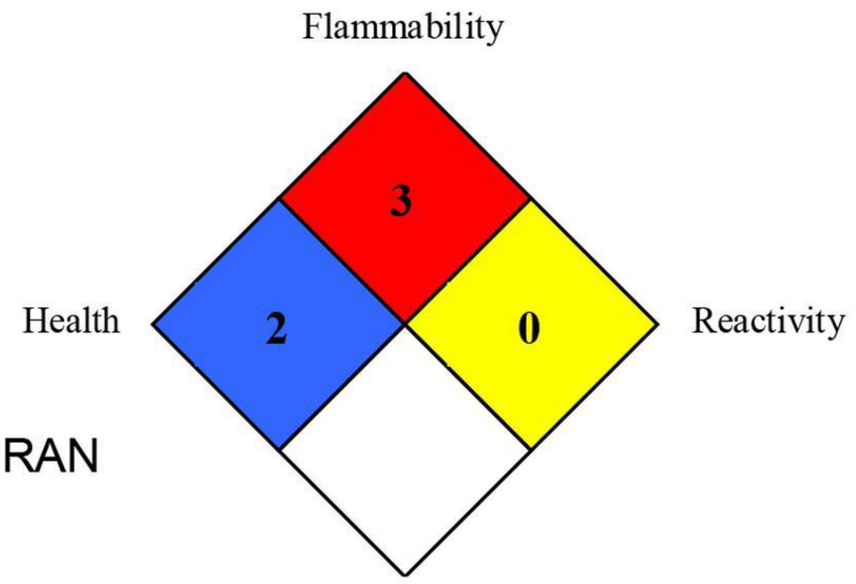
Material Safety Data Sheet

Section I – Product and Company Identification

Product Name: **O-XYLENE**

Synonyms: o-Dimethyl benzene; 1,2 dimethyl benzene; 1,2 xylene; o-xylol

Chemical Family: Hydrocarbons Aromatics
Formula: C8H10



Manufacturer: **BORZUYEH PETROCHEMICAL COMPANY (NOPC) :**
PARS ENERGY ECONOMICAL SPECIAL ZONE – BUSHEHR - IRAN

P.O BOX No. : 75391-511

TEL: +98-77273-23250-4

FAX: +98-77273-23255

Section II – Composition / Information on Ingredients

Component Information:

Name	CAS #	% W
o-Xylene	95-47-6	95 -100

Section III – Hazard Identification

Emergency Overview

DANGER! HARMFUL OR FATAL IF SWALLOWED. VAPOR HARMFUL. AFFECTS CENTRAL NERVOUS SYSTEM. CAUSES SEVERE EYE IRRITATION. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT. CHRONIC EXPOSURE CAN CAUSE ADVERSE LIVER, KIDNEY, AND BLOOD EFFECTS. FLAMMABLE LIQUID AND VAPOR.

Potential Health Effects:

Eye Contact:

Vapors cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage.

Skin Contact:
Skin contact results in loss of natural oils and often results in a characteristic dermatitis. May be absorbed through the skin.

Inhalation:
Inhalation of vapors may be irritating to the nose and throat. Inhalation of high concentrations may result in nausea, vomiting, headache, ringing in the ears, and severe breathing difficulties which may be delayed in onset. Substernal pain, cough, and hoarseness are also reported. High vapor concentrations are anesthetic and central nervous system depressants.

Ingestion:
Ingestion causes burning sensation in mouth and stomach, nausea, vomiting and salivation. Minute amounts aspirated into the lungs can produce a severe hemorrhagic pneumonitis with severe pulmonary injury or death.

Chronic Exposure:

Chronic inhalation can cause headache, loss of appetite, nervousness and pale skin. Repeated or prolonged skin contact may cause a skin rash. Repeated exposure of the eyes to high concentrations of vapor may cause reversible eye damage. Repeated exposure can damage bone marrow, causing low blood cell count. May damage the liver and kidneys.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney, blood, or respiratory function may be more susceptible to the effects of the substance.

Section IV – First Aid Measures

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
Get medical attention if irritation occurs.

Skin Contact

In case of contact, immediately flush skin with plenty of water. Wash exposed area thoroughly with soap and water. Remove contaminated clothing promptly and launder before reuse. Contaminated leather goods should be discarded. If irritation persists or symptoms described in the MSDS develop, seek medical attention. High pressure skin injections are SERIOUS MEDICAL EMERGENCIES. Get immediate medical attention.

Inhalation

Remove to fresh air. If breathing is difficult, ensure clear airway and administer oxygen.

If not breathing, apply artificial respiration or cardiopulmonary resuscitation. Keep person warm, quiet and get medical attention.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately.

Section V – Fire Fighting Measures

Flammability:	Flammable
Flammable Limits:	Lower: 0.9% Upper: 6.7% Volume
Flash Points:	17.1 °C (63°F)
Auto-Ignition Temperature	ca. 463C (ca. 865F)
Fire Hazards in Presence of Various Substances	**----**

Flammable in presence of open flames, sparks and heat. Vapors are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. It May accumulates in confined spaces.

Explosion Hazards in Presence of Various Substances

Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire. Runoff to sewer may create fire or explosion hazard.

Products of Combustion

These products are carbon oxides (CO, CO_2).

Fire Fighting Media and Instructions

Flammable Liquid. Use dry chemical, foam or carbon dioxide to extinguish the fire. Consult foam manufacturer for appropriate media, application rates and water/foam ratio. Water can be used to cool fire-exposed containers, structures and to protect personnel. If a leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers. Collect contaminated fire-fighting water separately. It must not enter the sewage system. Dike area of fire to prevent runoff. Decontaminate emergency personnel and equipment with soap and water. Flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

SPECIAL FIRE FIGHTING INSTRUCTIONS:

Dangerous when exposed to heat or flame. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources (pilot lights, welding equipment, electrical equipment, etc.) and flash back. Vapors may accumulate in low areas. Vapors may concentrate in confined areas. Flowing product can be ignited by self generated static electricity. Use adequate bonding and grounding to prevent static buildup. Runoff to sewer may cause fire or explosion hazard. Containers may explode in heat of fire. Irritating or toxic substances may be emitted upon thermal decomposition. For fires involving this material, do not enter any enclosed or confined space without proper protective equipment, which may include NIOSH approved self-contained breathing apparatus with full face mask. Clothing, rags or similar organic material contaminated with this product and stored in a closed space may undergo spontaneous combustion. Transfer to and from commonly bonded and grounded containers.

Section VI – Accidental Release Measures

Personal precautions

Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Do not touch or walk through spilled material. Tanks, vessels or other confined spaces which have contained product should be freed of vapors before entering. The container should be checked to ensure a safe atmosphere before entry. Empty containers may contain toxic,flammable/combustible or explosive residues or vapors. Do not cut, grind, drill, weld or reuse empty containers that contained this product. Do not transfer this product to another container unless the container receiving the product is labeled with proper.

Section VII – Handling and Storage

Handling

Do not ingest. Keep container closed. Use only with adequate ventilation. 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. Use only in well ventilated locations. Keep away from heat, spark and flames. In case of fire, use water spray, foam, dry chemical or carbon dioxide as described in the Fire and Explosion Hazard Data section of the MSDS. Do not pressurize, cut, weld, braze, solder, drill on or near this container.
"Empty" container contains residue (liquid and/or vapor) and may explode in heat of a fire. Keep out of reach of children. Failure to use caution may cause serious injury or illness. Use good personal hygiene practices. After handling this product, wash hands before eating, drinking, or using toilet facilities.

Storage

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch load" because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.
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Section VIII – Exposure Controls/ Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limits (Xylene):100 ppm (TWA)

-ACGIH Threshold Limit Value (TLV):100 ppm (TWA), 150 ppm (STEL)

100 ppm (435 mg/m3) NIOSH recommended TWA 10 hour(s)

150 ppm (655 mg/m3) NIOSH recommended STEL

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

PERSONAL PROTECTIVE EQUIPMENT

Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Keep away from eyes. Eye contact can be avoided by wearing safety glasses or chemical splash goggles.

Skin

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Keep away from skin. Skin contact can be minimized by wearing protective gloves such as neoprene, nitrile-butadiene rubber, etc. and, where necessary, impervious clothing and boots. Leather goods contaminated with this product should be discarded. A source of clean water should be available in the work area for flushing eyes and skin. Flame Retardant Clothing is recommended.

Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for non-routine and emergency use.

Hands

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.

Feet

Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section IX – Physical and Chemical Properties

Appearance/Color/Odor: Liquid. (COLORLESS LIQUID WITH AROMATIC ODOR)
Color: Colorless.
Odor: Characteristic Aromatic
Boiling Point Range: 144.4°C (291°F)
Solubility in Water: Very slightly soluble in cold water.
Vapor Pressure (mmHg): 7 @ 20°C (68°F)

Specific Gravity: 0.8802 at 10º/4ºC

Molecular Weight: 106.17
Vapor Density: 3.7 (Air = 1)
Volatiles: 100% (v/v).
Density: 0.880 g/ml at 20ºC
Evaporation Rate: 1 compared with Butyl acetate
PH: Not applicable
Freezing Point: -25.2ºC
Flash Point: 17.1ºC (63ºF)
Viscosity: .

Section X – Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.
Hazardous Polymerization: Will not occur
Incompatibility with various Substances: Extremely reactive or incompatible with oxidizing agents, reducing agents, acids, alkalis.
Hazardous decomposition Products: These products are carbon oxides (CO, CO_2).

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

Section XI – Toxicological Information

Toxicological Data:

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3617-mg/kg oral-rat ld50 (Phillips); 6125 ppm/12 hour(s) inhalation-human LCLO; 5gm/kg oral-rat LDLO; 6125 ppm/12 hour(s) inhalation –rat LCLO; 30 gm/m3 inhalation – mouse LCLO; 1550 ul/kg intrapationeal –mouse LD50; 1500 mg/kg intraperitoneal-mammal LDLO; 2500 mg/kg subcutaneous-mammal LDLO

Reproductive Toxicity:

May cause teratogenic effects.

Section XII – Ecological Information

ECOTOXICITY DATA

FISH TOXICITY; 16400ug/L 96 hour(s) LC50 (Mortality) Fathead minnow (Pimephales promelas)

INVERTEBRATE TOXICITY: 200 mg / L 24 hour(s) EC 100 (Immobilization) water flea(Daphnia magna)

ALGAL TOXICITY: 4200 ug/L 8 hours(s) EC 50 (Growth) Green algae.

Other toxicity: 73000 ug/l 48 hour(s) LC50 clawed toad

Kow: 138356.64(log=5.141)(estimated from water solubility)

Koc: 40550.85(log =4.608))(estimated from water solubility)

Bio concentration: 33.96 (estimated from water solubility)

Aquatic pressures: 2.6723816 hour(s)

Environmental summary : Relatively non-persistent in the environment . Not expected to leach through the soil or the sediment. Accumulates very little in the bodies of living organisms . Highly volatile from water.

Section XIII – Disposal Considerations

Waste Disposal

The generation of waste should be avoided or minimized wherever possible. 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.

Section XIV – Transportation Information

Proper shippingname: XYLENES
Class: 3
Packing group: II

Label:

Section XV – Regulatory Information

The following regulations apply to this product:

-OSHA HAZARD COMMUNICATION (29 CFR 1910.1200)

-EPA TOXIC SUBSTANCES CONTROL ACT

-EPA SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES

SECTION 304 - EMERGENCY RELEASE NOTIFICATIONS

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS

SECTION 313 - TOXIC CHEMICAL RELEASE REPORTING

Section XVI – Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Adress:

ADDRESS COMPLEX: Nouri Petrochemical Co. Pars Special Energy Zone, Asalouyeh
Po Box No.75391-115 **TEL:** +98 7737323250-4 **FAX:** +98 7737323255 info@nopc.co

WWW.NOPC.CO / hse@nopc.co