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	Product Name: PX (Paraxylene)	Revision Number: 1
		 Reactivity Flammability Health

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

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

Manufacturer subcontractor:

None

Association/Organization:

None

Use of the substance/Preparation:

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.

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.

Toxicological characteristics:
Substances present at a concentration below the minimum danger:
Other component:

See section 11
N/A
Percentage: 100.0



3. IDENTIFICATION OF HAZARDS

Risk phrases:	Warning! Flammable .Causes eye and skin irritation. Can be harmful if high concentrations are inhaled. Harmful or fetal if liquid is aspirated into longs.
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. 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:	100 ppm (435 mg/m3) OSHA TWA 150 ppm (651 mg/m3) OSHA STEL (vacated by 58 FR 35338, Jun,30, 1993) 100 ppm ACGIH STEL 100 ppm (435 mg/m3) NOISH recommended TWA 10 hour(s) 150 ppm (655 mg/m3) NOISH recommended STEL 440 mg/m3 (100 ml/m3) DFG MAK (peak limitation category-II, 1) (skin) 100 ppm (441 mg/m3) UK OES TWA (skin) 150 ppm (662 mg/m3) UK OES STEL (skin)
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:

Appearance (at 20°C):

Colour:

Odour:

pH (at 20°C):

Boiling point/range (°C):

Flash point (°C):

Flammability:

Auto-ignition temperature:

Explosive properties:

Oxidising properties:

Vapour pressure (at 20°C):

Density (at 20°C):

Solubility (at 20°C):

Viscosity (40°C):

Evaporation rate:

Other information:

Physical state: liquid

clear

colourless

sweet odour

Not available

280°F (138°C)

N/A

3

N/A

N/A

N/A

8.6 mmHg @ 25° C

Vapour density (air=1): 3.7

Water solubility: insoluble

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

N/A

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 mammle 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:
Reproductive effects:

ingestion of this product.
Insufficient information.
There is no specific information available on Paraxylene.

Human experience:
Other information:

N/A
None

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)

Bio accumulative potential:

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

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:

N/A

13. DISPOSAL CONSIDERATIONS

Disposal of product:

Subject to disposal regulation: U.S EPA 40 CFR 262 hazardous waste 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):

Air transport (ICAO/IATA):

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

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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Reactivity				
Flammability				
Health				

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.**

16. OTHER INFORMATION

MSDS summary of changes

Section 11 toxicological information

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