

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 15.08.2017

Version 1.2

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**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No. 108684

Product name p-Xylene for analysis EMSURE® ISO

REACH Registration Number 01-2119484661-33-XXXX

CAS-No. 106-42-3

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

Identified uses Reagent for analysis

For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

**1.3 Details of the supplier of the safety data sheet**

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

**1.4 Emergency telephone number** Please contact the regional company representation in your country.

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**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

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Flammable liquid, Category 3, H226

Acute toxicity, Category 4, Inhalation, H332

Acute toxicity, Category 4, Dermal, H312

Skin irritation, Category 2, H315

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H226 Flammable liquid and vapour.

H312 + H332 Harmful in contact with skin or if inhaled

H315 Causes skin irritation.

*Precautionary statements*

Prevention

P210 Keep away from heat.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

**Reduced labelling (≤125 ml)**

*Hazard pictograms*



*Signal word*

Warning

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*Index-No.* 601-022-00-9

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	C <sub>6</sub> H <sub>4</sub> -1,4-(CH <sub>3</sub> ) <sub>2</sub>	C <sub>8</sub> H <sub>10</sub> (Hill)
Index-No.	601-022-00-9	
EC-No.	203-396-5	
Molar mass	106,17 g/mol	

### Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
p-xylene (<= 100 % )		
106-42-3	01-2119484661-33-XXXX	Flammable liquid, Category 3, H226 Acute toxicity, Category 4, H332 Acute toxicity, Category 4, H312 Skin irritation, Category 2, H315

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

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After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration.  
Oxygen if necessary. Immediately call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/  
shower. Consult a physician.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in  
ophthalmologist if necessary. Remove contact lenses.

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary  
failure possible after aspiration of vomit. Call a physician immediately.

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

irritant effects

Dermatitis, Dizziness, agitation, spasms, euphoria, Headache, somnolence, narcosis

Drying-out effect resulting in rough and chapped skin.

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

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### *Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### *Further information*

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains. Risk of explosion.

### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### **6.4 Reference to other sections**

Indications about waste treatment see section 13.

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## **SECTION 7. Handling and storage**

### **7.1 Precautions for safe handling**

#### *Advice on safe handling*

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

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### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### *Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

## **7.2 Conditions for safe storage, including any incompatibilities**

### *Storage conditions*

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

## **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## **SECTION 8. Exposure controls/personal protection**

### **8.1 Control parameters**

### **8.2 Exposure controls**

#### **Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### **Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

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## *Eye/face protection*

Safety glasses

## *Hand protection*

full contact:

Glove material:	Viton (R)
Glove thickness:	0,70 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,40 mm
Break through time:	> 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 890 Vitoject® (full contact), KCL 730 Camatril® -Velours (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

## *Other protective equipment*

Flame retardant antistatic protective clothing.

## *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

## **Environmental exposure controls**

Do not let product enter drains.

Risk of explosion.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	characteristic
Odour Threshold	0,1 - 39,4 ppm
pH	No information available.
Melting point	13,3 °C
Boiling point/boiling range	138,4 °C at 1.013 hPa
Flash point	24 °C Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	Not applicable
Lower explosion limit	1,1 %(V)
Upper explosion limit	7 %(V)
Vapour pressure	8,7 hPa at 20 °C
Relative vapour density	3,7



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Density	0,86 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	0,2 g/l at 25 °C
Partition coefficient: n-octanol/water	log Pow: 3,15 (experimental) (Lit.) Bioaccumulation is not expected.
Auto-ignition temperature	No information available.
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	0,65 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none

**9.2 Other data**

Ignition temperature	540 °C
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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

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The Safety Data Sheets for catalogue items are available at [www.merckgroup.com](http://www.merckgroup.com)

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Risk of explosion with:

Strong oxidizing agents, conc. sulfuric acid, Nitric acid, uranium hexafluoride, sulfur

## 10.4 Conditions to avoid

Heating.

## 10.5 Incompatible materials

rubber, various plastics

## 10.6 Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

LD50 Rat: 3.910 mg/kg

(RTECS)

Symptoms: Risk of aspiration upon vomiting., Aspiration may cause pulmonary oedema and pneumonitis.

#### *Acute inhalation toxicity*

Symptoms: Inhalation may lead to the formation of oedemas in the respiratory tract.

#### *Acute dermal toxicity*

This information is not available.

#### *Skin irritation*

Rabbit

Result: Irritations

(IUCLID)

Drying-out effect resulting in rough and chapped skin. Dermatitis

Causes skin irritation.

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## *Eye irritation*

Rabbit

Result: slight irritation

(IUCLID)

## *Sensitisation*

This information is not available.

## *Germ cell mutagenicity*

### *Genotoxicity in vivo*

Mutagenicity (mammal cell test): micronucleus.

Result: negative

(IUCLID)

### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## 11.2 Further information

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After absorption:

Systemic effects:

Headache, somnolence, Dizziness, euphoria, agitation, spasms, narcosis

Effect potentiated by: ethanol

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

*Toxicity to fish*

LC50 *Oncorhynchus mykiss* (rainbow trout): 2,6 mg/l; 96 h  
(ECOTOX Database)

*Toxicity to daphnia and other aquatic invertebrates*

EC50 *Daphnia magna* (Water flea): 4,7 mg/l; 48 h  
(ECOTOX Database)

*Toxicity to algae*

IC50 *Pseudokirchneriella subcapitata* (green algae): 3,2 mg/l; 72 h  
(ECOTOX Database)

### 12.2 Persistence and degradability

*Theoretical oxygen demand (ThOD)*

3.125 mg/g

(Lit.)

### 12.3 Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 3,15

(experimental)

(Lit.) Bioaccumulation is not expected.

### 12.4 Mobility in soil

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## *Distribution among environmental compartments*

Adsorption/Soil

log Koc: 2,49

(experimental)

Moderately mobile in soils US-EPA

## **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

## **12.6 Other adverse effects**

*Henry constant*

699 Pa\*m<sup>3</sup>/mol

Method: (experimental)

(Lit.) Distribution preferentially in air.

Discharge into the environment must be avoided.

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## **SECTION 13. Disposal considerations**

### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## **SECTION 14. Transport information**

### **Land transport (ADR/RID)**

<b>14.1 UN number</b>	UN 1307
<b>14.2 Proper shipping name</b>	XYLENES
<b>14.3 Class</b>	3
<b>14.4 Packing group</b>	III
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
<b>Tunnel restriction code</b>	D/E

### **Inland waterway transport (ADN)**

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Not relevant

## Air transport (IATA)

14.1 UN number UN 1307  
14.2 Proper shipping name XYLENES  
14.3 Class 3  
14.4 Packing group III  
14.5 Environmentally hazardous --  
14.6 Special precautions for user no

## Sea transport (IMDG)

14.1 UN number UN 1307  
14.2 Proper shipping name XYLENES  
14.3 Class 3  
14.4 Packing group III  
14.5 Environmentally hazardous --  
14.6 Special precautions for user yes

EmS F-E S-D

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III  
Legislation FLAMMABLE LIQUIDS  
P5c  
Quantity 1: 5.000 t  
Quantity 2: 50.000 t

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Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

## *National legislation*

Storage class 3

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H226 Flammable liquid and vapour.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H332 Harmful if inhaled.

### Training advice

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Provide adequate information, instruction and training for operators.

## Labelling

### *Hazard pictograms*



### *Signal word*

Warning

### *Hazard statements*

H226 Flammable liquid and vapour.

H312 + H332 Harmful in contact with skin or if inhaled

H315 Causes skin irritation.

### *Precautionary statements*

Prevention

P210 Keep away from heat.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P313 Get medical advice/ attention.

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## Regional representation

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*