/2006/EC.

Hazardous Components

Classification of components according to Regulation (EC) No 1272/2008

Chemical Name	CAS No.	EINECS	REACH Registration No.	Conc.
ortho-Xylene	95-47-6	202-422-2	01-2119485822-30	100.00%W

Chemical Name	Hazard Class & Category	Hazard statement
ortho-Xylene	Flam. Liq., 3; Acute Tox., 4; Acute Tox., 4; Skin Irrit., 2;	H226, H332, H312, H315,

Classification of components according 67/548/EEC

Chemical Name	CAS	EINECS	REACH Registration No.	Symbol(s)	R-phrases	Conc.
ortho-Xylene	95-47-6	202-422-2	01-2119485822-30	Xn	R10; R20/21; R38	100.00 %W

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Information	: Keep victim calm. Obtain medical treatment immediately.
Inhalation	: DO NOT DELAY. Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
Skin Contact	: Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
Eye Contact	: Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.
Ingestion	: If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
4.2 Most important symptoms/effects, acute & delayed	: Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache,

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Chapter 4: First Aid Measures

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Preparation Description : Product is not a mixture according regulation 1907/2006/EC.

Hazardous Components

Classification of components according to Regulation (EC) No 1272/2008

Chemical Name	CAS No.	EINECS	REACH Registration No.	Conc.
ortho-Xylene	95-47-6	202-422-2	01-2119485822-30	100.00%W

Chemical Name	Hazard Class & Category	Hazard statement
ortho-Xylene	Flam. Liq., 3; Acute Tox., 4; Acute Tox., 4; Skin Irrit., 2;	H228, H332, H312, H315;

Classification of components according 67/548/EEC

Chemical Name	CAS	EINECS	REACH Registration No.	Symbol(s)	R-phrases(s)	Conc.
ortho-Xylene	95-47-6	202-422-2	01-2119485822-30	Xn	R10; R20/21; R35	100.00 %W

4. FIRST AID MEASURES

4.1 Description of first aid measures

- General Information** : Keep victim calm. Obtain medical treatment immediately.
- Inhalation** : DO NOT DELAY. Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
- Skin Contact** : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
- Eye Contact** : Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.
- Ingestion** : If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- 4.2 Most important symptoms/effects, acute & delayed** : Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache,

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4.3 Indication of immediate medical attention and special treatment needed

nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

: Potential for chemical pneumonitis. Potential for cardiac sensitisation, particularly in abuse situations. Hypoxia or negative inotropes may enhance these effects. Consider: oxygen therapy. Call a doctor or poison control center for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

5.1 Extinguishing Media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media : Do not use water in a jet.

5.2 Special hazards arising from substance or mixture : The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water. Carbon monoxide may be evolved if incomplete combustion occurs.

5.3 Advice for fire-fighters : Wear full protective clothing and self-contained breathing apparatus.

Additional Information : Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet.

6.1 Personal Precautions, Protective Equipment and Emergency Procedures : Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low areas.

6.2 Environmental Precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.

6.3 Methods and material for containment and clean up : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.


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Chapter 5: Fire Fighting Measures

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4.3 Indication of immediate medical attention and special treatment needed	nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. : Potential for chemical pneumonitis. Potential for cardiac sensitisation, particularly in abuse situations. Hypoxia or negative inotropes may enhance these effects. Consider oxygen therapy. Call a doctor or poison control center for guidance.	
5. FIRE FIGHTING MEASURES		
Clear fire area of all non-emergency personnel.		
5.1 Extinguishing Media	: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.	
Unsuitable Extinguishing Media	: Do not use water in a jet.	
5.2 Special hazards arising from substance or mixture	: The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water. Carbon monoxide may be evolved if incomplete combustion occurs.	
5.3 Advice for fire-fighters	: Wear full protective clothing and self-contained breathing apparatus.	
Additional Information	: Keep adjacent containers cool by spraying with water.	
6. ACCIDENTAL RELEASE MEASURES		
Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet.		
6.1 Personal Precautions, Protective Equipment and Emergency Procedures	: Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low areas.	
6.2 Environmental Precautions	: Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.	
6.3 Methods and material for containment and clean up	: For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.	
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Chapter 6: Accidental Release Measures

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nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

4.3 Indication of immediate medical attention and special treatment needed : Potential for chemical pneumonitis. Potential for cardiac sensitisation, particularly in abuse situations. Hypoxia or negative inotropes may enhance these effects. Consider oxygen therapy. Call a doctor or poison control center for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

5.1 Extinguishing Media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media : Do not use water in a jet.

5.2 Special hazards arising from substance or mixture : The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water. Carbon monoxide may be evolved if incomplete combustion occurs.

5.3 Advice for fire-fighters : Wear full protective clothing and self-contained breathing apparatus.

Additional Information : Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet.

6.1 Personal Precautions, Protective Equipment and Emergency Procedures : Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low areas.


6.2 Environmental Precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.


6.3 Methods and material for containment and clean up : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
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Chapter 6: Accidental Release Measures

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Additional Advice	: Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Vapour may form an explosive mixture with air. See Chapter 13 for information on disposal.	
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7. HANDLING AND STORAGE		
General Precautions	: Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid contact with skin, eyes, and clothing.	
7.1 Precautions for safe handling	: Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid contact with skin and eyes.	
7.2 Conditions for safe storage, including any incompatibilities	: Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. Bulk storage tanks should be diked (bunded). The vapour is heavier than air. Beware of accumulation in pits and confined spaces.	
7.3 Specific End Uses	: Please refer to Ch16 and/or the annexes for the registered uses under REACH.	
Additional Information	: Ensure that all local regulations regarding handling and storage facilities are followed.	
Product Transfer	: Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.	
Recommended Materials	: For containers, or container linings use mild steel, stainless steel.	
Unsuitable Materials	: Natural, butyl, neoprene or nitrile rubbers.	
Container Advice	: Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.	
<hr/>		
8. EXPOSURE CONTROLS/PERSONAL PROTECTION		
8.1 Control Parameters		
If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.		
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Additional Advice : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Vapour may form an explosive mixture with air. See Chapter 13 for information on disposal.

7. HANDLING AND STORAGE

General Precautions : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid contact with skin, eyes, and clothing.

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7.2 Conditions for safe storage, including any incompatibilities : Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. Bulk storage tanks should be diked (bunded). The vapour is heavier than air. Beware of accumulation in pits and confined spaces.

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Additional Information : Ensure that all local regulations regarding handling and storage facilities are followed.

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Recommended Materials : For containers, or container linings use mild steel, stainless steel.

Unsuitable Materials : Natural, butyl, neoprene or nitrile rubbers.

Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.


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Chapter 8: Exposure Control/Personal Protection

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7. HANDLING AND STORAGE

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Unsuitable Materials : Natural, butyl, neoprene or nitrile rubbers.

Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

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Chapter 8: Exposure Control/Personal Protection

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Safety Data Sheet

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Occupational Exposure Limits

UK Workplace Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
ortho-Xylene	EH40 WEL	TWA	50 ppm	220 mg/m3	
	EH40 WEL	STEL	100 ppm	441 mg/m3	
	EH40 WEL	SKIN_DES			Can be absorbed through the skin.

Additional Information : Skin notation means that significant exposure can also occur by absorption of liquid through the skin and of vapour through the eyes or mucous membranes.

Derived No Effect Levels (DNEL):

Component	Exposure Route	Exposure Type (long-term/acute)	Application Area	Value
ortho-Xylene	Inhalation	acute, systemic effects	Worker	442 mg/m3
	Inhalation	acute, local effects	Worker	442 mg/m3
	Dermal	long term, systemic effects	Worker	3.182 mg/kg
	Inhalation	long term, systemic effects	Worker	221 mg/m3
	Inhalation	long term, local effects	Worker	221 mg/m3
	Inhalation	acute, systemic effects	Consumer	260 mg/m3
	Inhalation	acute, local effects	Consumer	260 mg/m3
	Dermal	long term, systemic effects	Consumer	1.872 mg/kg
	Inhalation	long term, systemic effects	Consumer	65.3 mg/m3
	Oral	long term, systemic effects	Consumer	12.5 mg/kg
	Inhalation	long term, local effects	Consumer	65.3 mg/m3

Predicted No Effect Concentration (PNEC)

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General note: Where exposure scenarios are included in the Safety Data Sheet, this section should be read in conjunction with the use details given in the relevant exposure scenarios.



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Component	Exposure Route	Value	Remark
ortho-Xylene	Water	0.25 mg/l	None
	Sediment	14.33 mg/kg	None
	Soil	2.41 mg/kg	None
	STP	5 mg/l	None

8.2 Exposure Controls

General Information : Read in conjunction with the Exposure Scenario for your specific use contained in the Annex. The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Adequate explosion-proof ventilation to control airborne concentrations. Firewater monitors and deluge systems are recommended. Eye washes and showers for emergency use.

Occupational Exposure Controls

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye Protection : Chemical splash goggles (chemical monogoggles). Approved to EU Standard EN166, AS/NZS:1337.

Hand Protection : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS:2161) made from the following materials may provide suitable chemical protection: Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Body protection : Chemical resistant gloves/gauntlets, boots, and apron. Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood.

Respiratory Protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)] meeting EN14387.



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- Where respiratory protective equipment is required, use a full-face mask. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
- Thermal hazards** : Not applicable
- Monitoring Methods** : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods, <http://www.cdc.gov/niosh/nmam/nmammenu.html>. Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods, <http://www.osha-slc.gov/dts/sltc/methods/toc.html>. Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances, <http://www.hsl.gov.uk/publications/mdhs.aspx>. Berufsgenossenschaftliches Institut für Arbeitssicherheit (BIA), Germany <http://www.hvbg.de/d/bia/index.html>. L'Institut National de Recherche et de Sécurité, (INRS), France http://www.inrs.fr/securete/hygiene_securite_travail.html.
- Environmental Exposure Controls**
- Environmental exposure control measures** : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	: Colourless. Liquid.
Odour	: Aromatic.
pH	: Data not available.
Boiling point	: <= 145 °C / 293 °F
Melting / freezing point	: < 0 °C / < 32 °F
Flash point	: 27 - 32 °C / 81 - 90 °F (Abel)
Explosion / Flammability limits in air	: 1 - 7.6 %(V)
Auto-ignition temperature	: ca. 463 °C / 865 °F (ASTM E-659) Data not available.
Vapour pressure	: 882 Pa at 25 °C / 77 °F Data not available.
Specific gravity	: Data not available.
Density	: 883 - 885 kg/m3 at 15 °C / 59 °F
Bulk density	: Data not available.
Water solubility	: ca. 0.2 kg/m3
Solubility in other solvents	: Data not available.
n-octanol/water partition	: 3.12


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Where respiratory protective equipment is required, use a full-face mask. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Thermal hazards
Monitoring Methods

: Not applicable

: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.
<http://www.cdc.gov/niosh/nmam/nmammenu.html>
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods.
<http://www.osha-slc.gov/dts/sltc/methods/toc.html>. Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances.
<http://www.hsl.gov.uk/publications/mdhs.aspx>. Berufsgenossenschaftliches Institut für Arbeitssicherheit (BIA), Germany <http://www.hvbg.de/d/bia/index.html>. L'Institut National de Recherche et de Sécurité, (INRS), France http://www.inrs.fr/securite/hygiene_securite_travail.html.

Environmental Exposure Controls

Environmental exposure control measures : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance
Odour
pH
Boiling point
Melting / freezing point
Flash point
Explosion / Flammability limits in air
Auto-ignition temperature
Vapour pressure
Specific gravity
Density
Bulk density
Water solubility
Solubility in other solvents
n-octanol/water partition

: Colourless. Liquid.
: Aromatic.
: Data not available.
: <= 145 °C / 293 °F
: < 0 °C / < 32 °F
: 27 - 32 °C / 81 - 90 °F (Abel)
: 1 - 7.6 %(V)
: ca. 463 °C / 865 °F (ASTM E-659) Data not available.
: 882 Pa at 25 °C / 77 °F Data not available.
: Data not available.
: 883 - 885 kg/m3 at 15 °C / 59 °F
: Data not available.
: ca. 0.2 kg/m3
: Data not available.
: 3.12

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BACK TO MENU

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coefficient (log Pow) : Data not available.
Dynamic viscosity : Data not available.
Kinematic viscosity : 0.87 mm²/s at 25 °C / 77 °F
Vapour density (air=1) : 3.7
Electrical conductivity : Data not available.
Evaporation rate (nBuAc=1) : Data not available.
Surface tension : Data not available.
Molecular weight : 106.16 g/mol
Hygroscopicity : Data not available.

9.2 Other Information

Stability : Stable.

10. STABILITY AND REACTIVITY

10.1 Reactivity : Stable under normal conditions of use.
10.2 Stability : Stable under normal conditions of use.
10.3 Hazardous Reactions : Stable under normal conditions of use.
10.4 Conditions to Avoid : Avoid heat, sparks, open flames and other ignition sources.
Prevent vapour accumulation.
10.5 Materials to Avoid : Strong oxidising agents.
10.6 Hazardous Decomposition Products : Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Other Information

Hazardous Polymerisation : No, hazardous, exothermic polymerization cannot occur.
Sensitivity to Mechanical Impact : No, product will not become self-reactive.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects

Basis for Assessment : Information given is based on product testing, and/or similar products, and/or components.
Routes of Exposure : Inhalation is the primary route of exposure although exposure may occur through skin and eye contact, or following accidental ingestion.
Acute Oral Toxicity : May be harmful if swallowed. LD50 >2000 - <=5000 mg/kg, Rat
Acute Dermal Toxicity : Harmful in contact with skin. LD50 >1000 - <=2000 mg/kg
Acute Inhalation Toxicity : Harmful if inhaled. LC50 > 10,0 - <= 20,0 mg/l / 4 hours, Rat
Skin Irritation : Causes skin irritation.
Eye Irritation : Causes serious eye irritation.
Sensitisation : Not expected to be a skin sensitizer.

Aspiration hazard : Aspiration into the lungs when swallowed or vomited may cause


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coefficient (log Pow)	: Data not available.
Dynamic viscosity	: Data not available.
Kinematic viscosity	: 0.87 mm ² /s at 25 °C / 77 °F
Vapour density (air=1)	: 3.7
Electrical conductivity	: Data not available.
Evaporation rate (nBuAc=1)	: Data not available.
Surface tension	: Data not available.
Molecular weight	: 106.16 g/mol
Hygroscopicity	: Data not available.

9.2 Other Information

Stability : Stable.

10. STABILITY AND REACTIVITY

10.1 Reactivity	: Stable under normal conditions of use.
10.2 Stability	: Stable under normal conditions of use.
10.3 Hazardous Reactions	: Stable under normal conditions of use.
10.4 Conditions to Avoid	: Avoid heat, sparks, open flames and other ignition sources. Prevent vapour accumulation.
10.5 Materials to Avoid	: Strong oxidising agents.
10.6 Hazardous Decomposition Products	: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Other Information

Hazardous Polymerisation	: No, hazardous, exothermic polymerization cannot occur.
Sensitivity to Mechanical Impact	: No, product will not become self-reactive.

11. TOXICOLOGICAL INFORMATION

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Basis for Assessment	: Information given is based on product testing, and/or similar products, and/or components.
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Acute Oral Toxicity	: May be harmful if swallowed. LD50 >2000 - <=5000 mg/kg , Rat
Acute Dermal Toxicity	: Harmful in contact with skin. LD50 >1000 - <=2000 mg/kg
Acute Inhalation Toxicity	: Harmful if inhaled. LC50 > 10,0 - <= 20,0 mg/l / 4 hours, Rat
Skin Irritation	: Causes skin irritation.
Eye Irritation	: Causes serious eye irritation.
Sensitisation	: Not expected to be a skin sensitiser.

Aspiration hazard	: Aspiration into the lungs when swallowed or vomited may cause
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Safety Data Sheet

coefficient (log Pow) : Data not available.
Dynamic viscosity : Data not available.
Kinematic viscosity : 0.87 mm²/s at 25 °C / 77 °F
Vapour density (air=1) : 3.7
Electrical conductivity : Data not available.
Evaporation rate (nBuAc=1) : Data not available.
Surface tension : Data not available.
Molecular weight : 106.16 g/mol
Hygroscopicity : Data not available.

9.2 Other Information

Stability : Stable.

10. STABILITY AND REACTIVITY

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10.3 Hazardous Reactions : Stable under normal conditions of use.
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Prevent vapour accumulation.
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10.6 Hazardous Decomposition Products : Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Other Information

Hazardous : No, hazardous, exothermic polymerization cannot occur.
Polymerisation
Sensitivity to Mechanical Impact : No, product will not become self-reactive.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects

Basis for Assessment : Information given is based on product testing, and/or similar products, and/or components.
Routes of Exposure : Inhalation is the primary route of exposure although exposure may occur through skin and eye contact, or following accidental ingestion.
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Acute Dermal Toxicity : Harmful in contact with skin. LD50 >1000 - <=2000 mg/kg
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Skin Irritation : Causes skin irritation.
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Sensitisation : Not expected to be a skin sensitiser.

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Mutagenicity	: chemical pneumonitis which can be fatal.
Carcinogenicity	: Not mutagenic.
Reproductive and Developmental Toxicity	: Not expected to be carcinogenic.
	: Not a developmental toxicant.
Specific target organ toxicity - single exposure	: Does not impair fertility.
	: Inhalation of vapours or mists may cause irritation to the respiratory system.
Specific target organ toxicity - repeated exposure	: Central nervous system: repeated exposure affects the nervous system. Effects were seen at high doses only.
Additional Information	: Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

12. ECOLOGICAL INFORMATION

Basis for Assessment	Information given is based on product testing.
12.1 Toxicity	
Acute Toxicity	
Fish	: Toxic: LL/EL/IL50 >1 - <=10 mg/l
Aquatic Invertebrates	: Toxic: LL/EL/IL50 >1 - <=10 mg/l
Algae	: Toxic: LL/EL/IL50 >1 - <=10 mg/l
Microorganisms	: Practically non toxic: LL/EL/IL50 > 100 mg/l
Chronic Toxicity	
Fish	: 56 day NOEC/NOEL expected to be >1 mg/l (based on test data)
Aquatic Invertebrates	: 21 day NOEC/NOEL expected to be >1 mg/l (based on test data)
12.2 Persistence and degradability	: Readily biodegradable.
12.3 Bioaccumulative potential	: Oxidises rapidly by photo-chemical reactions in water.
12.4 Mobility	: Does not bioaccumulate significantly.
	: Floats on water.
	: Adsorbs to soil and has low mobility.
12.5 Result of the PBT assessment	: The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.
12.6 Other Adverse Effects	: In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

13. DISPOSAL CONSIDERATIONS


13.1 Waste Treatment Methods

Material Disposal	: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate
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Safety Data Sheet

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Aquatic Invertebrates	: Toxic: LL/EL/IL50 >1 - <=10 mg/l
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Microorganisms	: Practically non toxic: LL/EL/IL50 > 100 mg/l
Chronic Toxicity	
Fish	: 56 day NOEC/NOEL expected to be >1 mg/l (based on test data)
Aquatic Invertebrates	: 21 day NOEC/NOEL expected to be >1 mg/l (based on test data)
12.2 Persistence and degradability	: Readily biodegradable.
12.3 Bioaccumulative potential	: Oxidises rapidly by photo-chemical reactions in water.
12.4 Mobility	: Does not bioaccumulate significantly.
	: Floats on water.
	: Adsorbs to soil and has low mobility.
12.5 Result of the PBT assessment	: The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.
12.6 Other Adverse Effects	: In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.


13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods	
Material Disposal	: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate

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Safety Data Sheet		Effective Date 26.11.2010 Regulation 1907/2006/EC
Mutagenicity	:	chemical pneumonitis which can be fatal. : Not mutagenic.
Carcinogenicity	:	: Not expected to be carcinogenic.
Reproductive and Developmental Toxicity	:	: Not a developmental toxicant.
Specific target organ toxicity - single exposure	:	Does not impair fertility. : Inhalation of vapours or mists may cause irritation to the respiratory system.
Specific target organ toxicity - repeated exposure	:	: Central nervous system: repeated exposure affects the nervous system. Effects were seen at high doses only.
Additional Information	:	: Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
<hr/>		
12. ECOLOGICAL INFORMATION		
Basis for Assessment	:	Information given is based on product testing.
12.1 Toxicity	:	
Acute Toxicity	:	
Fish	:	: Toxic: LL/EL/IL50 >1 - <=10 mg/l
Aquatic Invertebrates	:	: Toxic: LL/EL/IL50 >1 - <=10 mg/l
Algae	:	: Toxic: LL/EL/IL50 >1 - <=10 mg/l
Microorganisms	:	: Practically non toxic: LL/EL/IL50 > 100 mg/l
Chronic Toxicity	:	
Fish	:	: 56 day NOEC/NOEL expected to be >1 mg/l (based on test data)
Aquatic Invertebrates	:	: 21 day NOEC/NOEL expected to be >1 mg/l (based on test data)
12.2 Persistence and degradability	:	: Readily biodegradable.
12.3 Bioaccumulative potential	:	: Oxidises rapidly by photo-chemical reactions in water. : Does not bioaccumulate significantly.
12.4 Mobility	:	: Floats on water. : Adsorbs to soil and has low mobility.
12.5 Result of the PBT assessment	:	: The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.
12.6 Other Adverse Effects	:	: In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.
<hr/>		
13. DISPOSAL CONSIDERATIONS		
13.1 Waste Treatment Methods		
Material Disposal	:	: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate
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- Container Disposal** : soil or water.
: Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
- Local Legislation** : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

ADR
14.1 UN No. : 1307
14.2 Proper shipping name : Xylenes
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
Classification code : F1
Hazard identification no. : 30
Danger label (primary risk) : 3
14.5 Environmentally : No
Hazardous

RID
14.1 UN No. : 1307
14.2 Proper shipping name : Xylenes
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
Classification code : F1
Hazard identification no. : 30
Danger label (primary risk) : 3
14.5 Environmentally : No
Hazardous

Sea transport (IMDG Code):
14.1 UN No. : UN 1307
14.2 Proper shipping name : XYLENES
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
14.5 Environmentally : No
Hazardous:

14.1 UN No. : 1307
14.2 Proper shipping name : Xylenes
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
14.5 Environmentally : No
Hazardous

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Safety Data Sheet

- soil or water.
- Container Disposal : Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
- Local Legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

ADR

- 14.1 UN No. : 1307
14.2 Proper shipping name : Xylenes
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
Classification code : F1
Hazard identification no. : 30
Danger label (primary risk) : 3
14.5 Environmentally : No
Hazardous

RID

- 14.1 UN No. : 1307
14.2 Proper shipping name : Xylenes
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
Classification code : F1
Hazard identification no. : 30
Danger label (primary risk) : 3
14.5 Environmentally : No
Hazardous

Sea transport (IMDG Code):

- 14.1 UN No. : UN 1307
14.2 Proper shipping name : XYLENES
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
14.5 Environmentally : No
Hazardous:

- 14.1 UN No. : 1307
14.2 Proper shipping name : Xylenes
14.3 Transport Hazard : 3
Class
14.4 Packing group : III
14.5 Environmentally : No
Hazardous

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Sea (Annex II of MARPOL 73/78 and the IBC code)

Pollution Category : Y
Ship Type : 2
Product Name : Xylenes, Marpol Annex II, Pollution Category Y Melting point lower 0 deg C (ortho-Xylene mixture)
Special Precaution : Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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

Other regulatory information

Chemical Inventory Status

AICS : Listed.
DSL : Listed.
INV (CN) : Listed.
ENCS (JP) : Listed. (3)-3
TSCA : Listed.
EINECS : Listed. 202-422-2
KECI (KR) : Listed. KE-35429
PICCS (PH) : Listed.

National Legislation

OE_HP V : Listed.

16. OTHER INFORMATION

R-phrases

R10 Flammable.
R20/21 Harmful by inhalation and in contact with skin.
R38 Irritating to skin.

GHS Hazard statements

H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.


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Sea (Annex II of MARPOL 73/78 and the IBC code)
Pollution Category : Y
Ship Type : 2
Product Name : Xylenes, Marpol Annex II, Pollution Category Y Melting point lower 0 deg C (ortho-Xylene mixture)
Special Precaution : Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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

Other regulatory Information

Chemical Inventory Status

AICS	: Listed.	
DSL	: Listed.	
INV (CN)	: Listed.	
ENCS (JP)	: Listed.	(3)-3
TSCA	: Listed.	
EINECS	: Listed.	202-422-2
KECI (KR)	: Listed.	KE-35429
PICCS (PH)	: Listed.	

National Legislation

OE_HP	: Listed.
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16. OTHER INFORMATION


R-phrase(s)

R10	Flammable.
R20/21	Harmful by inhalation and in contact with skin.
R38	Irritating to skin.

GHS Hazard statements

H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

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Sea (Annex II of MARPOL 73/78 and the IBC code)
Pollution Category : Y
Ship Type : 2
Product Name : Xylenes, Marpol Annex II, Pollution Category Y Melting point lower 0 deg C (ortho-Xylene mixture)
Special Precaution : Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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

Other regulatory information

Chemical Inventory Status

AICS	: Listed.	
DSL	: Listed.	
INV (CN)	: Listed.	
ENCS (JP)	: Listed.	(3)-3
TSCA	: Listed.	
EINECS	: Listed.	202-422-2
KECI (KR)	: Listed.	KE-35429
PICCS (PH)	: Listed.	

National Legislation

OE_HP	: Listed.
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16. OTHER INFORMATION

R-phrases(s)

R10	Flammable.
R20/21	Harmful by inhalation and in contact with skin.
R38	Irritating to skin.

GHS Hazard statements

H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

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H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Identified Uses according to the Use Descriptor System

Uses - Worker

Title : Manufacture of substance
- Industrial

Uses - Worker

Use as an intermediate
- Industrial

Uses - Worker

Distribution of substance
- Industrial

Uses - Worker

Formulation & (re)packing of substances and mixtures
- Industrial

Uses - Worker

Uses in Coatings
- Industrial

Uses - Worker

Uses in Coatings
- Professional

Uses - Consumer

Title : Uses in Coatings
- Consumer

MSDS Version Number : .

MSDS Effective Date : 26.11.2010

MSDS Revisions : A vertical bar (|) in the left margin indicates an amendment from the previous version.

MSDS Regulation : The content and format of this safety data sheet is in accordance with Regulation 1907/2006/EC.

MSDS Distribution : The information in this document should be made available to all who may handle the product

Disclaimer : This information is based on our current knowledge and is intended to describe the product for the purposes of health,

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Chapter 16: Other Information

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safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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Exposure Scenario - Worker


SECTION 1	EXPOSURE SCENARIO TITLE
Title	Manufacture of substance - Industrial
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 Environmental Release Categories: ERC 1, ERC 4, ESVOC SpERC 1.1.v1
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/ barge, road/rail car and bulk container), sampling and associated laboratory activities.

SECTION 2 OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES

Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently);
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently)	
Other Operational Conditions affecting worker Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented	

Contributing scenarios	Risk Management Measures
General measures (skin irritants)	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.
General exposures (closed systems)	No other specific measures identified
General exposures (closed systems) with sample collection with occasional controlled	No other specific measures identified

General note: In this guide we only show one 'worker' exposure scenario and one consumer exposure scenario. In reality there will be more.

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Exposure Scenario - Worker		
SECTION 1		
EXPOSURE SCENARIO TITLE		
Title	Manufacture of substance - Industrial	
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 Environmental Release Categories: ERC 1, ERC 4, ESVOC SpERC 1.1.v1	
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.	
SECTION 2		OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1		Control of Worker Exposure
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently);	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently)		
Other Operational Conditions affecting worker Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented		
Contributing scenarios		Risk Management Measures
General measures (skin irritants)	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.	
General exposures (closed systems)	No other specific measures identified	
General exposures (closed systems) with sample collection with occasional controlled	No other specific measures identified	
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exposure.	
General exposures (closed systems) Use in contained batch processes	No other specific measures identified
General exposures (open systems) Batch process with sample collection	No other specific measures identified
Process sampling	Provide a good standard of controlled ventilation (10 to 15 air changes per hour) , or: Avoid carrying out activities involving exposure for more than 1 hour
Laboratory activities	No other specific measures identified
Bulk transfers (open systems) with potential for aerosol generation.	Provide a good standard of controlled ventilation (10 to 15 air changes per hour) , or: Avoid carrying out activities involving exposure for more than 1 hour
Bulk transfers (closed systems)	Provide a good standard of controlled ventilation (10 to 15 air changes per hour) , or: Avoid carrying out activities involving exposure for more than 1 hour
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance
Storage with occasional controlled exposure.	Store substance within a closed system No other specific measures identified

Section 2.2		Control of Environmental Exposure
Substance is a unique structure.		
Readily biodegradable.		
Amounts used		
Fraction of EU tonnage used in region:		0.143
Regional use tonnage (tonnes/year):		6.0E+05
Fraction of Regional tonnage used locally:		1
Annual site tonnage (tonnes/year):		6.0E+05
Maximum daily site tonnage (kg/day):		2.0E+06
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year):		300



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Environmental factors not influenced by risk management	
Local freshwater dilution factor:	40
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	5.0E-03
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-03
Release fraction to soil from process (initial release prior to RMM):	1.0E-04
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
Risk from environmental exposure is driven by wastewater treatment plant microbes.	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of %	93.6
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment plan	
Estimated substance removal from wastewater via domestic sewage treatment (%)	93.6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	93.6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/day)	6.4E+06
Assumed domestic sewage treatment plant flow (m3/d)	10,000
Conditions and Measures related to external treatment of waste for disposal	
During manufacturing no waste of the substance is generated.	
Conditions and measures related to external recovery of waste	
During manufacturing no waste of the substance is generated.	

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	
Section 3.2 -Environment	
Used EUSES model.	



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SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	
Section 4.2 - Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).	



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Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
Title	Uses in Coatings - Consumer
Use Descriptor	Sector of Use: SU 21 Product Categories: PC1, PC4, PC8a (excipient only), PC9a, PC9b, PC15, PC18, PC23, PC24, PC31, PC34 Environmental Release Categories: ERC 8A, ERC 8D, ESVOC SpERC 8.3c.v1
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
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Section 2.1	Control of Consumer Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 Pa
Concentration of substance in product	Covers concentration up to (%): 100 %
Amounts used	
Unless otherwise stated:	
For each use event, covers amount up to (g):	13,800
Covers skin contact area (cm ²):	857.5
Frequency and Duration of Use	
Unless otherwise stated:	
Covers use up to (times/day of use):	1
Covers use up to (hours/event):	6
Other Operational Conditions affecting consumer Exposure	
Unless otherwise stated:	
Covers use at ambient temperatures.	
Covers use in room size of 20m ³	
Covers use under typical household ventilation.	

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Adhesives, Sealants. Glues, hobby use.	Covers concentrations up to 30 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 35.73 cm ²
	For each use event, covers amount up to 9 g
Adhesives, Sealants. Glues DIY-use (carpet glue, tile	Covers use in room size of 20 m ³
	Covers exposure up to 4 hours/event
	Covers concentrations up to 3 %



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glue, wood parquet glue).	
	Covers use up to 1 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 110.00 cm2
	For each use event, covers amount up to 6.390 g
	Covers use in room size of 20 m3
	Covers exposure up to 6.00 hours/event
Adhesives, Sealants. Glue from spray.	Covers concentrations up to 24 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 35.73 cm2
	For each use event, covers amount up to 85.05 g
	Covers use in room size of 20 m3
	Covers exposure up to 4.00 hours/event
Adhesives, Sealants. Sealants.	Covers concentrations up to 30 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 35.73 cm2
	For each use event, covers amount up to 75 g
	Covers use in room size of 20 m3
	Covers exposure up to 1.00 hours/event
Anti-Freeze and De-icing products. Washing car window.	Covers concentrations up to 1 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 35.73 cm2
	For each use event, covers amount up to 0.5 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.02 hours/event
Anti-Freeze and De-icing products. Pouring into radiator.	Covers concentrations up to 10 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 428.00 cm2
	For each use event, covers amount up to 2.000 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.17 hours/event
Anti-Freeze and De-icing products. Lock de-icer.	Covers concentrations up to 50 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 214.40 cm2
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.25 hours/event

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Biocidal Products (e.g. Disinfectants, pestcontrol). (excipient only). Laundry and dish washing products.	Covers concentrations up to 5 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 857.50 cm ²
	For each use event, covers amount up to 15 g
	Covers use in room size of 20 m ³
Biocidal Products (e.g. Disinfectants, pestcontrol). (excipient only). Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	Covers concentrations up to 5 %
	Covers use up to 128 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 857.50 cm ²
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m ³
Biocidal Products (e.g. Disinfectants, pestcontrol). (excipient only). Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners).	Covers concentrations up to 15 %
	Covers use up to 128 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 428.00 cm ²
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m ³
Coatings and Paints, Thinners, paint removers. Waterborne latex wall paint.	Covers concentrations up to 1.5 %
	Covers use up to 4 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 428.75 cm ²
	For each use event, covers amount up to 2.760 g
	Covers use in room size of 20 m ³
Coatings and Paints, Thinners, paint removers. Solvent rich, high solid, water borne paint.	Covers concentrations up to 27.5 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 428.75 cm ²
	Covers use in room size of 20 m ³
	Covers exposure up to 2.20 hours/event



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	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.20 hours/event
Coatings and Paints, Thinners, paint removers. Aerosol spray can.	Covers concentrations up to 50 %
	Covers use up to 2 days/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.33 hours/event
Coatings and Paints, Thinners, paint removers. Removers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %
	Covers use up to 3 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 857.50 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.00 hours/event
Fillers, Putties. Fillers and putty.	Covers concentrations up to 2 %
	Covers use up to 12 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 35.73 cm2
	For each use event, covers amount up to 85 g
	Covers use in room size of 20 m3
	Covers exposure up to 4.00 hours/event
Fillers, Putties. Plasters and floor equalizers.	Covers concentrations up to 1.9 %
	Covers use up to 12 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 857.50 cm2
	For each use event, covers amount up to 13.800 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.00 hours/event
Fillers, Putties. Modelling clay.	Covers concentrations up to 1 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 254.40 cm2
	For each use event, assumes swallowed amount of 1 g
	Covers use in room size of 20 m3
	Covers exposure up to 1.00 hours/event
Finger paints Finger paints.	Covers concentrations up to 8 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 254.40 cm2
	For each use event, assumes swallowed amount of 1.35 g

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	Covers use in room size of 20 m3
	Covers exposure up to 0.03 hours/event
Non-metal-surface treatment products. Waterborne latex wall paint.	Covers concentrations up to 1.5 %
	Covers use up to 4 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 428.75 cm2
	For each use event, covers amount up to 2,760 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.20 hours/event
	Covers concentrations up to 27.5 %
Non-metal-surface treatment products. Solvent rich, high solid, water borne paint.	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 428.75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.20 hours/event
	Covers concentrations up to 50 %
Non-metal-surface treatment products. Aerosol spray can.	Covers use up to 2 days/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.33 hours/event
	Covers concentrations up to 50 %
Non-metal-surface treatment products. Removers (paint-, glue-, wall paper-, sealant-remover).	Covers use up to 3 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 857.50 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.00 hours/event
	Covers concentrations up to 10 %
Ink and Toners. Inks and toners.	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 71.40 cm2
	For each use event, covers amount up to 40 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.20 hours/event
	Covers concentrations up to 50 %
Leather tanning, dye, finishing, impregnation and care products. Polishes.	Covers concentrations up to 50 %

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wax / cream (floor, furniture, shoes).	Covers use up to 29 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 430.00 cm ²
	For each use event, covers amount up to 56 g
	Covers use in room size of 20 m ³
	Covers exposure up to 1.23 hours/event
Leather tanning, dye, finishing, impregnation and care products. Polishes, spray (furniture, shoes).	Covers concentrations up to 50 %
	Covers use up to 8 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 430.00 cm ²
	For each use event, covers amount up to (g): 56 g
	Covers use in room size of 20 m ³
	Covers exposure up to 0.33 hours/event
Lubricants, Greases and Release Products. Liquids.	Covers concentrations up to 100 %
	Covers use up to 4 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 468.00 cm ²
	For each use event, covers amount up to 2,200 g
	Covers use in a one car garage (34 m ³) under typical ventilation.
	Covers use in room size of 34 m ³
	Covers exposure up to 0.17 hours/event
Lubricants, Greases and Release Products. Pastes.	Covers concentrations up to 20 %
	Covers use up to 10 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 468.00 cm ²
	For each use event, covers amount up to 34 g
	Covers use in room size of 20 m ³
Lubricants, Greases and Release Products. Sprays.	Covers concentrations up to 50 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 428.75 cm ²
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m ³
	Covers exposure up to 0.17 hours/event
Polishes and Wax Blends. Polishes, wax / cream (floor, furniture, shoes).	Covers concentrations up to 50 %
	Covers use up to 29 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 430.00 cm ²
	For each use event, covers amount up to 142 g
	Covers use in room size of 20 m ³
	Covers exposure up to 1.23 hours/event
Polishes and Wax Blends.	Covers concentrations up to 50 %

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Polishes, spray (furniture, shoes).	
	Covers use up to 8 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 430.00 cm ²
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m ³
	Covers exposure up to 0.33 hours/event
Textile dyes, finishing and impregnating products; including bleaches and other processing aids.	Covers concentrations up to 10 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area 857.50 cm ²
	For each use event, covers amount up to 115 g
	Covers use in room size of 20 m ³
	Covers exposure up to 1.00 hours/event

Section 2.2	Control of Environmental Exposure
Substance is a unique structure.	
Readily biodegradable.	
Amounts used	
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	7.0E+03
Fraction of Regional tonnage used locally:	0.002
Annual site tonnage (tonnes/year):	14
Maximum daily site tonnage (kg/day):	38
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from wide dispersive use (regional only):	9.85E-01
Release fraction to wastewater from wide dispersive use:	1.0E-02
Release fraction to soil from wide dispersive use (regional only):	5.0E-03
Conditions and Measures related to municipal sewage treatment plan	
Estimated substance removal from wastewater via domestic sewage treatment (%)	93.6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/day).	1.8E+04
Assumed domestic sewage treatment plant flow (m ³ /d)	2,000
Conditions and Measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable local and/or national regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or national regulations.	



Ortho-xylene
Version .

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Safety Data Sheet

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	

Section 3.2 -Environment	
Used EUSES model.	

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

Section 4.2 -Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.	
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.	
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.	
Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).	