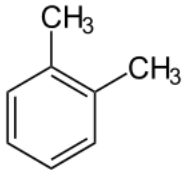



## GPS Safety Summary – ORTHO & PARA-XYLENE

### SUBSTANCE NAME

ORTHO-XYLENE, PARA-XYLENE

### CHEMICAL IDENTITY

Name	Synonyms	CAS number	EC number	Molecular formula	Structure
ortho-Xylene	o-Xylene, 1,2-Dimethylbenzene	95-47-6	202-422-2	C <sub>8</sub> H <sub>10</sub>	
para-Xylene	p-Xylene, 1,4-Dimethylbenzene	106-42-3	203-396-5	C <sub>8</sub> H <sub>10</sub>	

### USES AND APPLICATIONS

Ortho-Xylene and para-Xylene are mainly used as a synthesis intermediate or as a solvent by the chemical industry. Ortho-Xylene and para-Xylene may be present in some consumer products (such as coatings, agrochemicals, fuel).



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## PHYSICAL/CHEMICAL PROPERTIES

### Phys/Chem Safety Assessment

Property	Value
Physical state (at 20°C)	Liquid
Colour	Colourless
Odour	Aromatic
Density (at 20°C)	860-880kg/m <sup>3</sup>
Melting / boiling point	-25°C to 13°C/138°C to 144°C
Flammability	H226 - Flammable liquid and vapour
Explosive properties	Explosion limits (% vol) : upper = 7.0 ; lower = 1.0
Self-ignition temperature	> 460°C
Vapor pressure (at 20°C)	8.9 to 11.5hPa at 21.1°C
Mol weight	106 g/mol
Water solubility	Insoluble (146-171 mg/l at 25°C)
Flash point	27 to 32°C (ASTM D 92)
Octanol-water partition coefficient (LogKow) (at 20°C)	3.1-3.2
Viscosity	0.7 to 0.9 mm <sup>2</sup> /s

## HEALTH EFFECTS

### Human Health Safety Assessment

Effect Assessment	Result
Acute Toxicity	<u>Inhalation</u> : harmful by inhalation. High levels of exposure may cause headache , dizziness , nausea , confusion , loss of consciousness
	<u>Ingestion</u> : high level of exposure may cause digestive troubles , nausea, vomiting and diarrhoea
	<u>Skin Contact</u> : harmful in contact with skin
Local effect	<u>Irritating to skin</u> : may cause skin irritation and dermatitis due to the defatting properties of the product
	<u>Irritating to eyes</u> : Contact with the liquid or exposure to vapours can be irritating to eyes
	<u>Irritating to the respiratory tract</u> : high levels of exposure may cause respiratory irritation
Sensitisation	Not regarded as a sensitiser
Toxicity after repeated exposure	no significant toxic effects in animals after repeated exposure to high concentrations
Genotoxicity	Not -genotoxic
Carcinogenicity	Absence of carcinogenic effects on animals (oral route)
Reproductive toxicity	No adverse effects on fertility and not selectively toxic to the embryo/fetus
Aspiration hazard	In case of accidental swallowing, due to its low viscosity, the product may be aspired into the lung and induce a chemical pneumonitis developing over a few hours



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## ENVIRONMENTAL EFFECTS

### Environment Safety Assessment

Ortho-Xylene and para-Xylene are not acutely toxic to aquatic organisms. Ortho-Xylene and para-Xylene are insoluble in water and spread out on the surface of the water, even if a small fraction of the constituents may be dissolved. They are considered inherently biodegradable. In the atmosphere, the product is degraded quickly by photo-oxidation. The potential bioaccumulation of the product in environment is low to moderate. The product is not considered to be either persistent and bioaccumulative, nor very persistent and very bioaccumulative.

## EXPOSURE

### Human health

**Consumer:** Consumers may be exposed to ortho-Xylene and/or para-Xylene as a component of certain products (such as cleaning agents, coatings, and/or fuel). Based on model calculations, exposure will be below safe exposure levels as operation conditions and risk management measures recommended into the Safety Data Sheet (SDS) must be applied.

**Worker:** Ortho or para-Xylene is mainly used either in closed process with no likelihood of exposure or in closed continuous process with occasional situations where controlled exposure can occur. Workers may be exposed to ortho or para-Xylene during, for example, product transfer operations, product sampling, or maintenance/repair activities. Exposure is minimized as operation conditions and management measures recommended into the SDS must be applied.

### Environment

Exposure to the environment may take place during production of ortho or para-Xylene, formulation, distribution and when consumer used products containing ortho or para-Xylene. Based on model calculations and specific information from facilities manufacturing and using ortho or para-Xylene, ortho or para-Xylene would not pose concern for the environment as the risk management measures recommended into the SDS must be applied.



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## **RISK MANAGEMENT RECOMMENDATIONS**

Always handle the product in accordance with good industrial hygiene and safety procedures and apply risk management measures recommended into SDS. Workers must use appropriate Personal protective equipment (PPE) such as gloves, goggles, safety shoes, respiratory protective equipment, etc..., especially, during operations where emission may occur, like product transfer operations, product sampling, or maintenance/repair activities.

When using the product, avoid producing or diffusing fumes, vapour or spray into the air, avoid splashes, avoid contact with skin and eyes. As the product may form flammable / explosive vapor-air mixture, all possible sources of ignition must be removed. When using, do not eat, drink or smoke. If swallowed, rinse mouth with water, and do not induce vomiting. In case of eye or skin contact, rinse immediately with plenty of water, for at least 15 minutes, and get medical advice.

Specific risk management measures are reported for each identified use in the SDS.

## **STATE AGENCY REVIEW**

- This substance has been registered under REACH (EC) 1907/2006.
- This substance has been evaluated under OECD HPV program.

## **REGULATORY INFORMATION / CLASSIFICATION AND LABELLING**

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the SDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according CLP (EC) 1272/2008.



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### **Classification of the substance**

**EC-GHS (CLP)** Classification according to the regulation EC 1272/2008 (EC-GHS) and ATP

Flam. Liq. 3  
Asp. Tox. 1  
Acute Tox. 4  
Skin Irrit. 2  
Eye Irrit. 2  
STOT SE 3

Pictogram(s) GHS02, GHS07, GHS08



### **H Phrase(s)**

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.



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### **P Phrase(s)**

P201 - Obtain special instructions before use.

P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P243: Take precautionary measures against static discharge.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301/310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331 - Do NOT induce vomiting.

P303/361/353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P309/311 - IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

P403/235 - Store in a well-ventilated place. Keep cool.

## **CONCLUSION**

- Ortho- or para-Xylene are mainly used as a synthesis intermediate or as solvent. They may be present in some consumer products (such as coating, fuel, agrochemicals).
- Short exposure to high concentration of ortho- or para-Xylene by inhalation, ingestion or skin contact, may cause toxic effects -
- Exposure to humans and the environment is considered low if properly handled.

## **CONTACT INFORMATION WITHIN COMPANY**

For further information on this substance or product safety summaries in general, please contact:  
[pch.reach@total.com](mailto:pch.reach@total.com)

Or visit the ICCA portal on: <http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

## GLOSSARY

Acute Toxicity	Harmful effect resulting from a single or short term exposure to a substance
Biodegradation	Decomposition or breakdown of a substance under natural conditions (actions of micro organisms etc)
Bioaccumulation	Progressive accumulation in living organisms of a chemical substance present in the environment
Carcinogenicity	Ability of a substance to cause cancer
Genotoxicity	Ability of a substance effect to cause damage to genes
GHS	Global Harmonized System of chemicals classification
Hazard	Inherent substance property bearing a threat to health or environment
Persistence	Refers to the length of time a compound stays in the environment, once introduced
Reprotoxicity	Ability of a substance to cause fertility impairment and/or damage to the foetus or newborn and/or malformation of the newborn
Sensitising	Allergenic

## DISCLAIMER

The information contained in this paper is intended as basic advice and general information to this designated specific product (substance) only and whilst this information is provided in utmost good faith and has been based on the best information to our belief and to our knowledge currently available, it is to be relied upon at the user's own risk. The information in this paper is not intended to provide medical or medical emergency response information, nor treatment information; all detailed safety and health information is to be found in the Safety Data Sheets (SDS) for the product (substance) concerned and to be consulted before use of this product (substance). The information in this Safety Summary is not replacing the SDS and is not automatically applicable if this product (substance) is used with other products (substances) or in other processes.

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