

# SAFETY DATA SHEET

Page 1 / 9

Creation Date 24-Mar-2014

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Version 2

## p-Xylene

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

**Product Description:** p-Xylene  
**Synonyms** 1,4-Dimethylbenzene  
**CAS-No** 106-42-3  
**Molecular Formula** C8 H10

**Supplier** ROSS CHEM COMPANY LIMITED  
No. 227.NanYi Road, Dongying City, Shandong Province, China 257091  
Office Tel: +86 546 8275057  
Office Fax: +86 546 8275058

**Emergency Telephone Number** +86 546 8275057

**E-mail address** info@rosschem.com

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Liquid

**Appearance**  
Colorless

**Odor**  
aromatic

#### Emergency Overview

Highly flammable liquid and vapor. May be harmful if swallowed. May be fatal if swallowed and enters airways. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

#### Classification of the substance or mixture

Flammable liquids.	Category 3
Aspiration Toxicity	Category 1
Acute Oral Toxicity	Category 5
Acute Dermal Toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity - (single exposure)	Category 3
Chronic aquatic toxicity	Category 3

# SAFETY DATA SHEET

## p-Xylene

Page 2 / 9  
Revision Date 02-Feb-2021

### Label Elements



Signal Word

Danger

### Hazard Statements

H226 - Flammable liquid and vapor  
H303 - May be harmful if swallowed  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
H412 - Harmful to aquatic life with long lasting effects  
H312 + H332 - Harmful in contact with skin or if inhaled

### Precautionary Statements

#### Prevention

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P240 - Ground/bond container and receiving equipment  
P241 - Use explosion-proof electrical/ ventilating/ lighting equipment  
P242 - Use non-sparking tools  
P243 - Take precautionary measures against static discharge  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed 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  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

#### Response

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 - Call a POISON CENTER or doctor/physician if you feel unwell  
P331 - Do NOT induce vomiting  
P363 - Wash contaminated clothing before reuse  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

#### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

#### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

### Physical and Chemical Hazards

Highly flammable. Vapors may cause flash fire or explosion.

### Health Hazards

May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation.

### Environmental hazards

Harmful to aquatic life with long lasting effects. Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility. Spillage unlikely to penetrate soil. The product is insoluble and floats on water. The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

### Other Hazards

# SAFETY DATA SHEET

p-Xylene

Page 3 / 9  
Revision Date 02-Feb-2021

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
p-Xylene	106-42-3	>95

## SECTION 4. FIRST AID MEASURES

### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

### Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Risk of serious damage to the lungs (by aspiration).

### Ingestion

Aspiration hazard. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.

### Most important symptoms and effects

Difficulty in breathing. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

### Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### Notes to Physician

Treat symptomatically.

## SECTION 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

### Extinguishing media which must not be used for safety reasons

Water may be ineffective.

### Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing.

### Environmental Precautions

# SAFETY DATA SHEET

p-Xylene

Page 4 / 9  
Revision Date 02-Feb-2021

Avoid release to the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Collect spillage.

## Methods for Containment and Clean Up

Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7. HANDLING AND STORAGE

### Handling

Use only under a chemical fume hood. Use spark-proof tools and explosion-proof equipment. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only non-sparking tools.

### Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area.

### Specific Use(s)

Use in laboratories

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	China	Taiwan	Hong Kong	The United Kingdom
p-Xylene	TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 434 mg/m <sup>3</sup>	-	STEL: 100 ppm 15 min STEL: 441 mg/m <sup>3</sup> 15 min TWA: 50 ppm 8 hr TWA: 220 mg/m <sup>3</sup> 8 hr Skin

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	European Union
p-Xylene	TWA: 100 ppm STEL: 150 ppm		IDLH: 900 ppm TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 150 ppm STEL: 655 mg/m <sup>3</sup>	TWA: 50 ppm (8h) TWA: 221 mg/m <sup>3</sup> (8h) STEL: 100 ppm (15min) STEL: 442 mg/m <sup>3</sup> (15min) Skin

### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

### Exposure Controls

#### Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

#### Personal protective equipment

##### Eye Protection

Goggles (European standard - EN 166)

# SAFETY DATA SHEET

p-Xylene

Page 5 / 9  
Revision Date 02-Feb-2021

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers recommendations	-	EN 374	(minimum requirement)
Neoprene				
Natural rubber				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141  
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colorless	
<b>Physical State</b>	Liquid	
<b>Odor</b>	aromatic	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	Not applicable	
<b>Melting Point/Range</b>	13 °C / 55.4 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	138 °C / 280.4 °F	
<b>Flash Point</b>	25 °C / 77 °F	<b>Method</b> - No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	<b>Lower</b> 1.1 Vol%	
	<b>Upper</b> 7 Vol%	
<b>Vapor Pressure</b>	8 mbar @ 20 °C	
<b>Vapor Density</b>	3.7 (Air = 1.0)	(Air = 1.0)
<b>Specific Gravity / Density</b>	0.866	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	0.2 g/L (20°C)	practically insoluble
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		

# SAFETY DATA SHEET

## p-Xylene

<b>Component</b>	<b>log Pow</b>	
p-Xylene	3.15	
<b>Autoignition Temperature</b>	465 °C / 869 °F	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	0.648 mPa.s (20°C)	
<b>Explosive Properties</b>		explosive air/vapour mixtures possible
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	C8 H10	
<b>Molecular Weight</b>	106.17	

### SECTION 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Hazardous Reactions</b>	None under normal processing.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
<b>Materials to avoid</b>	Strong oxidizing agents. Strong acids. Strong bases.
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Aldehydes.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Product Information

##### (a) acute toxicity;

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
p-Xylene	LD50 = 4029 mg/kg ( Rat )		LC50 = 4740 ppm ( Rat ) 4 h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

<b>Respiratory</b>	No data available
<b>Skin</b>	No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;  
**Reproductive Effects**  
**Developmental Effects**  
**Teratogenicity**

No data available  
 Experiments have shown reproductive toxicity effects on laboratory animals.  
 Developmental effects have occurred in experimental animals.  
 Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure; Category 3

# SAFETY DATA SHEET

## p-Xylene

<b>Results / Target organs</b>	Respiratory system
<b>(i) STOT-repeated exposure;</b>	No data available
<b>Target Organs</b>	No information available.
<b>(j) aspiration hazard;</b>	Category 1
<b>Other Adverse Effects</b>	See actual entry in RTECS for complete information
<b>Symptoms / effects,both acute and delayed</b>	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Do not empty into drains. The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Contains a substance which is: Toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
p-Xylene	LC50: = 8.8 mg/L, 96h semi-static (Poecilia reticulata) LC50: = 2.6 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 2.6 mg/L, 96h (Oncorhynchus mykiss) LC50: 7.2 - 9.9 mg/L, 96h static (Pimephales promelas)	EC50: 3.55 - 6.31 mg/L, 48h Static (Daphnia magna)	EC50: = 3.2 mg/L, 72h static (Pseudokirchneriella subcapitata)	EC50 = 5.7 mg/L 30 min

**Persistence and Degradability** Expected to be biodegradable  
**Persistence** Insoluble in water, Persistence is unlikely, based on information available.  
**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Bioaccumulative Potential** May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
p-Xylene	3.15	2.2

**Mobility in soil** Spillage unlikely to penetrate soil The product is insoluble and floats on water The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Is not likely mobile in the environment due its low water solubility Will likely be mobile in the environment due to its volatility

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors  
**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

### SECTION 13. DISPOSAL CONSIDERATIONS

**Waste from Residues/Unused Products** Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

# SAFETY DATA SHEET

## p-Xylene

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

**Other Information** Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

### SECTION 14. TRANSPORT INFORMATION

#### Road and Rail Transport

UN-No UN1307  
 Proper Shipping Name XYLENES  
 Hazard Class 3  
 Packing Group III

#### IMDG/IMO

UN-No UN1307  
 Proper Shipping Name XYLENES  
 Hazard Class 3  
 Packing Group III

#### IATA

UN-No UN1307  
 Proper Shipping Name XYLENES  
 Hazard Class 3  
 Packing Group III

**Special Precautions for User** No special precautions required

### SECTION 15. REGULATORY INFORMATION

#### **International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Australia (AICS), Korea (ECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	Taiwan Toxic Chemicals Inventory	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	AICS	KECL
p-Xylene	X	-	X	X	203-396-5	X	X	X	X	X	KE-35430

#### **National Regulations**

### SECTION 16. OTHER INFORMATION



# SAFETY DATA SHEET

p-Xylene

Page 9 / 9  
Revision Date 02-Feb-2021

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<b>Prepared By</b>	Health, Safety and Environmental Department
<b>Creation Date</b>	24-Mar-2014
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<b>Revision Summary</b>	SDS authoring systems update, replaces ChemGes SDS No. 106-42-3.

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

## Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** (volatile organic compound)

## Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**