

According to Regulation (EC) No 1907/2006

Xylene

Version number: 2
Issued: 2023-09-20
Replaces SDS: 2019-10-15



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

1.1. Product identifier

Trade name

Xylene

CAS number

1330-20-7

EC number

215-535-7

Synonyms

1,2 dimethylbenzene

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

Relevant identified uses

Research and development.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Street address

Molekula Ltd, Lingfield Way, Darlington,
DL1 4XX Darlington
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email address

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Hazardous to the aquatic environment — Chronic hazard category 3
 Skin irritation, hazard category 2
 Specific Target Organ Toxicity — Repeated exposure, hazard category 2
 Acute toxicity, dermal, hazard category 4
 Acute toxicity, inhalation, hazard category 4
 Aspiration hazard, hazard category 1
 Flammable liquids, hazard category 3

Hazard statements

H226, H304, H312, H315, H332, H373, H412

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H332 Harmful if inhaled.
 H373 May cause damage to organs through prolonged or repeated exposure
 H412 Harmful to aquatic life with long lasting effects.

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Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
 P233 Keep container tightly closed.
 P260 Do not breathe dust/fumes/gas/mist/vapours/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P302 + P352 IF ON SKIN: Wash with plenty of water/.
 P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P314 Get medical advice/attention if you feel unwell.
 P332 + P313 If skin irritation occurs: Get medical advice/attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P403 Store in a well-ventilated place.
 P405 Store locked up.
 P501 Dispose of contents/container to local regulations.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| Chemical name | CAS No. EC No. REACH No. Index No. | Concentration | Classification | H-phrases M factor acute M factor chronic | Note |
|---------------|---|---------------|--|---|------|
| Xylene | 1330-20-7 215-535-7 - - | 100% | Flam. Liq. 3, Asp. Tox. 1, Acute Tox. 4 - dermal, Skin Irrit. 2, Acute Tox. 4 - inhalation, STOT RE 2, Aquatic Chronic 3 | H226, H304, H312, H315, H332, H373, H412 - - | - |

Molecular weight

106.17

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact

IF ON SKIN: Wash with plenty of soap and water. Continue to rinse for at least 15 minutes. Get medical advice/attention if you feel unwell.

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion

Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

Information for doctors

No data available.

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

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact

May cause temporary eye irritation.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

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

Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

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Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards: FLAMMABLE. Containers can burst violently when heated, due to excess pressure build-up. Vapours may form explosive mixture with air at room temperature. Carbon monoxide (CO). Carbon dioxide (CO₂). Combustible. Vapours are heavier than air and may travel along the floor and in the bottom of containers.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapours and spray mist and contact with skin and eyes. For personal protection, see section 8. Provide adequate ventilation. Remove sources of ignition. Beware of the explosion danger. Take action to prevent static discharges.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Risk of explosion.

6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers. Remove sources of ignition. Beware of the explosion danger. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2. Work under hood Do not inhale substance/mixture Avoid generation of vapours/aerosols.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges.

General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store at room temperature. Store in a dry place. Store in a closed container.

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7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

TWA 50ppm 221 mg/m³ EuropeSTEL 100ppm 442mg/m³ EuropeTWA 50ppm 220mg/m³ UK. EH40. WEL = Workplace Exposure Limit.STEL 100ppm 441mg/m³ UK. EH40. WEL = Workplace Exposure Limit.

DNEL/DMEL

| Product/Substance name (CAS No./EC No.) | Type | Exposure | Value | Population | Effects |
|--|------|-----------------------------------|------------------------|------------|----------|
| Xylene (1330-20-7/215-535-7) | DNEL | Acute (short term) Inhalation | 289 mg/m ³ | Workers | Systemic |
| Xylene (1330-20-7/215-535-7) | DNEL | Chronic (long term) Inhalation | 77 mg/m ³ | Workers | Systemic |
| Xylene (1330-20-7/215-535-7) | DNEL | Acute (short term) Inhalation | 174 mg/m ³ | Consumers | Systemic |
| Xylene (1330-20-7/215-535-7) | DNEL | Chronic (long term) Inhalation | 14.8 mg/m ³ | Consumers | Systemic |

PNEC/PEC

| Product/Substance name (CAS No./EC No.) | Type | Environmental compartment | Value |
|--|------|---------------------------|----------------|
| Xylene (1330-20-7/215-535-7) | PNEC | Freshwater | 0.327 mg/l |
| Xylene (1330-20-7/215-535-7) | PNEC | Marine water | 0.327 mg/l |
| Xylene (1330-20-7/215-535-7) | PNEC | Soil | 2.31 mg/kg |
| Xylene (1330-20-7/215-535-7) | PNEC | Sewage Treatment Plant | 6.58 mg/l |
| Xylene (1330-20-7/215-535-7) | PNEC | Sediment (marine water) | 12.46 mg/kg |
| Xylene (1330-20-7/215-535-7) | PNEC | Sediment (freshwater) | 12.46 mg/kg |
| Xylene | PNEC | Intermittent releases | 0.327 mg/l |

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| Product/Substance name (CAS No./EC No.) | Type | Environmental compartment | Value |
|--|------|---------------------------|-------|
| (1330-20-7/215-535-7) | | | |

8.2. Exposure controls

Personal Protective Equipment Symbols



Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves.

Recommended gloves: Viton rubber (fluor rubber).

Glove Thickness: 0.4mm

Breakthrough time: 8 hours

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Colourless.

Odour

Aromatic.

Melting point / freezing point

-39.3 °C

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Boiling point or initial boiling point and boiling range

136 - 140 °C

Flammability

No data available

Lower and upper explosion limit

1.1 - 7 %

Flash point

23 °C

Auto-ignition temperature

488 °C

Decomposition temperature

138.3 - 141.4 °C

pH

No data available

Kinematic viscosity

No data available

Solubility

No data available

Partition coefficient n-octanol/water

No data available

Vapour pressure

8.8 - 11.9 hPa

Density and/or relative density

0.84 g/cm³

Relative vapour density

No data available

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapor/air-mixtures are explosive at intense warming.

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10.2. Chemical stability

Stable under normal temperature conditions. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

There are no known conditions that are likely to result in a hazardous situation.

10.4. Conditions to avoid

Heat, sparks, flames.

10.5. Incompatible materials

Strong oxidising agents. Strong acids. Strong bases

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

| Product / Substance name CAS / EC no. | Dose descriptor | Value / Dose | Exposure route | Duration of exposure | Test animals |
|--|-----------------|--------------|----------------|----------------------|--------------|
| Xylene 1330-20-7 / 215-535-7 | LD50 | 3523 mg/kg | Oral | - | Rat |
| Xylene 1330-20-7 / 215-535-7 | LC50 | 29.09 mg/l | Inhalation. | 4 hours | Rat |
| Xylene 1330-20-7 / 215-535-7 | LD50 | >1700 mg/kg | Dermal | - | Rabbit |

Skin corrosion/irritation

| Product / Substance name CAS / EC no. | Result | Duration of exposure | Species |
|--|------------------------|----------------------|---------|
| Xylene 1330-20-7 / 215-535-7 | Moderately Irritating. | 24 hours | Rabbit |

Serious eye damage/irritation

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| Product / Substance name CAS / EC no. | Result | Duration of exposure | Species |
|--|--------------------------------|----------------------|---------|
| Xylene 1330-20-7 / 215-535-7 | Causes serious eye irritation. | 24 hours | Rabbit |

Respiratory or skin sensitisation

| Product / Substance name CAS / EC no. | Result | Species | Method / Guideline |
|--|-----------|---------|------------------------|
| Xylene 1330-20-7 / 215-535-7 | Negative. | Mouse | Local Lymph Node Assay |

Germ cell mutagenicity

| Product / Substance name CAS / EC no. | Result | Metabolic activation / Exposure | Species | Method / Guideline |
|--|-----------|---------------------------------------|---------------------------------|---|
| Xylene 1330-20-7 / 215-535-7 | Negative. | with and without metabolic activation | Chinese Hamster cells: Ovary | Mutagenicity (mammal cell test): Chromosome aberration: |
| Xylene 1330-20-7 / 215-535-7 | Negative. | with and without metabolic activation | Salmonella typhimurium | Ames test |
| Xylene 1330-20-7 / 215-535-7 | Negative. | with and without metabolic activation | Chinese Hamster cells: Ovary | sister chromatid exchange assay |
| Xylene 1330-20-7 / 215-535-7 | Negative. | - | Mouse | dominant lethal test |

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

| Product / Substance name CAS / EC no. | Measurement type | Value / Result | Duration of exposure | Species |
|--|------------------|----------------|----------------------|----------------------|
| Xylene | LC50 | 2.60 mg/l | 96 hours | Onchorhynchus mykiss |

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| Product / Substance name CAS / EC no. | Measurement type | Value / Result | Duration of exposure | Species |
|--|------------------|----------------|----------------------|-----------------|
| 1330-20-7 / 215-535-7 | | | | (Rainbow trout) |

Acute algae toxicity

| Product / Substance name CAS / EC no. | Measurement type | Value / Result | Duration of exposure | Species |
|--|------------------|----------------|----------------------|---------------------------------|
| Xylene 1330-20-7 / 215-535-7 | EC50 | 4.36 mg/l | 73 hours | Pseudokirchneriella subcapitata |

Chronical toxicity

| Product / Substance name CAS / EC no. | Measurement type | Value / Result | Duration of exposure | Species |
|--|------------------|----------------|----------------------|--------------------------------------|
| Xylene 1330-20-7 / 215-535-7 | NOEC | 0.96 mg/l | 7 days | Ceriodaphnia dubia (water flea) |
| Xylene 1330-20-7 / 215-535-7 | NOEC | 1.3 mg/l | 56 days | Onchorhynchus mykiss (Rainbow trout) |

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

No data available

12.7. Other adverse effects

No data available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

1307

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

XYLENES

IMDG proper shipping name

XYLENES

IATA proper shipping name

Xylenes

14.3. Transport hazard class(es)

Label

ADR/RID/ADN



3

IMDG



3

IATA



3

ADR / RID Class

3

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ADR / RID Classification code

F1

ADR / RID hazard identification number

30

IMDG Class

3

IATA Class

3

ADN Class

3

ADN Class Code

F1

14.4. Packing group

ADR / RID / ADN: III

IMDG: III

IATA: III

14.5. Environmental hazards

IMDG EmS

F-E, S-D

14.6. Special precautions for user

Tunnel restriction code: D/E

Transport category: 3

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC03

SECTION 15: Regulatory information

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

EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National regulations

Directive: 2012/18/EU FLAMMABLE LIQUIDS

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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SECTION 16: Other information

Phrase meaning

Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3

Skin Irrit. 2 - Skin irritation, hazard category 2

STOT RE 2 - Specific Target Organ Toxicity — Repeated exposure, hazard category 2

Acute Tox. 4 - dermal - Acute toxicity, dermal, hazard category 4

Acute Tox. 4 - inhalation - Acute toxicity, inhalation, hazard category 4

Asp. Tox. 1 - Aspiration hazard, hazard category 1

Flam. Liq. 3 - Flammable liquids, hazard category 3

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H332 Harmful if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure

H412 Harmful to aquatic life with long lasting effects.