SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier	:	Paraxylene
Other means of identification	:	-
Recommended use of the chemical and restrictions on use	:	This product is used as raw material of PTA (Purified Terephtalic Acid) for polyester industry or PET (Polyethylene Terephthalate) industry.
Manufacturer	:	PT Pertamina (Persero) Jl. Medan Merdeka Timur 1A Jakarta Pusat ZIP Code 10110 Phone: 1500-000 Email: pcc@pertamina.com
Emergency phone number	:	1500-000

2. HAZARD IDENTIFICATION

Classification : Flammable liquid, category 3
Acute toxicity (dermal), category 4
Acute toxicity (inhalation), category 4
Skin irritation, category 2

Signal word : Warning

Hazard statement :
Physical Hazard
H226 - Flammable liquid and vapour.
Health Hazard
H312 - Harmful in contact with skin.
H315 - Causes skin irritation.
H332 - Harmful if inhaled.

Precautionary statement :
Prevention
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground and bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Response
P312 - Call a POISON CENTER/doctor if you feel unwell.
P321 - Specific treatment (see Section 4).
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).

2. HAZARD IDENTIFICATION

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P370 + P378 - In case of fire: Use carbon dioxide, dry chemical powder, and foam to extinguish.
Storage
P403 + P235 - Store in a well ventilated place. Keep cool.
Disposal
P501 - Dispose of contents/container according to valid disposal regulations.

Pictogram :

Other hazards which do not result in classification : No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration (%)
Paraxylene	106-42-3	Min. 99.7

4. FIRST AID MEASURES

Necessary description

- **In case of eye contact** : Flush immediately with copious amounts of water for at least 15 minutes. Seek medical advice if pain or redness continues.
- **In case of skin contact** : Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Wash exposed area thoroughly with soap and water. Remove contaminated clothing promptly and launder before reuse. Contaminated leather goods should be discarded. If irritation seek medical attention.
- **If inhaled** : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give cardiopulmonary respiration. Get medical attention.
- **If swallowed** : If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Do not include vomiting unless directed to do so by medical personal.

Most important symptoms/effects : No data available.

4. FIRST AID MEASURES

Indication of Immediate medical attention and special treatment needed, if necessary	:	No data available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide, dry chemical powder, and foam.
Unsuitable extinguishing media	:	No data available.
Specific hazards		
• **Other explosion and fire hazards**	:	No data available.
Flash point °C	:	30^{o} C
Flammability value	:	No data available.
Hazardous chemical decomposition	:	Carbon monoxides.
Special protective actions for fire fighters		
a. Carbon dioxide (CO_2)	:	Spray it to the base of fire from upwind.
b. Dry chemical powder	:	Spray it to the base of fire from upwind.
c. Foam	:	When the fire is in a container, spray the foam into the inner wall of the container, not to the burning liquid, and from upwind. When the fire is caused by spill of liquid, spray it to the front fire until the spill is covered thoroughly, and from upwind.
Special protective equipment for fire-fighter	:	Fore fires in relatively closed areas, the fire fighters must be equipped with Self Contained Breathing Apparatus (SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures	:	Put away all conditions that can enable the occurrence of ignition. Suggested to use explosion-proof electrical equipments. Keep away from contact with spillage. Keep away from direct contact with product. For large spillage, immediately isolate area and keep away unnecessary person from area of spillage. Use proper personal protective equipment, including respiratory protection.
Environmental precautions	:	Prevent spill into drainage, sewage system, or it seepage into the soil.
Procedures	:	Report spill according to the valid system and procedures. If spill can go into drainage or streams, do immediate report to the authority.
Methods and materials for	:	Adsorb the spill by using sorbent, sawdust mixed with clay

6. ACCIDENTAL RELEASE MEASURES

containment and cleaning up and other fire inhibitor materials. Clean and dispose it at the determined place of disposal according to the local regulation.

7. HANDLING AND STORAGE

Precautions for safe handling : Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.

Conditions for safe storage (including any incompatibilities) : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

- **Exposure limit** : TWA 100 ppm.
- **Biological exposure indicator** : 1.5 mg/L with xylene and blood matrix as determinants.

Appropriate engineering control

- **Ventilation** : If product is used at closed area, equipped with exhaust fan. Ventilation and equipments must be explosive-proof.

Individual protection measures

- **Eye and face protection** : Use chemical type goggles.
- **Skin protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- **Respiratory protection** : Use breathing apparatus when the polluted concentration in the air is higher than the permissible threshold limit value.
- **Hygiene practices** : Wash hand thoroughly after handling.
  Do not eat or drink when using this product.
  Do not smoke while using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Characteristic		Test Result
Organoleptic (physical appearance, color, etc)	:	Liquid, colorless
Odor	:	Characteristic
Odor threshold	:	No data available
pH	:	No data available
Melting/freezing point	:	-47.8 – 13.25°C at 101.3 kPa*
Boiling point/boiling range	:	137°C
Flammability	:	Flammable liquid and vapor
Flash point	:	30°C
Evaporation rate	:	No data available
Lower/upper flammability limit and explosion limit	:	No data available
Vapor pressure	:	12.824 - 14.272 hPa*
Vapor density	:	No data available
Relative density	:	863.3 kg/cm^3 at 15°C
Solubility		
• **Water solubility**	:	Not soluble
• **Other solubility**	:	Soluble
Partition coefficient (n-octanol/water)	:	0.08
Auto-ignition temperature	:	506 °C at 101.3 kPa*
Decomposition temperature	:	No data available
Viscosity	:	0.753 cSt at 23° C

*Data refers to ECHA Europe

10. STABILITY AND REACTIVITY

Reactivity	:	Hazardous substance polymerization does not occur.
Chemical stability	:	Stable under normal conditions.
Posibility of hazardous reactions	:	No hazardous reaction in normal condition, but may react with oxygen or strong oxidator.
Conditions to avoid	:	Heat, flame, ignition or conditions that can cause static electricity.
Incompatible materials	:	Oxygen or strong oxidator.
Hazardous decomposition products	:	No hazardous decomposition products formed.

11. TOXICOLOGICAL INFORMATION

Comprehensive toxicological/health information

• **Acute toxicity**	:	Oral: No adverse effect observed LD50 3523 mg/kg bw. Inhalation: Adverse effect observed LC50 27124 mg/m³. Dermal: Adverse effect observed LD50 12126 mg/kg bw.
• **Skin corrosion/ irritation**	:	Causes skin irritation.
• **Serious eye damage/irritation**	:	No data available. Suspected that it may not cause serious eye damage or irritation according to compound or product which has similar structure or composition.

11. TOXICOLOGICAL INFORMATION

- **Respiratory or skin sensitization** : No data available. Suspected that it may not cause respiratory or skin sensitization according to compound or product which has similar structure or composition.
- **Germ cell mutagenicity** : No data available. Suspected that it is not mutagen according to compound or product which has similar structure or composition.
- **Carcinogenicity** : No data available. Suspected that it may not cause cancer according to compound or product which has similar structure or composition.
  Oral: No adverse effect observed NOAEL 500 mg/kg bw/day (chronic, rat).
- **Reproductive toxicity** : No data available. Suspected that it may not toxic to reproductive organs according to compound or product which has similar structure or composition.
- **STOT-single exposure** : No data available. Suspected that it is not toxic to specific organs after single exposure according to compound or product which has similar structure or composition.
- **STOT-repeated exposure** : Oral – systemic effects:
  Adverse effect observed NOAEL 250 mg/kg bw/day (chronic, rat).
  Inhalation – systemic effects:
  Adverse effect observed NOAEC 3515 mg/m³ (subchronic, rat).
- **Aspiration hazards** : No data available. Suspected that it is not aspiration hazards. This statement comes from compounds or products which have similar structures or compositions.

Information on the likely routes exposure : Inhaled, ingested, and skin contact.

Symptoms related to the physical, chemical, and toxicological characteristics : No data available. Further testing has not been done.

Delayed and immediate effects, and also chronic effects from both short or long term exposure : No data available. Further testing has not been done.

Numerical measure of toxicity : No data available. Further testing has not been done.

Interative effects : No data available. Further testing has not been done.

Where specific chemical data are not available : No data available. Further testing has not been done.

Mixture : No data available. Further testing has not been done.

Mixture vs. Ingredient information : No data available. Further testing has not been done.

Other in formation : No data available. Further testing has not been done.

12. ECOLOGICAL INFORMATION

Ecotoxicity :

Short-term toxicity to fish:
LC50 (4 days) 2.6-8.4 mg/L
Long-term toxicity to fish:
NOEC (35 days) 714 µg/L
LOEC (35 days) 1.29 mg/L
Short-term toxicity to aquatic invertebrates:
LC50 (24 h) 1-4.7 mg/L
Long-term toxicity to aquatic invertebrates:
EL50 (21 days) 2.9 mg/L
Toxicity to algae and cyanobacteria:
EC50 (72 h) 4.7 - 4.9 mg/L

Persistence and degradability : Readily biodegradable (83%), Readily biodegradable but failing the 10-day window (17%).

Bioaccumulative potential : No data available. Detailed toxic effects is related to concentration nominal value. Further testing has not been done.

Mobility in soil : No data available. Further testing has not been done.

Other adverse effects : No data available. Further testing has not been done.

13. DISPOSAL CONSIDERATION

Disposal methods : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

14. TRANSPORT INFORMATION

USA DOT : Not arranged by USA DOT

RID / ADR : Not arranged by RID/ADR

IMO : Not arranged by IMO

ICAO / IATA : Not arranged by IATA

15. REGULATORY INFORMATION

Safety, health, and environmental regulation (specific for the product in question) :

- Peraturan Menteri Perindustrian Nomor 23/M-IND/PER/4/2013 tentang Perubahan Atas Peraturan Menteri Perindustrian Nomor 87/M-IND/PER/9/2009 Tentang Sistem Harmonisasi Global Klasifikasi dan Label pada Bahan Kimia
- Peraturan Pemerintah Republik Indonesia, Nomor 74 Tahun 2001 Tentang Pengelolaan Bahan Berbahaya dan Beracun Presiden Republik Indonesia
- Keputusan Menteri Tenaga Kerja No Kep-187/Men/1999 tentang Pengendalian Bahan Kimia Berbahaya

15. REGULATORY INFORMATION

- Peraturan Menteri Kesehatan Republik Indonesia Nomor 70 Tahun 2016 tentang Standar dan Persyaratan Kesehatan Lingkungan Kerja Industri
- ACGIH®. 2016. TLVs® and BEIs®

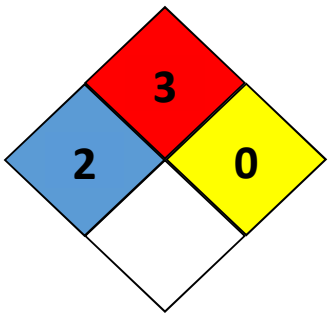
16. OTHER INFORMATION

Revision date : 2017

Key/legend or acronym used in the SDS : ACGIH - American Conference on Governmental Industrial Hygienist
BEI - Biological Exposure Indices
CAS No. - Chemical Abstract Service Number
ECHA - European Chemicals Agency
ICAO/IATA - International Civil Organization Aviation/ International Air Transport Association
IMO - International Maritime Organization
NOAEC - No Observed Adverse Effect Concentration
NOAEL - No Observed Adverse Effect Level
RID/ADR - Regulation concerning the International Carriage of Dangerous Goods by Rail / European Agreement concerning the International Carriage of Dangerous Goods by Road
SCBA - Self Contained Breathing Apparatus
TLV - Threshold Limit Value
TWA - Time-Weighted Average
UN - United Nations
USA DOT - United States Department of Transportation

Key literature references and sources for data used in the SDS : echa.europa.eu

NFPA :



Degrees	Red	Blue	Yellow
0	Will not burn	Live ordinary material	Normally stable
1	Must be preheated to burn	Slightly hazardous	Unstable if heated – use normal precautions
2	Ignites when moderately heated	Hazardous – use breathing apparatus	Violent chemical change possible – use hose streams from distance
3	Ignites at normal temperatures	Extremely dangerous – use full protective	Strong shock or heat may detonate - use monitors from

16. OTHER INFORMATION

		clothing	behind explosion resistant barriers
4	Extremely flammable	Too dangerous to enter vapor or liquid	May detonate – vacate area if materials are exposed to fire

White	
	Radioactive
	Never contact with water

Disclaimer

The information is composed based on current knowledge and intended to describe safety, health, and environment hazard of the product. Therefore, it should not be construed as guarantee any specific property of the product. All risks while using this product is the user's responsibility. It is not allowed to make change of this document, except there is legal consent.