

Product Stewardship Summary Paraxylene

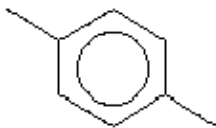
The product stewardship summary is intended to give general information about the chemical or categories of chemicals addressed. It is not intended to provide an in-depth discussion of all health and safety information. Additional information on the chemical is available through the applicable Material Safety Data Sheet which should be consulted before use of the chemical. The 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 good carbon dioxide barrier properties. Polyester uses also include: containers for household chemicals, toiletries, cosmetics, etc; fabrics for curtains, upholstery, clothing, etc; microwave oven packing material; films for x-rays, magnetic tapes, photographic film and electrical insulation; packages for boil-in-bags, processed meats, shrink films and blister packs.

Physical/chemical properties:

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

Health Information:

Paraxylene is expected to be minimally toxic by all routes of exposure. Paraxylene 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, and other reversible central nervous system effects ranging from dizziness to unconsciousness. Paraxylene is not genotoxic and has not been shown to be a carcinogen. It can cause unconsciousness and even death at very high levels.

Environmental Information:

Paraxylene varies in toxicity to 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 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 over long distances 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[®] initiative.

Risk Management:

Chevron Phillips Chemical Company LP is committed to Product Stewardship and doing business responsibly. We endeavor to provide sufficient information for the safe use and handling of all our products. We begin by ensuring that all of our customers, distributors, carriers and users of paraxylene are well informed about the properties of the product. To that end, a Material Safety Data Sheet and a certificate of analysis accompany each shipment from our manufacturing plant. We also provide an in-depth guide to the Safe Handling & Storage of paraxylene.

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 Material Safety Data Sheet.

Sources of Additional Information:

- ATSDR (Agency for Toxic Substances and Disease Registry) ToxFAQs™ for xylene: <http://www.atsdr.cdc.gov/tfacts71.html#bookmark02>
- ATSDR Toxicological Profile for Xylene: <http://www.atsdr.cdc.gov/toxprofiles/tp71.html>
- 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>
- European Chemical Substances Information System (ESIS): <http://ecb.jrc.it/esis/>
- Organization for Economic Cooperation and Development (OECD) – eChemPortal web-based search tool (use applicable CAS No.): <http://webnet3.oecd.org/echemportal/>
- 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/enu/aromatics_p_products.asp
- Our Safe Handling and Storage Brochure for Paraxylene: http://www.cpchem.com/enu/aromatics_7375.asp
- Our Material Safety Data Sheet for Paraxylene: http://www.cpchem.com/enu/msds_unsecured/Import_700_MSDS_O_ENGLISH_A_ENGLISH_A_N.pdf

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, however, prior to use or handling paraxylene, make sure to consult the relevant product Material Safety Data Sheet and review applicable regulatory guidelines and requirements, including but not limited to, OSHA guidelines.

Contact Information:

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

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