

## Product Stewardship Summary Paraxylene

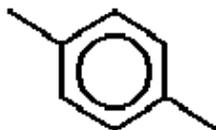
This product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed. It is not intended to provide an in-depth discussion of all health and safety information. Additional information on the chemical is available through the applicable Safety Data Sheet which should be consulted before use of the chemical. This product stewardship summary does not supplant or replace required regulatory and/or legal communication documents.

### Chemical Identity:

Paraxylene is an aromatic chemical substance. It is usually extracted or distilled from mixed xylene streams...

Chemical Formula:  $C_6H_4(CH_3)_2$       CAS Number: 106-42-3

Chemical Structure:



Synonyms: 1,4-dimethylbenzene, *p*-dimethylbenzene, 4-methyltoluene, *p*-methyltoluene, *p*-xylol, *p*-xylene

### Product Uses:

Paraxylene is primarily consumed in the manufacture of terephthalic acid and dimethyl terephthalate that are used in the production of polyester polymers. Polyester is used to manufacture fiber, film and polyethylene terephthalate (PET) resin. PET bottles are widely used for carbonated beverages because of the good carbon dioxide barrier properties they provide. Polyester uses also include containers for household chemicals, toiletries, cosmetics, fabrics for curtains, upholstery, clothing, microwave oven packing materials, films for x-rays, magnetic tapes, photographic film, electrical insulation, packages for boil-in-bags, processed meat packaging, shrink films, blister packs and more.

### Physical/Chemical Properties:

Paraxylene is a colorless, sweet-smelling liquid at room temperature. It is a flammable chemical but is not considered a highly reactive chemical. Paraxylene occurs naturally in petroleum and coal tar.

### Health Information:

Paraxylene is expected to be minimally toxic by all routes of typical exposure. It is a slight to moderate eye and skin irritant and may cause defatting of the skin upon repeated exposure. High levels of exposure for short or long periods can cause eye, nose and throat irritation, headaches,

nausea, and other reversible central nervous system effects ranging from dizziness to unconsciousness. There is no evidence that paraxylene causes genetic or carcinogenic effects. It can cause unconsciousness and even death at very high levels.

**Environmental Information:**

Paraxylene varies in toxicity for fish, freshwater and marine invertebrates and algae, ranging from harmful to very toxic and is expected to have limited ability to bioaccumulate in aquatic organisms. If accidentally released to the environment, paraxylene evaporates quickly from surface water and soil into the air where it is broken down by sunlight into other less harmful chemicals in a couple of days. Paraxylene, which is not volatilized, is expected to be biodegraded in surface water or soil within days to a few weeks but does not biodegrade readily in groundwater. In the U.S., xylenes are released to the environment in large quantities, but due to natural degradation, are found in air and water at very low concentrations.

**Exposure Potential:**

- *Workplace use:* This refers to potential exposure to paraxylene to persons in a manufacturing facility or exposure through various industrial applications. Occupational exposure to paraxylene is expected to be low because paraxylene is typically manufactured, processed, stored, and transported in closed systems with low potential of release.
- *Consumer use:* The general population is exposed to xylenes (which may contain paraxylene) in ambient air, especially in areas of heavy traffic, around gas stations, near industrial sources such as refineries, in areas where xylene-containing solvents are used and around tobacco smoke (ATSDR, 2007).
- *Potential environmental release:* There may be some potential for exposure to the environment from an accidental release of paraxylene due to transportation of large quantities by ocean-going vessel or tank car; however, exposure due to release is believed to be very low. Chevron Phillips Chemical Company LP is committed to operating in an environmentally responsible manner and has adopted the American Chemistry Council's Responsible Care<sup>®</sup> initiative.

**Risk Management:**

Chevron Phillips Chemical Company LP is committed to Product Stewardship and doing business responsibly. We endeavor to provide information for the safe use and handling of all our products. We make product information available to all of our customers, and carriers of paraxylene which contain detail about the properties of the product. To that end, a Safety Data Sheet and a certificate of analysis accompany each shipment from our manufacturing plant.

Before using these products, the user is advised and cautioned to make their own determination and assessment of the safety and suitability of the product for the specific use in question. It is the ultimate responsibility of the user to ensure suitability for use and determine if this information is applicable to the user's specific application. Chevron Phillips Chemical Company LP does not make, and expressly disclaims, all warranties, including warranties of

merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or any product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or any product itself.

**Regulatory Information:**

Regulations exist that govern the manufacture, sale, transportation, use and/or disposal of paraxylene. These regulations may vary by city, state, country or geographic region. Additional helpful information may be found by consulting the relevant product Safety Data Sheet.

**Sources of Additional Information:**

- ATSDR (Agency for Toxic Substances and Disease Registry) ToxFAQs™ for xylene: <http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=295&tid=53>
- ATSDR Toxicological Profile for Xylene: <http://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=296&tid=53>
- European Aromatics Producers Association: Aromatics: Improving the Quality of Your Life <http://www.petrochemistry.net/ftp/pressroom/APAEN.pdf>
- U.S. Environmental Protection Agency (USEPA) – Integrated Risk Information System (IRIS): <http://www.epa.gov/iris/subst/0270.htm>
- Organization for Economic Cooperation and Development (OECD) – eChemPortal web-based search tool (use applicable CAS No.): <http://www.echemportal.org/>
- European Chemicals Agency (ECHA) – Information on Registered Substances: <http://apps.echa.europa.eu/registered/registered-sub.aspx>
- Voluntary Children's Chemical Evaluation Program (VCCEP) submission and peer consultation on xylenes: <http://www.tera.org/Peer/VCCEP/xylenes/xylenesWelcome.html>
- Our Aromatics product website: <http://www.cpchem.com/bl/aromatics/en-us/Pages/Aromatics.aspx>

**Conclusion:**

Paraxylene is commonly used as a feedstock for industrial chemical manufacturing. It is flammable. Acute toxicity is low at typical exposure levels; however, high levels of exposure for short or long periods can cause eye, nose and throat irritation, headaches, and other reversible central nervous system effects ranging from dizziness to unconsciousness. Paraxylene has not been shown to cause adverse environmental effects at levels typically found in the workplace or environment. The relevant product Safety Data Sheets and applicable regulatory guidelines and requirements, including but not limited to Occupational Health and Safety Administration (OSHA) guidelines, should be consulted prior to the use or handling of this product.

**Contact Information:**

<http://www.cpchem.com/>

**Date:** June 18, 2015