

Xylene

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Revision date: 07/07/2011

Supersedes: 08/12/2010

Version: 1.0

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

1.1. Product identifier

Chemical type : Substance
 Substance name : Xylene.
 Trade name : Xylene
 EC index no : 601-022-00-9
 EC no : 215-535-7
 CAS No. : 1330-20-7
 REACH registration No. : 01-2119488216-32-0010
 Product code : 693, SDS # PbR0126
 Synonyms : None known.

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

1.2.1. Relevant identified uses

Use of the substance/preparation : Manufacture of substances
 Intermediate
 Formulation [mixing] of preparations and/or re-packaging
 Coatings
 Cleaning agent
 Use in Oil and Gas field drilling and production operations
 Release agent.
 Agrochemicals
 Building and construction work.
 Road work
 Manufacture of rubber products.
 Polymer preparations and compounds
 Fuels
 Lubricant
 Use as laboratory reagent.
 mining (including offshore industries).
 Functional fluids
 Explosive
 Consumer use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Only representative:
 Petrobras Europe Ltd.
 4th Floor, 20 North Audley Street
 London W1K 6WL, United Kingdom
 Fax number: +44(0) 20 7355 8750
 E-mail: reach@petrobras.com.br

Manufacturer:
 Petróleo Brasileiro S. A.
 Avenida Chile, 65.
 20035-900 Rio de Janeiro - Brazil
 E-mail: sac@petrobras.com.br

1.4. Emergency telephone number

Emergency number : For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident Call CHEMTREC Day or Night
 Within USA and Canada: 1-800-424-9300
 Outside USA and Canada (collect calls accepted): 1-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 3 H226
 Acute Tox. 4 (Dermal) H312
 Skin Irrit. 2 H315
 Muta. 1B H340
 Carc. 1A H350
 STOT RE 2 H373
 Asp. Tox. 1 H304
 Eye Irrit. 2 H319
 STOT SE 3 H335
 Acute Tox. 4 (Inhalation) H332

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Full text of H-phrases: see section 16.

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.1; R45

Muta.Cat.2; R46

Xn; R20/21

Xi; R38

R10

Full text of R-phrases: see section 16.

Adverse physicochemical, human health and environmental effects

Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. Exposure to solvents such as xylenes, benzene, toluene and ethanol decrease xylenes clearance velocity in the human body, increasing xylenes toxic effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS02



GHS07



GHS08

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H340 - May cause genetic defects
H350 - May cause cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (CLP)

: P210 - Keep away from sparks, open flames. - No smoking.
P281 - Use personal protective equipment as required
P308+P313 - IF exposed or concerned: Get medical advice/attention
P331 - Do NOT induce vomiting
P405 - Store locked up
P501 - Dispose of contents/container to hazardous or special waste collection point.

2.3. Other hazards

This substance/mixture does not meet the PBT/vPvB criteria of REACH, annex XIII.

other hazards which do not result in classification

: Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Xylene	(CAS No.) 1330-20-7 (EC no) 215-535-7 (EC Index no) 601-022-00-9	<= 100	R10 Xn; R20/21 Xi; R38
Ethylbenzene (Impurity)	(CAS No.) 100-41-4 (EC no) 202-849-4 (EC Index no) 601-023-00-4	<= 12.71	F; R11 Xn; R20
Benzene (Impurity)	(CAS No.) 71-43-2 (EC no) 200-753-7 (EC Index no) 601-020-00-8	<= 0.96	F; R11 Carc.Cat.1; R45 Muta.Cat.2; R46 T; R48/23/24/25 Xn; R65 Xi; R36/38
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Xylene	(CAS No.) 1330-20-7 (EC no) 215-535-7 (EC Index no) 601-022-00-9	<= 100	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315
Ethylbenzene (Impurity)	(CAS No.) 100-41-4 (EC no) 202-849-4 (EC Index no) 601-023-00-4	<= 12.71	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Benzene (Impurity)	(CAS No.) 71-43-2 (EC no) 200-753-7 (EC index no) 601-020-00-8	<= 0.96	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304

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

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first-aid measures

- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of irregular breathing or respiratory arrest provide artificial respiration. In case of breathing difficulties administer oxygen. Get immediate medical advice/attention. If medical advice is needed, have product container or label at hand.
- First-aid measures after skin contact : Take off immediately all contaminated clothing, including underwear and shoes. Rinse thoroughly with plenty of water for at least 20 minutes and take medical advice. If medical advice is needed, have product container or label at hand.
- First-aid measures after eye contact : Rinse immediately and plentifully with water, also under the eyelids, for at least 20 minutes. If medical advice is needed, have product container or label at hand.
- First-aid measures after ingestion : If swallowed, do not induce vomiting; seek medical advice immediately and show this container label. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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

- Symptoms/injuries : Exposure to organic solvent vapours may result in adverse health effects such as headache, nausea, dizziness. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. May cause kidney and liver disease, and disorders of the central nervous system.
- Symptoms/injuries after inhalation : Irritant effect on the respiratory tract.
- Symptoms/injuries after skin contact : Irritating to skin. Prolonged/repetitive skin contact may cause skin defatting or dermatitis.
- Symptoms/injuries after eye contact : redness, pain, mild eye irritation.
- Symptoms/injuries after ingestion : Risk of aspiration pneumonia.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: : Foam. Water spray. Carbon dioxide. Dry extinguishing powder.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Flammable liquid. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.
- Reactivity : Hazardous combustion products. Carbon dioxide (CO₂). Carbon monoxide. The formation of hydrocarbons and aldehydes are possible in the initial stages of a fire (especially in between 400 °C and 700 °C).

5.3. Advice for firefighters

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.
- Protective equipment for firefighters : In case of hazardous fumes, wear autonomous breathing apparatus. Refer to section 8.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove product from area of fire. Use water spray/stream to protect personnel and to cool endangered containers.
- 6.1.1. For non-emergency personnel
- Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. Refer to section 8.
- Emergency procedures : Stop leak if safe to do so. Eliminate all sources of ignition, avoid sparks, flames and do not smoke in risk area.
- 6.1.2. For emergency responders
- Protective equipment : Wear suitable protective clothing, gloves and eye/face protection. In case of fire: Wear self-contained breathing apparatus. Refer to section 8.

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Emergency procedures : Evacuate unnecessary personnel. Remove all sources of ignition. Stop leak if safe to do so. Eliminate leaks immediately.

6.2. Environmental precautions

Stop leak if safe to do so. Do not discharge into drains or the environment. Do not discharge into surface water. Prevent spreading over great surfaces (e.g. by damming or installing oil booms). Avoid contact with water. Ensure all waste water is collected and treated via a waste water treatment plant.

6.3. Methods and material for containment and cleaning up

For containment : Collect in closed containers for disposal. Do not empty into drains or the aquatic environment. Waste for disposal is to be classified and marked. Waste is to be kept separate from other types of waste until its disposal. Dispose of this material and its container to hazardous or special waste collection point. Consult the local waste disposal expert about waste disposal. Disposal must be done according to official regulations.

Methods for cleaning up : Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information : Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

6.4. Reference to other sections

Refer to sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Use only non-sparking tools. Ensure the grounding of containers, apparatus, pumps and suction equipment. Use only in well-ventilated areas.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: : Floors should be impenetrable, resistant to liquids and easy to clean. The floor should be leak tight, jointless and not absorbent. Provide adequate ventilation.

Incompatible materials : Oxidizing agents, strong.

Storage area : Ensure adequate ventilation of the storage area. The floor should be leak tight, jointless and not absorbent. Floors should be impenetrable, resistant to liquids and easy to clean. Keep away from open flames, hot surfaces and sources of ignition. Only use anti-static equipped (spark-free) tools.

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Xylene (1330-20-7)		
EU	IOELV TWA (mg/m ³)	221 mg/m ³
EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (mg/m ³)	442 mg/m ³
EU	IOELV STEL (ppm)	100 ppm
EU	Notation	Skin
Austria	MAK (mg/m ³)	221 mg/m ³
Austria	MAK (ppm)	50 ppm
Austria	MAK Short time value (mg/m ³)	442 mg/m ³
Austria	MAK Short time value (ppm)	100 ppm
Belgium	Limit value (mg/m ³)	221 mg/m ³
Belgium	Limit value (ppm)	50 ppm
Belgium	Short time value (mg/m ³)	442 mg/m ³
Belgium	Short time value (ppm)	100 ppm
Belgium	Remark*	D
France	VLE (mg/m ³)	442 mg/m ³
France	VLE (ppm)	100 ppm
France	VME (mg/m ³)	221 mg/m ³
France	VME (ppm)	50 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	440 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	100 ppm
Germany	TRGS 903 (BGW)	1.5 mg/l Xylol (Blut; Expositionsende bzw. Schichtende) 2 g/l Methylhippur-(Tolur)-säure (Urin; Expositionsende bzw. Schichtende)
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	434 mg/m ³

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Xylene (1330-20-7)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	100 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (mg/m ³)	651 mg/m ³
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	150 ppm
Spain	VLA-ED (mg/m ³)	221 mg/m ³
Spain	VLA-ED (ppm)	50 ppm
Spain	VLA-EC (mg/m ³)	442 mg/m ³
Spain	VLA-EC (ppm)	100 ppm
Switzerland	VLE (mg/m ³)	870 mg/m ³
Switzerland	VLE (ppm)	200 ppm
Switzerland	VME (mg/m ³)	435 mg/m ³
Switzerland	VME (ppm)	100 ppm
Switzerland	Remark (CH)	max. 4x30 min/8h
The Netherlands	MAC TGG 8H (mg/m ³)	210 mg/m ³
The Netherlands	MAC TGG 8H (ppm)	50 ppm
The Netherlands	MAC TGG 15MIN (mg/m ³)	442 mg/m ³
United Kingdom	WEL TWA (mg/m ³)	220 mg/m ³
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m ³)	441 mg/m ³
United Kingdom	WEL STEL (ppm)	100 ppm
Canada (Quebec)	VECD (mg/m ³)	651 mg/m ³
Canada (Quebec)	VECD (ppm)	150 ppm
Canada (Quebec)	VEMP (mg/m ³)	434 mg/m ³
Canada (Quebec)	VEMP (ppm)	100 ppm
Australia	TWA (mg/m ³)	441 mg/m ³
Australia	TWA (ppm)	100 ppm
Australia	STEL (mg/m ³)	662 mg/m ³
Australia	STEL (ppm)	150 ppm

Ethylbenzene (100-41-4)		
Austria	MAK (mg/m ³)	440 mg/m ³
Austria	MAK (ppm)	100 ppm
Austria	MAK Short time value (mg/m ³)	880 mg/m ³
Austria	MAK Short time value (ppm)	200 ppm
Belgium	Limit value (mg/m ³)	442 mg/m ³
Belgium	Limit value (ppm)	100 ppm
Belgium	Short time value (mg/m ³)	551 mg/m ³
Belgium	Short time value (ppm)	125 ppm
Belgium	Remark*	D
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	100 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	125 ppm
Switzerland	VLE (mg/m ³)	435 mg/m ³
Switzerland	VLE (ppm)	100 ppm
Switzerland	VME (mg/m ³)	435 mg/m ³
Switzerland	VME (ppm)	100 ppm
Canada (Quebec)	VECD (mg/m ³)	542 mg/m ³
Canada (Quebec)	VECD (ppm)	125 ppm
Canada (Quebec)	VEMP (mg/m ³)	434 mg/m ³
Canada (Quebec)	VEMP (ppm)	100 ppm
Australia	TWA (mg/m ³)	441 mg/m ³
Australia	TWA (ppm)	100 ppm
Australia	STEL (mg/m ³)	552 mg/m ³
Australia	STEL (ppm)	125 ppm

Benzene (71-43-2)		
EU	IOELV TWA (mg/m ³)	3.25 mg/m ³
EU	IOELV TWA (ppm)	1 ppm
EU	Notation	Skin
Austria	MAK (mg/m ³)	3.2 mg/m ³
Austria	MAK (ppm)	1 ppm
Austria	MAK Short time value (mg/m ³)	12.8 mg/m ³

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Benzene (71-43-2)		
Austria	MAK Short time value (ppm)	4 ppm
Belgium	Limit value (mg/m ³)	3.25 mg/m ³
Belgium	Limit value (ppm)	1 ppm
Belgium	Remark*	C, D
France	VME (mg/m ³)	3.25 mg/m ³
France	VME (ppm)	1 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0.5 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	2.5 ppm
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (STEL) (ppm)	1 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	1 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	5 ppm
Spain	VLA-ED (mg/m ³)	3.25 mg/m ³
Spain	VLA-ED (ppm)	1 ppm
Switzerland	VME (mg/m ³)	1.6 mg/m ³
Switzerland	VME (ppm)	0.5 ppm
The Netherlands	MAC TGG 8H (mg/m ³)	3.25 mg/m ³
United Kingdom	WEL TWA (ppm)	1 ppm
Czech Republic	Expoziční limity (PEL) (mg/m ³)	3 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	0.939 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	10 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	3.13 ppm
Czech Republic	Remark (CZ)	D, P
Denmark	Grænseværdie (langvarig) (mg/m ³)	1.6 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	0.5 ppm
Denmark	Grænseværdie (kortvarig) (mg/m ³)	3.2 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	1.0 ppm
Finland	HTP-arvo (8h) (mg/m ³)	3.25 mg/m ³
Finland	HTP-arvo (8h) (ppm)	1 ppm
Finland	Huomautus (FI)	iho, Kaikki työt
Hungary	CK-érték	3 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	3 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	1 ppm
Ireland	Notes (IE)	Sk, C1
Lithuania	IPRV (mg/m ³)	3.25 mg/m ³
Lithuania	IPRV (ppm)	1 ppm
Lithuania	TPRV (mg/m ³)	19 mg/m ³
Lithuania	TPRV (ppm)	6 ppm
Lithuania	Remark (LT)	K O; IPRV 3,25mg/m ³ (1 ppm) galios nuo 2003 06 27 (pagal direktyvos 97/42 EC 2 str. 1 dalyje nurodytą datą).
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	3 mg/m ³
Norway	Gjennomsnittsverdier (AN) (ppm)	1 ppm
Norway	Merknader (NO)	K
Poland	NDS (mg/m ³)	1.6 mg/m ³
Sweden	nivågränsvärde (NVG) (mg/m ³)	1.5 mg/m ³ 0.5 mg/m ³ H, C
Sweden	nivågränsvärde (NVG) (ppm)	0.5 ppm 1.5 ppm H, C
Sweden	kortidsvärde (KTV) (mg/m ³)	9 mg/m ³ 3 mg/m ³ H, C

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Benzene (71-43-2)		
Sweden	kortidsvärde (KTV) (ppm)	3 ppm 9 ppm H, C
Canada (Quebec)	VECD (mg/m ³)	15.5 mg/m ³
Canada (Quebec)	VECD (ppm)	5 ppm
Canada (Quebec)	VEMP (mg/m ³)	3 mg/m ³
Canada (Quebec)	VEMP (ppm)	1 ppm

Xylene (1330-20-7)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	289 mg/m ³
Long-term - systemic effects, dermal	180 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	77 mg/m ³ /day
DNEL/DMEL (General Population)	
Acute - systemic effects, inhalation	174 mg/m ³
Long-term - systemic effects, oral	1.6 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	14.8 mg/m ³ /day
Long-term - systemic effects, dermal	108 mg/kg bodyweight/day

Remark : The DNEL is based on sub-chronic effects (ototoxicity) of ethylbenzene in the rat following inhalation exposure corrected to adjust for differences in absorption, exposure duration and inter- and intraspecies differences.

8.2. Exposure controls

Appropriate engineering controls : Provide adequate ventilation.
Personal protective equipment : Gas mask at concentration in the air > > TLV. Gloves. Protective clothing.



Hand protection : Protective gloves made of rubber or PVC.
Eye protection : Wear eye protection/face protection.
Skin and body protection : Wear long sleeves.
Respiratory protection : The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!. In case of fire: Wear self-contained breathing apparatus.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: colourless.
Odour	: Solvents.
Odour threshold	: 20 ppm
pH	: No data available
Melting point	: -54-13.3 °C
Solidification point	: No data available
Boiling point	: ≥ 138.5 °C
Flash point	: 31 °C (Closed cup)
Relat. evapor. rate comp. to butylacetate	: 0.79
Flammability (solid, gas)	: 1-7 vol % (Flammability limits!!!!!!!!!!!!)
Explosive limits	: 1-9 vol %
Vapour pressure	: < 10 mmHg
Relative vapour density at 20 °C	: 3.7
Relative density	: 0.851-0.871 g/cm ³ @ 20°C
Solubility	: Water: 125-190 mg/l @ 25 °C
Log Pow	: 3.09 estimated
Self ignition temperature	: 567 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: 0.655 cSt @ 40°C
Viscosity, dynamic	: No data available

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Explosive properties : No data available
Oxidising properties : No data available

9.2. Other information

Other properties : No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous combustion products. Carbon dioxide (CO₂). Carbon monoxide. The formation of hydrocarbons and aldehydes are possible in the initial stages of a fire (especially in between 400 °C and 700 °C).

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful in contact with skin. Harmful if inhaled.

Xylene (1330-20-7)	
LD50 oral rat	> 3523 mg/kg
LD50 dermal rabbit	12126 mg/kg
LC50 inhalation rat (ppm)	> 6247 ppm/4h

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Not classified
Not sensitizing
Germ cell mutagenicity : May cause genetic defects.
Carcinogenicity : May cause cancer.

Xylene (1330-20-7)	
NOAEL (chronic,oral, animal/male,2 years)	500 mg/kg bodyweight
NOAEL (chronic,oral, animal/female,2 years)	500 mg/kg bodyweight

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause respiratory irritation.
Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

Xylene (1330-20-7)	
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight/day
NOAEL (inhalation, rat, gas, 90 days)	> 810 ppmV/6h/day

Aspiration hazard : May be fatal if swallowed and enters airways.
Potential Adverse human health effects and symptoms : Exposure to solvents such as xylenes, benzene, toluene and ethanol decrease xylenes clearance velocity in the human body, increasing xylenes toxic effects. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. Risk of aspiration pneumonia.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Product is easily volatile.

Xylene (1330-20-7)	
LC50 fishes	> 2.6 mg/l 96 hours
EC50 Daphnia	> 3.4 mg/l 48 hours
EC50 Daphnia	> 1 mg/l 24 hours
NOEC (acute)	0.44 mg/l 72 hours- Algae
NOEC (chronic)	> 0.96 mg/l 7 days- daphnia

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Xylene (1330-20-7)	
ErC50 (algae)	> 2.2 mg/l 72 hours
12.2. Persistence and degradability	
Xylene (1330-20-7)	
Persistence and degradability	No data available.
12.3. Bioaccumulative potential	
Xylene (1330-20-7)	
Log Pow	3.09 estimated
Bioaccumulative potential	Moderate.
12.4. Mobility in soil	
Xylene (1330-20-7)	
Ecology - soil	Do not allow to enter into soil/subsoil. If product enters soil, it will be mobile and may contaminate groundwater.
12.5. Results of PBT and vPvB assessment	
Xylene (1330-20-7)	
This substance/mixture does not meet the PBT/vPvB criteria of REACH, annex XIII.	
12.6. Other adverse effects	
Other adverse effects	: No data available.

SECTION 6: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Consult the local waste disposal expert about waste disposal. Do not empty into drains or the aquatic environment. Waste is to be kept separate from other types of waste until its disposal. Dispose of this material and its container to hazardous or special waste collection point. Disposal must be done according to official regulations.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No. : 1307

14.2. UN proper shipping name

Proper shipping name : XYLENES
Transport document description : UN 1307 XYLENES, 3, III, (D/E)

14.3. Transport hazard class(es)

Class (UN) : 3
Hazard labels (UN) : 3



14.4. Packing group

Packing group (UN) : III

14.5. Environmental hazards

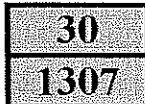
Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : No data available.

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 30
Classification code : F1
Orange plates :



Tunnel restriction code : D/E
Limited quantities (ADR) : LQ07

Xylene

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according to Regulation (EC) No. 453/2010

Excepted quantities (ADR)	: E1
14.6.2. Transport by sea	
Class	: 3 - Flammable liquids
14.6.3. Air transport	
Class	: 3 - Flammable liquids
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
IBC code	: No data available.

SECTION 15: Regulatory Information

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

15.1.1. EU-Regulations

No ingredients included in the REACH Candidate list

Other regulations, restrictions and prohibition regulations : Compliance with following regulations: Regulation (EC) 1907/2006 as amended. Regulation (EC) 1272/2008 as amended. Directive 67/548/EEC as amended. Directive 1999/45/EC as amended.

15.1.2. National regulations

Regional legislation : No data has been reported. In case of need contact our Product Safety office.

15.2. Chemical safety assessment

CSA has been completed. See Annex for Exposure Scenarios.

SECTION 16: Other Information

Sources of Key data	: PETROBRAS. MSDS.
Abbreviations and acronyms	: ASTM - American Society for Testing and Materials . CLP - Classification, Labelling and Packaging. CSR - Chemical Safety Report. EC - European Community. EEC - European Economic Community. GHS - Globally Harmonised System. REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals. SDS - Safety Data Sheet.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Asp. Tox. 1	Aspiration hazard Category 1
Garc. 1A	Carcinogenicity Category 1A
Eye Irrit. 2	Serious Eye Damage/Irritation Category 2
Flam. Liq. 2	flammable liquids Category 2
Flam. Liq. 3	flammable liquids Category 3
Muta. 1B	flammable liquids Category 1 flammable liquids Category 3
Skin Irrit. 2	skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled

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H335	May cause respiratory irritation
H340	May cause genetic defects
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R45	May cause cancer.
R46	May cause heritable genetic damage.
R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R65	Harmful: may cause lung damage if swallowed.

SDS PETROBRAS USES

The information presented in this Safety Data Sheet is based on current knowledge and is believed to be complete and accurate. It describes the product for the purposes of health, safety and environment requirements only and shall, therefore, be used only as a guide. The data refers to a specific product and may not be valid for combined uses with other products. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. Petrobras shall not be responsible for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices.