

Product Safety Summary

PureSyn™ Polyalphaolefins

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. Warnings and handling precautions provided below are not intended to replace or supersede manufacturers' instructions and warning for their consumer products which may contain this chemical substance.

1. Chemical Identity

PureSyn™ 2

PureSyn™ 4

PureSyn™ 6

PureSyn™ Polyalphaolefins (PAO) are characterized as hydrogenated olefin oligomers manufactured by the catalytic polymerization of linear alpha olefins. PAO products are colorless liquids with well-defined, wax-free isoparaffinic structures.

CAS No: Various

Chemical Name: Branched Alkanes

2. Product Uses

PureSyn™ polyalphaolefins are sold into personal care applications including:

- Cosmetics
- AHA/BHA Products
- Hair Relaxers
- Antiperspirant/deodorants
- Lotions and Creams
- Sunscreens
- Moisturizers
- Gels
- Water-in Oil Emulsions

PureSyn™ polyalphaolefins are not sold directly to the public for general consumer uses.

3. Physical / Chemical Properties

PureSyn™ polyalphaolefins are not flammable and have a relatively low vapor pressure. They are chemically stable under normal conditions of handling and use. Contact with substances that are considered strong oxidizers should be avoided. It is recommended that these products be handled in areas with adequate ventilation. Excessive heat and high energy sources of ignition should be avoided. The flash point for these products is typically greater than 248°F / 120°C.

4. Health Information

Polyalphaolefins have been studied extensively and are generally recognized to have low acute dermal and oral toxicity. The PureSyn™ 2 polyalphaolefin is toxic by inhalation. Vaporizing or aerosolizing these

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products should be avoided. If swallowed, these products may be aspirated and cause lung damage. Excessive exposure can cause eye, skin or lung irritation. If prolonged or repeated skin contact is likely, the use of chemical resistant gloves is recommended. Polyalphaolefins are expected to present a low risk for chronic toxicity. PureSyn™ polyalphaolefins are not regarded as a mutagen or carcinogen, and there is low concern for reproductive, developmental, or nervous system toxic effects.

5. Additional Hazard Information

In the unlikely event that these products are injected into or under the skin, or into any part of the body, the individual should be evaluated immediately by a physician as a surgical emergency regardless of the appearance of the wound or its size. When used in high pressure or hydraulic applications, the initial symptoms from high pressure injection may be minimal or absent. Early surgical treatment, i.e., within the first few hours, may significantly reduce the ultimate extent of injury. Wash contact areas with soap and water.

6. Food Contact Regulated Uses

Appropriate manufacturing and distribution practices are employed to ensure the quality of these products when offered for use in indirect food contact applications.

7. Environmental Information

Biodegradability information for PureSyn™ polyalphaolefins indicates that these substances are expected to be inherently biodegradable and will not persist in the environment. These products are not expected to cause short-term toxicity to fish or other aquatic organisms. Due to their low solubility in water, chronic toxicity to fish and other aquatic organisms is not expected.

8. Exposure Potential

- **Workplace exposure** – This refers to potential exposure in a manufacturing facility or in various industrial and consumer products utilized in a manufacturing facility. Generally, exposure of personnel in manufacturing facilities is relatively low due to the predominantly enclosed nature of the process, storage and handling operations.
- **Consumer use of products containing PureSyn™ polyalphaolefins** – If exposure should occur it is likely to be infrequent and of short duration depending on the products used and the conditions under which they are used. Exposure could occur through the use of lubricant and grease formulations that contain these products. The best way to prevent exposure is to work in well-ventilated areas, wear chemical resistant gloves, and follow good personal hygiene practices.
- **Environmental releases** – As a chemical manufacturer, we 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.

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9. Manufacture of Product

Manufacturing Process – The process begins when Ethylene is oligomerized (linked together chemically) to create even numbered linear alpha olefins (LAO's) that range from C₄ to C₂₂ and higher. From this family, LAO's are selected to become the feed stream to manufacture PureSyn™ PAO. The LAO molecules are then oligomerized or "linked" to one another in the presence of a catalyst.

10. Risk Management

- **Workplace Risk Management** – When using this chemical, a good practice to manage risk is to work in well-ventilated areas, wear chemical resistant gloves, and wear eye protection such as chemical goggles. Do not eat, drink, or smoke where this chemical is handled, processed, or stored. Wash hands and skin following contact. If this chemical gets into your eyes, rinse eyes thoroughly for at least 15 minutes with tap water and seek medical attention. Please refer to the Safety Data Sheet.
- **Consumer Risk Management** - These chemicals are not sold directly to the public for general consumer uses. If exposure should occur, it is expected to be infrequent and of short duration. Always follow manufacturers' instructions, warnings and handling precautions when using their products. The best way to minimize exposure to vapors is to work in well-ventilated areas.

11. Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use and/or disposal of this chemical and may vary by city, state, country or geographic region. Additional helpful information may be found by consulting the relevant ExxonMobil Safety Data Sheet at:

<http://www.msds.exxonmobil.com/psims/psims.aspx?brand=xomcc>

12. Conclusion Statements

PureSyn™ polyalphaolefins:

- Are widely used in personal care applications
- Are low in oral and dermal toxicity; however PureSyn™ 2 is toxic by inhalation. Vaporizing or aerosolizing the products should be avoided. If swallowed, these products may be aspirated and cause lung damage.
- Are not expected to cause adverse health or environmental effects at levels typically found in the workplace or environment.

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