

Product Name:

**PX  
(Paraxylene)**

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/ UNDERTAKING**

**Identification of the substance or preparation:**

**MDL information system INC.**

**1281 Murfreesboro road suite 300 Nashville**

**Country of origin:**

**Iran (Islamic Republic of Iran)**

**CAS Number:**

**106-42-3**

**Synonyms:**

**Benzene; 1,4-dimethyl; P-di methyl Benzene; 1,4-dimethylebenzene**

**P-methyl toluene; 4-methyltoluene; 1,4-xylene P-Xylol; Xylene**

**P-phenylenebis (methylene) RCRA U239 STCC  
4909351 UN 1307 C8H10, OHS17940, RTECS  
ZE2625000**

**Company/undertaking identification**

**National Petrochemical Company**

**Iran Petrochemical Commercial Company (IPCC)**

**None**

**00982188881735**

**msds@petrochem-ir.net**

**00982188839511**

**None**

**Manufacturer subcontractor:**

**Xylene and the individual isomers are primarily man-made chemicals .p-xylene is used as a chemical intermediate for the synthesis of terephthalic acid for polyester resins and fibers; as a chemical intermediate in the manufacture of plastics,vitamin and pharmaceutical synthesis and insecticide ; and as a solvent for adhesives and coating.**

**Emergency phone number:**

**Contact email:**

**Fax:**

**Association/Organization:**

**Use of the substance/Preparation:**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

**Hazardous substances:**

**NFPA ratings (scale 0-4): health=2**

**Fire=3 reactivity=0**

**Hazardous label(s):**

**DANGER! HARMFUL OR FATAL IF SWALLOWED. VAPOR HARMFUL. AFFECTS CENTRAL NERVOUS SYSTEM. CAUSES SEVERE EYE IRRITATION. CAUSES IRRITATION TO SKIN AND RESPIRATORY**



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**TRACT. MAY BE HARMFUL IF ABSORBED  
THROUGH SKIN. CHRONIC EXPOSURE CAN  
CAUSE ADVERSE LIVER, KIDNEY, AND  
BLOOD EFFECTS. FLAMMABLE LIQUID AND  
VAPOR.**

See section 11

N/A

Percentage: 100.0

### Toxicological characteristics:

Substances present at a concentration  
below the minimum danger:

Other component:

### 3. IDENTIFICATION OF HAZARDS

Risk phrases:

Warning! Flammable .Causes eye and skin irritation.  
Can be harmful if high concentrations are inhaled.  
Harmful or fatal if liquid is aspirated into lungs.

Skin contact:

Short term exposure: rash

Long term exposure: blurred vision

Eye contact:

Short term exposure: Irritation (Possibly severe )

Long term exposure :Blurred vision

If swallowed:

Short term exposure: digestive disorders, symptoms  
of drunkenness, lung congestion, kindly damage, liver  
damage.

Other information:

**Major health hazards: respiratory tract irritation skin  
irritation; eye irritation; central nervous system  
depression.**

**Physical hazard: flammable liquid and vapour.  
Vapour may cause flash fire electrostatic charges may  
be generated by flow agitation etc.**

### 4. FIRST AID MEASURES

**As a general rule, in case of doubt or if symptoms persist, always call a doctor  
NEVER induce swallowing in an unconscious person.**

**Skin contact :**

Take off contaminated clothing and shoes. Wash immediately with  
plenty of water at least 15 minutes. Get medical attention.  
An eye wash fountain·safety shower and general washing  
facility must be available to work area

**In case of exposure by  
inhalation:**

if adverse effects occur remove to uncontaminated area give  
artificial respiration if not breathing. If breathing is difficult



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oxygen should be administered by qualified personnel. Get immediate medical attention.

**In case of splashes or contact with eyes:**

Flush eyes with plenty of water for at least 15 minute. Then get immediate medical attention.

**In case of swallowing:**  
**Note of physician:**

Contact local poison control center or physician immediately never make an unconscious person vomit or drink fluids. When omitting occurs keep head lower than hips to help prevent aspiration. If person is unconscious turn head to side. Get medical attention immediately.

### 5. FIRE FIGHTING MEASURES

**Flammable class:**

Flammable liquid. Flammability class (OSHA): IC

**Flash point :** 27°C **Lower flammable limit:** 1.1%

**Upper flammable limit:** 7.0 %

**Auto ignition:** 982°F(528°C)

**Suitable extinguishing media:**

Regular dry chemical, carbon dioxide, water, regular foam.

**Large fires:** use regular foam or flood with fine water spray.

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:**  
**Special protective equipment for fire fighting :**

Incomplete burning can produce carbon monoxide and /or carbon dioxide and other harmful products.  
move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions; keep unnecessary people away isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank rail car or tank truck; evacuation radius: 800 meters(1/2 mile). Water may be ineffective.

**Other information:**

Server fire hazard. Vapour/air mixtures are explosive above flash point. The vapour is heavier than air. Vapour or gases may ignite at distant



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ignition sources and flash back. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Use proper protective equipment as indicated in section 8.

**Environmental precautions:**

Remove or shut off all sources of ignition. Remove mechanically or contain on an absorbent material such as dry sand or earth .keep out of sewers and waterways.

**Methods for cleaning up and disposal:**

Air release:  
Reduce vapor with water spray. Stay upwind and keep out of low areas.

Soil release :

Dig holding area such as lagoon pond pit for contaminated. Dike for later disposal. Absorb with sand or other non-combustible material. Collect with absorbent into suitable container.

Water release:

Cover with absorbent sheet s spill control pads or pillows. Neutralize. Collect with absorbent into suitable container. Absorb with activated carbon. Remove trapped material with suction hoses. Collect spilled material using mechanical equipment.

**Occupational release:**

Avoid heat flames sparks and other source of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Remove source of ignition. Keep unnecessary people away isolate hazard area and deny entry. Notify local emergency planning contaminated and state emergency response commission for release greater than or equal to RQ

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(U.S sara section 304) is release occurs in the U.S and is reportable under CERCLA section 103 notify the national response center at (800)424-8802 (USA) or (202) 426-2675 (USA).

**Other information:** None

## 7. HANDLING AND STORAGE

The regulations relating to storage premises apply to workshop where the product is handled :

**Handling:**

Wash thoroughly after handling .remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue (liquid or vapor ) and can be dangerous .Do not pressurize , cut , weld , braze , solder , drill , grind , or expose empty containers to heat , sparks or open flames . Use only with adequate ventilation. Use only with adequate ventilation .avoid breathing vapor or mist.

**Storage:**

Storage: store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S OSHA 29CFR 1910.106.

Grounding and bonding required. Protected from physical damage. Store outside or in a detached building. Store with flammable liquids. Keep separated from incompatible substances. Keep separated from incompatible substances.

**Specific use(s):**

N/A

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values:	<p><b>100 ppm (435 mg/m<sup>3</sup>) OSHA TWA</b></p> <p><b>150 ppm (651 mg/m<sup>3</sup>) OSHA STEL (vacated by 58 FR 35338, Jun,30, 1993)</b></p> <p><b>100 ppm ACGIH STEL</b></p> <p><b>100 ppm (435 mg/m<sup>3</sup>) NOISH recommended TWA 10 hour(s)</b></p> <p><b>150 ppm (655 mg/m<sup>3</sup>) NOISH recommended STEL</b></p> <p><b>440 mg/m<sup>3</sup> (100 ml/m<sup>3</sup>) DFG MAK (peak limitation category-II, 1) (skin)</b></p> <p><b>100 ppm (441 mg/m<sup>3</sup>) UK OES TWA (skin)</b></p> <p><b>150 ppm (662 mg/m<sup>3</sup>) UK OES STEL (skin)</b></p>
Exposure controls:	Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Personal protective equipment:	N/A
Eye protection:	Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Respiratory protection:	The following respirators and maximum use concentrations are drawn from NOISH and /or OSHA 900 ppm. Any appropriate escape type self contained breathing apparatus. For unknown concentrations or immediately dangerous to life or health any supplied air respirator with full face piece and operated in a pressure demand or other positive pressure mode in combination with separate escape supply.
Hand protection:	Wear appropriate chemical resistant gloves.
Skin and body protection:	Wear appropriate chemical resistant clothing.
Health measures:	Measurement method: charcoal tube; carbon disulfide; gas chromatography with flame ionization detection NOISH IV # 1501 aromatic hydrocarbons.
Environmental exposure controls:	Use adequate general or local exhaust ventilation



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

**General information:**

**Physical state:** liquid

**Appearance (at 20°C):**

clear

**Colour:**

colourless

**Odour:**

sweet odour

**pH (at 20°C):**

Not available

**Boiling point/range (°C):**

280°F (138°C)

**Flash point (°C):**

N/A

**Flammability:**

3

**Auto-ignition temperature:**

N/A

**Explosive properties:**

N/A

**Oxidising properties:**

N/A

**Vapour pressure (at 20°C):**

8.6 mmHg @ 25° C

**Density (at 20°C):**

Vapour density (air=1): 3.7

**Solubility (at 20°C):**

**Water solubility:** insoluble

**Viscosity (40°C):**

**Soluble:** alcohol, ether, benzene, acetone, organic solvents

**Evaporation rate:**

N/A

**Other information:**

0.7 (butyl acetate=1)

Molecular weight: 106.17

Molecular formula: C8-H10

### 10. STABILITY AND REACTIVITY

**Stability:**

**Reactivity:** stable at normal temperatures and pressure.

**Conditions to avoid:**

Avoid heat, flames, sparks and other source of ignition.

**Material to avoid:**

Avoid acids, combustible materials; oxidizing materials, chlorine, fluorine, and other strong oxidizers.

**Hazardous decomposition products:**

Burning can produce carbon monoxide and /or carbon dioxide and other harmful products.



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### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity:

5 mg/kg oral-rat LD50, 4550 PPM/4 hour(s) inhalation  
rat LC 50; 3810 mg/kg intraperitoneal rat LD50 15  
gm/m3 inhalation mouse LCLO; 2450 ul/kg  
intraperitoneal mouse LD50;>8350 ppm/4 hours  
inhalation guinea pig LC;2 gm/kg intraperitoneal  
mammal LDLO;5 mg/kg subcutaneous mammal LDLO  
carcinogen status: IARC; human inadequate evidence  
animal inadequate evidence animal inadequate evidence  
group 3 ACGH: A4 not classifiable as a human  
carcinogen local effects: irritant: inhalation, skin, eye

#### Sub chronic – chronic toxicity:

Repeated or prolonged inhalation of vapours above 200  
ppm may cause nausea vomiting, abdominal pain and  
anorexia. Other common complaints include headache,  
fatigue lassitude, irritability, breathing difficulties and  
flatulence. Effects on the nervous system may result in  
excitation followed by depression parenthesis tremors  
apprehension impaired memory insomnia vertigo and  
tinnitus. Effects on reaction time manual coordination  
body balance and EEG occurred with repeated exposure  
to 90 ppm of m-xylene. Sweetish taste in the mouth dry  
nose and throat strong thirst mucosal hemorrhage and  
anemia have been reported. Effects on the liver kidney  
cardiovascular system and the bone marrow have also  
been reported although the latter has been questioned.  
Exposure of rabbits to 1150 ppm for 40-55 days resulted  
in a reversible decrease in the red and white cell count  
and an increase in the platelets. One case of an apparent  
epileptiform seizure following a relatively brief exposure  
has occurred. Women may develop menstrual disorders  
such as menorrhagia or metrorrhagia infertility and  
pathological pregnancy conditions including toxicosis  
danger of miscarriage and hemorrhaging during  
delivery. Repeated exposure of pregnant mice rats  
rabbits to the individual or the mixed isomers has  
resulted in maternal effects and effects on fertility on the  
embryo or fetus and specific developmental  
abnormalities. Included among these effects are fetal  
death fetotoxicity pre-and post implantation mortality  
abortion craniofacial and musculoskeletal abnormalities  
and extra embryonic structures.

#### Sensibilization:

Aspiration of this product into the lungs can cause  
chemical pneumonia and can be fatal .Aspiration  
into the lung can occur while vomiting after

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**Carcinogenicity:**

ingestion of this product.

**Reproductive effects:**

Insufficient information.

**Human experience:**

There is no specific information available on Paraxylene.

**Other information:**

N/A

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

Fish toxicity: 8800 ug/L 96 hours LC50 (mortality)  
guppy (poecilia reticulata)

Invertebrate toxicity: 3600 ug/L 24 hours EC50  
(immobilization) water flea (daphnia magna)

Algal toxicity: 4400 ug/L 8 hours EC50 (growth) green  
algae (Selenastrum capricornutum)

Ecological testing has not been conducted on this  
product.

Ecological testing has not been conducted on this  
product.

Ecological testing has not been conducted on this  
product.

**Bio accumulative potential:**

N/A

**Mobility:**

Ecological testing has not been conducted on this  
product.

**Persistence and degradability:**

Ecological testing has not been conducted on this  
product.

**Other adverse effects:**

## 13. DISPOSAL CONSIDERATIONS

**Disposal of product:**

Subject to disposal regulation: U.S EPA 40 CFR  
262 hazardous water number (s): U239. dispose in  
accordance with all applicable regulations.

**Disposal of packaging:**

The container for this product can present  
explosion or fire hazards, even when  
emptied! To avoid risk of injury, do not  
cut, punctuate, or weld on or near this  
container. Since the emptied containers  
retain product residue, follow label warnings  
even after container is emptied.

## 14. TRANSPORT INFORMATION

**Land transport:**

U.S dot 49 CFR 172.101:

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Reactivity					
Flammability					
Health					

Proper shipping name: xylene

ID number: UN1307

Hazard class: OR DIVISION :3

Packing Group : II

Labeling requirements: flammable liquid

Packing authorizations:

Exception: 49CFR 173.150

Non-bulk packaging: 49CFR 173.202

Bulk packaging : 49 CFR 173.242

ADR/RID: not determined

Maritime transport ( IMO/IMDG ):

Class: 3.3 (9)

Shipping name : Xylenes

Class : 3.3(9)

Packing group: III

UN number : 1307

Shipping name : xylenes

Class : 3

Subsidiary class : 9

Packing group : III

Air transport (ICAO/IATA ):

## 15. REGULATORY INFORMATION

Hazardous label(s):

Cercla section 102a/103 hazardous substance  
(40CFR 302.4):P-xylene: 100 LBS RQ

Sara title III section 302 extremely hazardous substances (40 CFR 355.30): not regulated

Sara title III section 304 extremely hazardous substances (40CFR 355.40): not regulated

Sara title III sara section 311/312 hazardous categories (40CFR 370.21):

Acute: Yes

Chronic: No

Fire: yes

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**Reactive: No**

**Sudden release: No**

**Sara title III section 313 (40 CFR 372.65): P-xylene**

**OSHA process safety (29 CFR 1910.119): not regulated**

**State regulations:**

**California proposition 65: not regulated**

**Canadian regulations:**

**Whims classification: not determined**

**European regulations:**

**EC classification (assigned):**

**Flammable**

**XN harmful**

**XI irritant**

**EC classification may be inconsistent independently researched data.**

**Danger/hazard symbol: XN harmful**

**EC risk and safety phrases: R 10**

**flammable R 20/21**

**harmful by inhalation and in contact with skin**

**R 38**

**irritating to skin S 2**

**keep out of reach children S 25**

**avoid contact with eyes**

**Concentration limits:**

**C>=20% xn R 20/21-38**

**12.5%<=C<20%xn R 20/21**

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**German regulations:**

**Water hazards class (WGK):**

**State of classification: VwVwS**

**Classification under hazard to water: 2**

**National inventory status:**

**U.S inventory (TSCA): listed on inventory**

**TSCA 12(b) export notification: not listed**

**Safety phrases:**

**Keep out of reach of children .avoid contact with eyes.**

**Risk phrases:**

**11 20 /21 38**  
**Flammable. Harmful by inhalation and in contact with skin. Irritating to the skin.**

<p><b>16. OTHER INFORMATION</b></p>
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**MSDS summary of changes**

**Section 11 toxicological information**

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