Product Safety Assessment

UCON™ Lubricant 100

Product Safety Assessment documents are available at www.dow.com/productsafety/finder/.

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Names
- UCON™ Lubricant 100

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Product Overview
- UCON™ Lubricant 100 is a polyalkylene glycol (PAG) base fluid developed for use in high-performance marine-lubricant formulations, where its minimal impact on the aquatic environment is important. UCON Lubricant 100 is a colorless-to-yellow liquid with a mild odor.\(^1\) For further details, see Product Description.
- UCON Lubricant 100 is designed for a broad variety of marine-lubricant applications, including off-shore platform machinery and ship propulsion drives. UCON Lubricant 100 may also be used to formulate hydraulic fluids and gear oils.\(^2\) For further details, see Product Uses.
- UCON Lubricant 100 is intended for industrial use. Worker exposure is possible during manufacture or formulation or during product transport or use. Engineering controls and personal protective equipment reduce exposure risk. Consumers are not likely to contact this product.\(^3\) For further details, see Exposure Potential.
- Eye contact may cause slight, temporary irritation, although corneal injury is unlikely. Prolonged skin contact is not likely to cause significant irritation. At room temperature, exposure to vapor is minimal. Vapor from heated material or mist may cause respiratory irritation.\(^4\) For further details, see Health Information.
- The polyalkylene glycols in UCON Lubricant 100 are readily biodegradable, are not likely to accumulate in the food chain (low bioconcentration potential), and are practically nontoxic to fish and other aquatic species on an acute basis.\(^5\) For further details, see Environmental Information.
- UCON Lubricant 100 is thermally stable at recommended storage and normal use conditions, but can decompose at elevated temperatures. Avoid contact with strong acids, strong bases, and strong oxidizers.\(^6\) For further details, see Physical Hazard Information.

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Manufacture of Product

- **Locations** – The Dow Chemical Company manufactures UCON™ Lubricant 100 in facilities in the U.S.A.
- **Process** – UCON™ Lubricant 100 is formulated using proprietary materials and technology.

Product Description

UCON™ Lubricant 100 is a synthetic lubricant based on a mixture of polyalkylene glycols. This product was developed for use in marine lubricants. A key feature of this product is its ability to retain as much as 80% of its viscosity even after sea-water contamination of up to 40%. UCON Lubricant 100 can be blended with standard additives for corrosion inhibition and oxidation stability.

Product Uses

UCON™ Lubricant 100 is a high-performance marine lubricant for applications in which leakage cannot be completely avoided, and thus, ready biodegradability and low aquatic toxicity are necessary attributes. Some examples are:

- Stern tubes (ship propeller system)
- Pitch-controlled ship propellers
- Motion compensation cylinders (off-shore platforms)

UCON Lubricant 100 can also be used to formulate hydraulic fluids and gear oils.

Exposure Potential

UCON™ Lubricant 100 is used in marine-lubricant applications. Based on the uses for this product the public could be exposed through:

- **Workplace exposure** – Exposure can occur in facilities that manufacture UCON fluids or during transport or use. Those working with UCON lubricants in manufacturing operations could be exposed during maintenance, sampling, testing, or other procedures. Each manufacturing facility should have a thorough training program for employees and appropriate work processes and safety equipment in place to limit exposure. See Health Information.
- **Consumer exposure to UCON Lubricant 100** – UCON Lubricant 100 is a commercial product intended for industrial use. Consumers are not likely to contact this product. See Health Information.
- **Environmental releases** – UCON Lubricant 100 is used in marine-lubricant applications in which leakage is possible. It is readily biodegradable and nontoxic to fish and other aquatic organisms, and thus has low impact on the aquatic environment. See Environmental, Health, and Physical Hazard Information.
- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, the focus is on immediate containment to prevent contamination of soil, surface water, or groundwater. Collect spilled product in suitable and properly labeled containers. Use appropriate safety equipment. See Environmental, Health, and Physical Hazard Information.
- **In case of fire** – Keep people away. Isolate the fire and deny unnecessary entry. Use water fog or fine spray, dry-chemical or carbon-dioxide extinguishers, or foam to fight the fire. Alcohol-resistant foams are preferred. A direct water stream may spread the fire. Firefighters

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should wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing. Fight the fire from a protected area or safe distance. Follow emergency procedures carefully. See Environmental, Health, and Physical Hazard Information.

For more information, request the Safety Data Sheet from the Dow Customer Information Group.

Health Information

**Eye contact** – Contact may cause slight, temporary eye irritation. Corneal injury is unlikely.

**Skin contact** – Prolonged contact is not likely to cause significant skin irritation. This product is not likely to be absorbed through the skin.

**Inhalation** – At room temperature, exposure to vapor is minimal due to low volatility. A single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.

**Ingestion** – This product has low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury. However, swallowing larger amounts may cause injury.

**Repeated exposure** – This product contains component(s) that have been reported to affect the lungs in animal testing.

For more information, request the Safety Data Sheet from the Dow Customer Information Group.

Environmental Information

The polyalkylene glycols in UCON™ Lubricant 100 are completely soluble in water, and when introduced, will remain in water. This high water solubility, along with very low vapor pressure, dictate that the polyalkylene glycols will not evaporate from water or soil, and have minimal tendency to bind to soil or sediment.

The polyalkylene glycols in UCON Lubricant 100 are unlikely to persist in the environment. These components are readily biodegradable, which indicates that the substance would be ultimately degraded in both water and soil environments, and efficiently removed in biological wastewater-treatment facilities.

Because of their high water solubility, the polyalkylene glycols in UCON Lubricant 100 are not likely to accumulate in the food chain (bioconcentration potential is low). These polyalkylene glycols are practically nontoxic to fish and other aquatic organisms on an acute basis.

For more information, request the Safety Data Sheet from the Dow Customer Information Group.

Physical Hazard Information

UCON™ Lubricant 100 is thermally stable under recommended storage and normal use conditions, but can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure build-up in closed systems.

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**Regulatory Information**

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of UCON™ Lubricant 100. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet, Technical Data Sheet, or Contact Us.

**Additional Information**

- Safety Data Sheet [www.dow.com/assistance/dowcig.htm](http://www.dow.com/assistance/dowcig.htm)
- Contact Us [www.dow.com/ucon/contact/index.htm](http://www.dow.com/ucon/contact/index.htm)


**References**

NOTICES:

As part of its 2015 Sustainability Goals, Dow has committed to make publicly available safety assessments for its products globally. This product safety assessment 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 health and safety information. Additional information is available through the relevant Safety Data Sheet, which should be consulted before use of the chemical. This product safety assessment does not replace required communication documents such as the Safety Data Sheet.

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