Product Safety Summary

ExxonMobil Chemical

PARAXYLENE

This Product Safety Summary document is a high-level summary intended to provide the general public with an overview of product safety information on this chemical substance. It is not intended to provide emergency response, medical or treatment information, or to provide a discussion of all safety and health information. This document is not intended to replace the Material Safety Data Sheet.

1. Chemical Identity

Paraxylene is an aromatic chemical substance, generally obtained as an extract from a mixed Xylene stream manufactured in a refinery or chemical plant.

CAS No. 106-42-3 Paraxylene **Other Names**: 1,4-Dimethylbenzene; para-Xylene; p-Xylol; p-Xylene

2. Product Uses

Paraxylene is primarily used as a feedstock to manufacture other industrial chemicals, including purified terephthalic acid (PTA) and dimethyl terephthalate (DMT). Those chemicals get further converted to polyester textile fibers and to polyethylene terephthalate (PET) for bottling and packaging purposes.

3. Physical / Chemical Properties

Paraxylene is flammable. It is handled in industrial facilities where safe conditions regarding ignition sources and ventilation are adequately controlled. At room temperature, Paraxylene is a liquid.

The flash point for Paraxylene is 79ºF / 26ºC.

4. Health Information

Paraxylene is generally considered to have low acute toxicity at the levels found in the workplace. Exposure to high levels of Paraxylene vapors can lead to drowsiness and dizziness, and may result in skin and eye irritation in humans.

5. Additional Hazard Information

If Paraxylene is swallowed, it may be may be aspirated and cause lung damage.

6. Environmental Information

If Paraxylene is accidentally released, it evaporates into the air where it is broken down by sunlight into other less harmful chemicals within a couple of days. Like all the Xylenes, Paraxylene is a liquid, and can leak into soil, surface water (creeks, streams, rivers) or groundwater. Since it evaporates easily, most Paraxylene that gets into soil and water is expected to go into the air where it is quickly broken down. Paraxylene below the soil surface may travel down through the soil and enter groundwater, where it remains until it is broken down by small organisms or by site remediation efforts.

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7. Exposure Potential

Based on the uses for Paraxylene, the public could be exposed through:

- **Workplace exposure** – This refers to potential exposure to Paraxylene in a manufacturing facility or industrial workplace. Generally, exposure of personnel to Paraxylene in manufacturing facilities is relatively low because the process, storage and handling operations are closed, with little potential for releases to the air. Many regulatory and advisory agencies have set exposure limits, with most around 50 to 100 parts per million (ppm). For example, the American Conference of Government Industrial Hygienists (ACGIH) recommends limiting occupational exposure to no more than 100 ppm per an 8-hour work day or 150 ppm for a 15 minute exposure. Similarly, the U.S. Occupational Safety and Health Administration has limited worker exposure to Paraxylene to no more than 100 ppm per an 8-hour work day. The European Union Occupational Exposure Limit is 50 ppm per an 8-hour work day or 100 ppm for a 15 minute exposure. Since Paraxylene is used in a closed process, exposures are unlikely to approach these levels.
- **Consumer use of products containing Paraxylene** – There are no known consumer products which contain the substance Paraxylene, as such. Thus, consumer exposures would be expected to be negligible, far below the recommended occupational exposure levels described above. Mixed Xylenes (which might contain levels of Paraxylene) could be used in some paints and coatings.
- **Environmental releases** – Chemical manufacturers are committed to operating in an environmentally responsible manner everywhere we do business. Our efforts are guided by in-depth scientific understanding of the environmental impact of our operations, as well as by the social and economic needs of the communities in which we operate. Industrial spills or releases are rare; however a spill may pose a significant flammability issue. Our operational improvement targets and plans are based on driving incidents with real environmental impact to zero and delivering superior environmental performance.

8. Manufacture of Product

- **Capacity** – Publicly available sources indicated that in 2005, the worldwide production of Paraxylene was over 26 million metric tons.
- **Process** – Paraxylene is separated out of a mixed Xylenes stream, which may be derived from various other processes in the petrochemical industry.

9. Risk Management

When using Paraxylene, avoid breathing vapors from the material. Use non-sparking tools and explosion-proof equipment. Make sure that there is adequate ventilation. Always use chemical resistant gloves to protect your hands and skin and always wear eye protection such as safety glasses with side shields. Do not eat, drink, or smoke where Paraxylene is handled, processed, or stored. If Paraxylene gets into your eyes, rinse eyes thoroughly for at least 15 minutes with tap water and get medical assistance.

Paraxylene is a volatile organic compound (VOC). Considerable measures are taken to prevent its release to the atmosphere. Processes and equipment for manufacture, transfer and storage are continuous and enclosed.

10. Federal/Science Agency Resources (For CAS No. searches, enter **106-42-3**)

Organization for Economic Cooperation and Development (OECD) - ChemPortal web-based search tool

- http://webnet3.oecd.org/echemportal/

European Chemical Substances Information System (ESIS)

- http://ecb.jrc.it/esis/

U.S. Environmental Protection Agency - High Production Volume Information System (HPVIS)

- http://www.atsdr.cdc.gov/toxprofiles/tp71.pdf/

U.S. Department of Health and Human Services Public Health Service
Agency for Toxic Substances and Disease Registry (Included in Xylenes, CAS 1330-20-7)

- http://www.atsdr.cdc.gov/toxprofiles/tp71.pdf

New Jersey Hazardous Substance Fact Sheet (Included in Xylenes, CAS 1330-20-7)

- http://nj.gov/health/eoh/rtkweb/documents/fs/2014.pdf

More information on the uses of Paraxylene can be found in "Aromatics: Improving the Quality of Your Life", produced by the European Aromatics Producers Association, which can be found at the web address below.

- http://www.petrochemistry.net/ftp/pressroom/APAEN.pdf

11. Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use and/or disposal of Paraxylene. These regulations may vary by city, state, country or geographic region.

12. Conclusion Statements

- Paraxylene is a widely used industrial chemical feedstock used to make other industrial chemicals.
- Paraxylene is low in acute toxicity at typical exposures, however may cause skin and eye irritation, and lead to drowsiness and dizziness at high level exposures.
- Paraxylene is not expected to cause adverse environmental effects at levels typically found in the workplace or environment.
- Paraxylene is flammable; use only with good ventilation and avoid all ignition sources.