SAFETY DATA SHEETS

According to the UN GHS revision 10

1: Identification

1.1 GHS Product identifier

Product name	P-Xylene

1.2 Other means of identification

Product number	106-42-3
Other names	P-Xylene

1.3 Recommended use of the chemical and restrictions on use

Identified uses	Industrial and scientific research use.
Uses advised against	no data available

1.4 Supplier's details

Company	MolBest.com
Address	MolBest.com
Telephone	MolBest.com

1.5 Emergency phone number

Emergency phone number	MolBest.com
Service hours	MolBest.com

2: Hazard identification

2.1 Emergency Overview

It is highly corrosive and can cause irreversible damage to the skin and eyes. If in contact, rinse immediately with plenty of water and seek medical help as soon as possible.

2.2 GHS Classification

Flammable liquids : Category 3
Aspiration hazard : Category 1
Acute toxicity, dermal; acute toxicity, inhalation : Category 4
Acute toxicity, dermal : Category 4
Skin corrosion/irritation : Category 2
Serious eye damage/eye irritation : Category 2A
Acute toxicity, inhalation : Category 4
Specific target organ toxicity, single exposure; Respiratory tract irritation : Category 3
Hazardous to the aquatic environment, long-term hazard : Category 3

2.3 GHS label elements, including precautionary statements

Pictogram(s)

Signal word	Danger
Hazard statement(s)	H226 Flammable liquid and vapor
	H304 May be fatal if swallowed and enters airways
	H312+H332 Harmful in contact with skin or if inhaled
	H312 Harmful in contact with skin
	H315 Causes skin irritation
	H319 Causes serious eye irritation
	H332 Harmful if inhaled
	H335 May cause respiratory irritation
	H412 Harmful to aquatic life with long lasting effects
Precautionary statement(s)	
Prevention	P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.
	P233 Keep container tightly closed.
	P240 Ground/bond container and receiving equipment.
	P241 Use explosion-proof [electrical/ventilating/lighting/.../] equipment.
	P242 Use only non-sparking tools.
	P243 Take precautionary measures against static discharge.
	P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
	P264 Wash hands [and ...] thoroughly after handling.
	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/hearing protection/...
	P264+P265 Wash hands [and ...] thoroughly after handling. Do not touch eyes.
Response	P317 Get emergency medical help.
	P319 Get medical help if you feel unwell.
	P321 Specific treatment (see ... on this label).
	P331 Do NOT induce vomiting.
	P301+P316 IF SWALLOWED,Get emergency medical help immediately.
	P302+P352 IF ON SKIN,wash with plenty of water/...
	P303+P361+P353 IF ON SKIN (or hair),Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
	P304+P340 IF INHALED,Remove person to fresh air and keep 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.
	P332+P317 If skin irritation occurs,Get medical help.
	P337+P317 If eye irritation persists,Get medical help.
	P362+P364 Take off contaminated clothing and wash it before reuse.
	P370+P378 In case of fire,Use ... to extinguish.
Storage	P405 Store locked up.
	P403+P233 Store in a well-ventilated place. Keep container tightly closed.
	P403+P235 Store in a well-ventilated place. Keep cool.

Disposal P501 Dispose of contents/container to ...

2.4 Physical and chemical

Acidic or alkaline substances that react with metals to produce flammable hydrogen. May cause violent exothermic reactions when in contact with other substances. At high concentrations, they have strong oxidizing or reducing properties.

2.5 Health hazards

Skin contact: May cause severe burns, tissue necrosis, and scarring. Eye contact: May cause corneal damage, vision loss, or even blindness. Inhalation of vapor or mist may cause respiratory burns and pulmonary edema.

2.6 Environmental hazards

Leakage into the environment can change the pH value of soil and water, causing serious ecological damage. It is highly toxic to aquatic organisms and can cause the death of aquatic organisms and the collapse of the ecosystem.

2.7 Other hazards which do not result in classification

no data available

3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
P-Xylene	P-Xylene	106-42-3	203-396-5	99%

4: First-aid measures

4.1 General advice

Stop contact immediately and remove contaminated clothing; rinse the exposed area with plenty of running water and seek medical attention immediately with the material's SDS. If the corrosive substance is acidic (such as sulfuric acid), neutralize it with a weak alkaline solution (such as 5% sodium bicarbonate) after rinsing. For alkaline corrosive substances (such as sodium hydroxide), neutralize them with a weak acidic solution (such as 1% acetic acid).

4.2 If inhaled

Move to fresh air and keep the airway open. If corrosive vapors (such as hydrochloric acid mist) are inhaled, immediately administer nebulized inhalation (normal saline + dexamethasone). If laryngeal edema or breathing difficulties occur, immediately perform a tracheotomy (requires professional operation) and seek medical attention.

4.3 In case of skin contact

Rinse with plenty of running water for 20-30 minutes (make sure to rinse thoroughly, especially between the fingers, in the armpits, and other folds). If blisters are present, do not prick them; instead, apply a sterile gauze compress (to avoid adhesion). Do not apply oily ointments to avoid affecting subsequent treatment.

4.4 In case of eye contact

Immediately flush with an eyewash or plenty of normal saline for 15-20 minutes (use a gentle flow to avoid direct exposure to the cornea); apply antibiotic eye ointment (such as erythromycin ointment) to the eyelids, wear a sterile eye patch, and seek immediate medical attention from an ophthalmologist.

4.5 If swallowed

Do not induce vomiting (to avoid secondary damage to the esophageal mucosa). If the substance is acidic, take milk or egg white orally (to protect the gastric mucosa). If the substance is alkaline, take diluted vinegar (1:10 ratio) orally. If you carry SDS, seek medical attention immediately for a gastroscopy.

4.6 Most important symptoms and effects, both acute and delayed

Acute symptoms: skin redness, swelling, blisters, ulcers, severe eye pain, photophobia, blurred vision, oral/esophageal burns, and difficulty swallowing; long-term effects: skin scarring, corneal scarring (possibly causing blindness), and esophageal stenosis.

4.7 Protection of first-aiders

Rescuers must wear corrosion-resistant chemical protective clothing, chemical protective gloves (made of fluororubber), chemical goggles and masks; stand upwind when flushing to avoid inhaling volatile corrosive gases; after contact, equipment must be cleaned with a neutralizer and then rinsed with clean water.

4.8 Notes to physician

Inform the doctor of the type of corrosive agent (acid/base), concentration, and duration of contact. Skin burns should be treated according to their depth (superficial II degree and above require skin grafting). Eye injuries should be checked for corneal epithelial integrity and, if necessary, corneal repair drugs (such as recombinant human epidermal growth factor) should be used.

5: Fire-fighting measures

5.1 Unsuitable extinguishing media

Flammable liquids (flash point 23-60°C): Avoid using high-pressure water (diffusing liquids); Flammable solids: Do not use water (some solids release heat when in contact with water, such as sulfur); Aerosols: Do not squeeze leaking tanks (explosion prevention).

5.2 Specific hazards during fire fighting

The combustion of flammable liquids produces a large amount of vapor, which can easily form a flowing fire; the combustion of flammable solids can easily produce toxic smoke and dust (such as plastics); aerosol cans can easily rupture and explode when heated, spraying flames.

5.3 Hazardous combustion products

Carbon monoxide, carbon oxides, organic vapors (such as benzene, toluene); combustion of some solids releases hydrogen chloride and cyanide (when containing chlorine/cyanide components).

5.4 Specific extinguishing methods

Flammable liquids: Use dry powder/foam (ordinary foam) for small areas, and cover large areas with foam + firebreaks to intercept (to prevent flow); Flammable solids: Cover with dry powder/dry sand to avoid wind (to prevent dust from intensifying combustion); Aerosols: Remove surrounding fire sources before extinguishing the fire, use dry powder to extinguish the fire, and it is strictly forbidden to touch the leaking tank.

5.5 Special protective equipment for fire-fighters

Wear fire-resistant clothing, chemical-resistant gloves, and a half-mask respirator (equipped with a vapor filter cartridge); carry a temperature detector (to monitor the tank temperature); and maintain a safe distance of 10 meters from the fire scene during operation.

6: Accidental release measures

6.1 Protective measures for workers

Wear anti-static work clothes, anti-static gloves, and chemical goggles; wear a gas mask (organic vapor filter cartridge) for gases/volatile liquids; wear impact protection for aerosols.

6.2 Environmental protection measure

Liquids/aerosols are prevented from flowing into sewers/rivers, and oil booms + oil absorbent cotton are used to pollute water bodies; gas leaks are monitored for concentration to prevent them from spreading to residential areas; solids are prevented from dust polluting the soil.

6.3 Containment methods for leaked chemicals

Gas: Shut off the leak source (when safe), and use explosion-proof fan to lead the leak to an open area; Liquid: Collect in anti-static container; Solid: Put non-sparking tools into anti-static container; Aerosol: Collect the leaked tank (no squeezing).

6.4 Cleanup methods for chemical spills

Liquid: absorb with a small amount of oil-absorbing cotton and transfer with a large amount of explosion-proof pump; Solid: transfer with spark-free tools (to prevent friction); Aerosol: leaking tanks are collected separately and disposed of professionally.

6.5 Measures to prevent the spread of leaks

Designate a 10-meter isolation zone and prohibit open flames/static equipment; set up fire barriers for liquids and anti-static isolation belts for gases; use explosion-proof ventilation to reduce concentration (explosion limit).

6.6 Container leakage treatment

Gas: Minor leaks should be sealed with anti-static sealant, serious leaks should be transferred after pressure relief; Liquid: Anti-static sealant should be used to seal, serious leaks should be transferred with explosion-proof pump; Aerosol: Do not squeeze, wrap in sealed bag.

6.7 Special considerations

Eliminate static electricity before operation; provide good ventilation to prevent gas accumulation; perform anti-static testing on tools; clean protective equipment and perform anti-static testing after leak treatment.

7: Handling and storage

7.1 Safe storage conditions

Store in a corrosion-resistant warehouse (the floor is epoxy resin coated, and the walls are acid/alkali-resistant tiles); the container is made of corrosion-resistant material (glass fiber reinforced plastic for acid corrosion, high-density polyethylene for alkaline corrosion), with a capacity of ?200L to prevent dumping; the warehouse is equipped with an emergency neutralization tank (volume ?5m³) and equipped with acid/alkali neutralizers (such as sodium carbonate, dilute acetic acid).

7.2 Storage precautions

Store them separately from materials that may come into contact with the skin (such as clothing and gloves) to avoid cross contamination. Use a corrosion-resistant forklift to transport containers and avoid impact. Check the humidity in the warehouse daily (?65%) to prevent moisture from exacerbating corrosion. In case of leakage, immediately absorb it with inert materials (such as sand) and then treat it with a neutralizer.

7.3 VCI Storage Grade

Level 2 (medium-high): Metal pipes and valves are coated with VCI anti-rust paint (acid/alkali resistant type) and maintained once every six months; VCI anti-rust blocks (such as urethane) are placed in the warehouse and replenished once every quarter to prevent corrosion of metal parts.

7.4 Recommended storage temperature

5-35?, avoid sudden temperature changes (such as moving directly from a low temperature environment to a high temperature environment); concentrated acids/bases must be kept at a temperature ?30? to prevent temperature increases from causing increased container pressure; in winter, they must be protected from freezing (temperature ?5?) to prevent the solution from freezing and cracking the container (if the label has a recommended storage temperature, follow the label).

7.5 Handling

For precautions see Safety Data Sheet section 2
Advice on safe handling : Work under hood. Do not inhale substance/mixture.

8: Exposure controls/personal protection

8.1 Respiratory protection

When exposed to corrosive vapors (such as hydrochloric acid mist and sulfuric acid mist), wear a powered air-purifying respirator (APF?50); in high-concentration environments, a positive pressure air respirator is required to avoid inhalation burns to the respiratory tract.

8.2 Recommended Filter type

For acidic corrosive substances, choose Type E filter cartridge (protects against acidic gases such as SO? and HCl); for alkaline corrosive substances, choose Type K filter cartridge (protects against ammonia and amines); if the product contains dust, add Type P2 filter cotton.

8.3 Eye/face protection

Wear chemical protective goggles + full-face mask. The mask must cover the chin. The lens should be made of polycarbonate (corrosion-resistant and impact-resistant). Check the sealing regularly.

8.4 Skin and body protection

Wear corrosion-resistant chemical protective clothing made of fluororubber or polytetrafluoroethylene (PTFE) to avoid direct skin contact; wear an apron (of the same material) with protection covering the chest to the knees.

8.5 Hand protection

Wear corrosion-resistant gloves. For acid corrosion, choose neoprene material; for alkaline corrosion, choose nitrile rubber material. The thickness of the gloves should be ?0.5mm. Perform a water leakage test before use.

8.6 Hygiene measures

Immediately after the operation, rinse the skin with running water for 10 minutes. If there is stinging at the contact site, apply a neutralizer (5% sodium bicarbonate for acid and 1% acetic acid for alkali) for 5 minutes. Do not use irritating skin care products to avoid aggravating skin damage.

9: Physical and chemical properties and safety characteristics

Physical state	colourless liquid
Colour	Colorless plates or prisms at low temp
Odour	Sweet
Melting point/freezing point	13-13oC
Boiling point or initial boiling point and boiling range	138°C(lit.)
Flammability	Class IC Flammable Liquid: Fl.P. at or above 22.78°C and below 37.78°C.Flammable.
Lower and upper explosion limit/flammability limit	% by vol: lower 1.1; upper 7.0
Flash point	25°C
Auto-ignition temperature	528.89°C
Decomposition temperature	Hazardous decomposition products formed under fire conditions - Carbon oxides.
pH	no data available
Kinematic viscosity	0.603 mPa.s at 25°C
Solubility	Insoluble.

Partition coefficient n-octanol/water	log Kow = 3.15
Vapour pressure	7.943mmHg at 25°C
Density and/or relative density	0.861g/mLat 20°C(lit.)
Relative vapour density	3.7 (vs air)
Particle characteristics	no data available

10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

As a result of flow, agitation, etc., electrostatic charges can be generated.P-XYLENE may react with oxidizing materials. . Acetic acid forms explosive mixtures with p-xylene and air (Shraer, B.I. 1970. Khim. Prom. 46(10):747-750.).

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible materials: Strong oxidizing agents.

10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

11: Toxicological information

11.1 Acute toxicity

Oral: LD50 Rat oral 4029 mg/kg bw
Inhalation: LC50 Mouse inhalation 3900 ppm for 6 hr exposure.
Dermal: no data available

11.2 Skin corrosion/irritation

no data available

11.3 Serious eye damage/irritation

no data available

11.4 Respiratory or skin sensitization

no data available

11.5 Germ cell mutagenicity

no data available

11.6 Carcinogenicity

Evaluation: There is inadequate evidence in humans for the carcinogenicity of xylenes. There is inadequate evidence in experimental animals for the carcinogenicity of xylenes. Overall classification: Xylenes are not classifiable as to their carcinogenicity to humans (Group 3)./Xylenes, o,m,p isomers/

11.7 Reproductive toxicity

no data available

11.8 STOT-single exposure

no data available

11.9 STOT-repeated exposure

no data available

11.10 Aspiration hazard

no data available

12: Ecological information

12.1 Toxicity

Toxicity to fish: LC50; Species: Oncorhynchus mykiss (Rainbow trout); Conditions: freshwater, renewal, 12°C, dissolved oxygen >or =80%; Concentration: 2600 ug/L for 96 hr
Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea); Conditions: freshwater, static; Concentration: 3600 ug/L for 24 hr; Effect: intoxication, immobilization
Toxicity to algae: EC50; Species: Pseudokirchneriella subcapitata (Green algae); Conditions: freshwater, static; Concentration: 3200 ug/L for 72 hr; Effect: growth, general
Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: In general, it has been found that 4-xylene is biodegraded in soil and groundwater samples under aerobic conditions(1). Using a standard BOD dilution technique and a sewage inoculum, a 44% of theoretical BOD was observed over a 5 day incubation period(2). Over 88% of an initial influent concentration of 24.0 ug/L was biodegraded by an activated sludge plant treating municipal wastewater(3) over a 5 day operation period. A jet fuel acclimated aquifer mineralized 70-80% of a 4-xylene sample under denitrifying conditions over a 55 day incubation period(4). A coarse sand aquifer removed 52-100% of 4-xylene from contaminated groundwater under natural aerobic conditions over a 13 day incubation period(5). A 0.15 mM sample of 4-xylene was completely degraded in a diesel fuel acclimated aquifer during an 11 day incubation period(6). Complete biodegradation of a groundwater sample of 4-xylene, 85 ug/L, in an activated sand aquifer was observed within 110 days(7). The degradation rate constant for 4-xylene in an activated sand aquifer was measured as 0.038/day(7). The degradation rate constant of 4-xylene measured in the Columbus Air Force Base aquifer, Columbus, MS was 0.0107/days(8). Xylene (mixed isomers), present at 100 mg/L, reached 100% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test which classified xylene as readily biodegradable(9). Using OECD Guideline 301F (Ready Biodegradability: Manometric Respirometry Test) with non-adapted activated sludge inoculum, 4-xylene (41 mg/L) reached 68% of its theoretical BOD in 10 days and 87.8% in 28 days which classified 4-xylene as readily biodegradable(10). In a different OECD Guideline 301F study using a mixture of sewage, soil and natural water inoculum, 4-xylene reached 90% of its O2 consumption in 28 days which classified it as readily biodegradable(10). 3-/4-Xylene, present at 50 mg/L, reached 85% of its theoretical BOD in 14 days during a 28-day BOD test(11).

12.3 Bioaccumulative potential

Experimental BCF values of 15(1,2) and 19(3) have been reported for fish for 4-xylene. Rainbow trout (Oncorhynchus mykiss) exposed to xylene (emulsified in aquatic weed control) for 56 days in a flow-through system had a maximum BCF of 25.9(4). According to a classification scheme(5), these BCF values suggest the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

Koc values of 246 and 540 have been measured for 4-xylene in silt and sandy loam soils respectively(1). A Koc value of 204 was measured for 4-xylene using sandy aquifer materials(2). A median experimental Koc value of 295 has also been reported(3). According to a classification scheme(4), these Koc values suggest that 4-xylene is expected to have moderate to low mobility in soil. A soil leaching column study estimated a 4-xylene Koc of 331 using a chromatographic methodology(5). Another soil column leaching study estimated a Koc range of 118-298 based on HPLC measurement(6).

12.5 Other adverse effects

no data available

13: Disposal considerations

13.1 Disposal methods for waste chemicals

Acidic corrosives can be treated with alkaline neutralizers (such as sodium carbonate) until neutralized and then disposed of as ordinary waste. Alkaline corrosives can be treated with acidic neutralizers (such as dilute hydrochloric acid) until neutralized and then disposed of. Those that cannot be neutralized must be incinerated at high temperature or chemically decomposed by a professional unit. The container must be thoroughly cleaned before being disposed of.

13.2 Precautions

Neutralization reactions must be conducted in well-ventilated, dedicated facilities, with the reaction rate controlled to prevent splashing. Disposal personnel must wear corrosion-resistant protective gear. The pH value of the neutralized waste must be controlled between 6 and 9. Direct disposal of unneutralized corrosive materials is prohibited. Emergency pools must be established at the disposal site to prevent leakage and contamination.

14: Transport information

14.1 UN Number

ADR/RID: UN1307	IMDG: UN1307	IATA: UN1307

14.2 UN Proper Shipping Name

ADR/RID: XYLENES	IMDG: XYLENES	IATA: XYLENES

14.3 Transport hazard class(es)

ADR/RID: 3	IMDG: 3	IATA: 3

14.4 Packing group, if applicable

ADR/RID: III	IMDG: III	IATA: III

14.5 Environmental hazards

ADR/RID: no	IMDG: no	IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
P-Xylene	P-Xylene	106-42-3	203-396-5
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Australian Inventory of Industrial Chemicals (AIIC)			Not Listed.
Catalogue of Strictly Restricted Toxic Chemicals in China			Not Listed.
China Catalog of Hazardous chemicals 2015			Listed.
European INventory of Existing Commercial chemical Substances			Not Listed.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			Not Listed.
TSCA Inventory of Chemical Substances			Listed.

16: Other information

Information on revision

SDS Creation Date	July 1, 2025
SDS Revision Date	July 1, 2025

Abbreviations and acronyms in SDS

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

SDS References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Any questions regarding this Safety Data Sheet, Please send your inquiry to info@MolBest.com

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