

Product Safety Summary



MONO ETHYLENE GLYCOL

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

Mono Ethylene Glycol is manufactured in a 2-step reaction process. First, ethylene is reacted with oxygen to form ethylene oxide. Second, ethylene oxide is reacted with water to form Mono Ethylene Glycol (MEG). MEG is typically produced to a high level of purity (99%).

CAS No.
107-21-1

Chemical Name:
MONO ETHYLENE GLCOL

Other Names:
MEG
Ethylene Glycol
1,2-dihydroxyethane
1,2-ethanediol

2. Product Uses

MEG is used as a feedstock for manufacturing polyester polymers. It is also used in the formulation of antifreeze products.

3. Physical / Chemical Properties

MEG is a colorless and odorless liquid with a low vapor pressure and a sweet taste. MEG is fully miscible with water and when mixed in a ratio of 60:40, the resulting freezing point is -48 C.

The flash point for this product is approximately 232 °F / 111 °C.

4. Health Information

MEG is considered harmful if swallowed. It may cause kidney failure and central nervous system effects if ingested. MEG is converted to toxic metabolites in the body, which may be fatal if it is ingested in large amounts. This is a medical emergency which must be immediately and properly treated.

5. Additional Hazard Information

Prolonged exposure to elevated concentrations of mists or liquids may cause irritation to skin, eyes and the respiratory tract.

6. Food Contact Regulated Uses

Product Safety Summary



MONO ETHYLENE GLYCOL

MEG is not claimed as compliant for food contact uses.

7. Environmental Information

MEG is not expected to be harmful to aquatic organisms. It is expected to be rapidly/readily biodegradable and its potential to bioaccumulate is low.

8. Exposure Potential

- **Workplace exposure** – The potential exposure to MEG in a manufacturing facility or industrial workplace is generally low because the process, storage and handling operations are closed, with little potential for releases to the air. The American Conference of Government Industrial Hygienists recommends a ceiling limit of 100 mg/m³ as an occupational exposure to aerosol vapors of MEG.
- **Consumer use of products containing MEG** – MEG may be present in antifreeze products sold to the general public. At ambient pressures the exposure to vapors will be very low, but could be high if mists are generated. MEG, as such, is no longer present in polymers made from it. Exposure to consumers would be noticed by signs of irritation to the respiratory tract or skin.
- **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. Our operational improvement targets and plans are based on driving incidents with real environmental impact to zero and delivering superior environmental performance.

9. Manufacture of Product

- **Capacity** – According to publicly available sources, the worldwide production of MEG reached 19 million tons in 2008 (the most recent reporting year available).
- **Process** – MEG is generally manufactured in a 2-staged reaction of ethylene with oxygen, and then with water in a chemical plant.

10. Risk Management

- **Workplace Risk Management** – When using this chemical, make sure that there is limited exposure to the liquid, and also avoid the generation of vapor mists. Always use chemical resistant gloves to protect your hands and skin and always 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** - This chemical may be present in products sold directly to the public for general consumer uses. Consumer exposure is possible, but it is expected to be infrequent and of short duration. Always follow manufacturers' instructions, warnings and handling precautions when using their products.

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:

Product Safety Summary



MONO ETHYLENE GLYCOL

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

12. Conclusion Statements

- MEG is a chemical manufactured at industrial facilities.
- MEG is used as a component in the manufacturing of polymers and may be present in antifreeze products sold to the general public.
- MEG is toxic to people and pets when ingested in large amounts.
- MEG is readily biodegradable, is not expected to be harmful to aquatic organisms, and is not expected to cause long-term adverse effects in the aquatic environment

©2016 ExxonMobil. The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. Users of chemical products should refer to the product labels and applicable Material Safety Data Sheets for information and recommendations as to the safe handling and use of this product. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest. ExxonMobil, the ExxonMobil Logo and the "Interlocking X" Device, and product names used herein are trademarks or registered trademarks of Exxon Mobil Corporation and/or its affiliates, unless otherwise noted.