Product Safety Assessment

**UCON™ Hydraulic Fluid WS-34**


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**Names**

UCON™ Hydraulic Fluid WS-34

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**Product Overview**

- **UCON™ Hydraulic Fluid WS-34** is a water-soluble, polyalkylene glycol-based anti-wear fluid. This product is formulated with UCON polyalkylene glycol and a proprietary inhibitor package. UCON Hydraulic Fluid WS-34 is a colorless-to-yellow liquid with a mild odor.¹ For further details, see *Product Description*.

- UCON Hydraulic Fluid WS-34 is a commercial product designed for industrial machinery. Hydraulic fluids are the power-transfer media in hydraulic-pump systems. WS-34 fluid is designed for applications in which water solubility, easy clean-up, and process compatibility are important.² For further details, see *Product Uses*.

- UCON Hydraulic Fluid WS-34 is intended for industrial use. Worker exposure is possible during manufacture 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 may cause slight irritation with local redness. Skin contact may cause an allergic skin reaction. At room temperature, exposure to vapor is minimal.⁴ For further details, see *Health Information*.

- The polyalkylene glycol in UCON Hydraulic Fluid WS-34 is readily biodegradable, not likely to accumulate in the food chain (low bioconcentration potential), and is practically non-toxic to fish and other aquatic species on an acute basis.⁵ For further details, see *Environmental Information*.

- UCON Hydraulic Fluid WS-34 is thermally stable at recommended storage and use temperatures, 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

- **Capacity** – The Dow Chemical Company manufactures UCON™ Hydraulic Fluid WS-34 at facilities in the USA.
- **Process** – UCON Hydraulic Fluid WS-34 is formulated using proprietary materials and technology.

Product Description

UCON™ Hydraulic Fluid WS-34 is a water-soluble, high-viscosity anti-wear fluid formulated from polyalkylene glycol and a proprietary inhibitor package. The inhibitor acts as a fluid stabilizer and corrosion inhibitor and also provides low-wear performance in hydraulic systems.

UCON Hydraulic Fluid WS-34 does not contain zinc dialkylphosphosphate, a common anti-wear additive in petroleum-based anti-wear hydraulic fluids.

Product Uses

UCON™ Hydraulic Fluid WS-34 is a commercial product designed for industrial machinery. UCON Hydraulic Fluid WS-34 is designed for applications in which water solubility, easy clean-up, and compatibility with processes are important.

Exposure Potential

UCON™ Hydraulic Fluid WS-34 is used in the hydraulic-pump systems of industrial machinery. Based on the uses for this product the public could be exposed through:

- **Workplace exposure** – Exposure can occur in facilities that manufacture UCON Hydraulic Fluid or during transport or use. Those working with hydraulic fluids 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 Hydraulic Fluid WS-34** – UCON Hydraulic Fluid WS-34 is a commercial product intended for industrial use. Consumers are not likely to contact this product. See Health Information.

- **Environmental releases** – Because UCON Hydraulic Fluid WS-34 is used in closed systems, the potential for release to the environment is low. The main component, a water-soluble polyalkylene glycol, is readily biodegradable in water and soil environments, including removal by wastewater-treatment facilities. 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 and surface or ground water. 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 should wear positive-pressure, self-contained breathing apparatus (SCBA) and protective equipment.

Footnote:

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Health Information

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

Skin contact – Brief skin contact is essentially nonirritating. Repeated contact may cause slight skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Skin contact may cause an allergic reaction.

Inhalation – At room temperature, exposure to vapor is minimal due to low volatility.

Ingestion – This product has very 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.

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

Environmental Information

The main component of UCON™ Hydraulic Fluid WS-34 is a proprietary water-soluble polyalkylene glycol. If introduced to water, this substance will remain in water and will not evaporate from water or soil to the air. Such water-soluble polyalkylene glycols have minimal tendency to bind to soil or sediment, and may migrate through soil into groundwater if continually spilled/released at a specific location.

The polyalkylene glycol component of UCON Hydraulic Fluid WS-34 is unlikely to persist in the environment. This product is readily biodegradable, and is expected to be ultimately biodegraded in water and soil environments, including removal by biological wastewater-treatment facilities.

The main polyalkylene glycol component is not likely to accumulate in the food chain (bioconcentration potential is low) and is practically non-toxic to fish and other aquatic organisms on an acute basis.

4-methoxy phenol is a minor additive used in the formulation of UCON™ Hydraulic Fluid WS-34. This substance is highly soluble in water, and has very low vapor pressure; and as such will not evaporate from water or soil, or adsorb to soil or sediment particles. This additive is readily biodegradable, and is toxic to moderately toxic to aquatic organisms on an acute basis. This component has low potential to accumulate in aquatic organisms. Because this and other additives make up < 2% of the product composition, they do not contribute significantly to the toxicity of the UCON™ Hydraulic Fluid WS-34 product.

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

UCON™ Hydraulic Fluid WS-34 is thermally stable under recommended storage and use conditions, but can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure build-up in closed systems.

Avoid contact with strong acids, strong bases, and strong oxidizers.

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

Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of UCON™ Hydraulic Fluid WS-34. 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)
- Contact Us (www.dow.com/ucon/contact/index.htm)

For more business information about UCON Hydraulic Fluid WS-34 visit the Dow UCON Fluids and Lubricants website at www.dow.com/ucon/, or contact the Dow Customer Information Group at www.dow.com/assistance/dowcig.htm.

References


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