Product Safety Assessment

ACUSOL™ HEUR Rheology Modifiers


Select a Topic:
Names
Product Overview
Manufacture of Product
Product Description
Product Uses
Exposure Potential
Health Information
Environmental Information
Physical Hazard Information
Regulatory Information
Additional Information
References

Names
• ACUSOL HEUR rheology modifiers
• ACUSOL 880 polymer
• ACUSOL 882 polymer

Product Overview
• ACUSOL™ hydrophobically modified ethoxylated urethane (HEUR) rheology modifiers are nonionic polymers that are formulated. They are clear to white, hazy liquids with a mild or sweet odor.\(^1\)\(^2\)\(^3\) For further information, see Product Description.
• ACUSOL HEUR rheology modifiers are used in detergent formulations for household and industrial applications.\(^4\) For further information, see Product Uses.
• Worker exposure to ACUSOL rheology modifiers is possible during manufacture, transport, or use. Consumers may use household products that contain these polymers. For further information, see Exposure Potential.
• In the industrial setting, direct eye contact with these materials can cause moderate irritation. Prolonged or repeated skin contact with these polymers may cause slight irritation. Inhalation of product vapor or mist may cause irritation of the nose, throat, and lungs.\(^5\) For further information, see Health Information.
• ACUSOL HEUR rheology modifiers are nonionic polymers suspended in water. If released to the environment, the polymers would be expected to be inert. Due to their high molecular weight, these polymers are not expected to bioaccumulate in the food chain. ACUSOL HEUR rheology modifiers are expected to be practically non-toxic to fish and other aquatic organisms on an acute basis.\(^6\) For further information, see Environmental Information.
• ACUSOL HEUR rheology modifiers are stable under recommended storage and use conditions.\(^7\) For further information, see Physical Hazard Information.
Product Safety Assessment: ACUSOL™ HEUR Rheology Modifiers

Manufacture of Product

- **Locations** – Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company, manufactures ACUSOL™ HEUR rheology modifiers at facilities in Bristol, Pennsylvania, USA, in quantities sufficient to meet global demand.
- **Process** – ACUSOL HEUR rheology modifiers are produced and formulated in batch operations using proprietary methods and technology.

Product Description

ACUSOL™ hydrophobically modified ethoxylated urethane (HEUR) rheology modifiers are nonionic polymers that are formulated. They are clear to hazy or white liquids with a mild or sweet odor. Most are dissolved in water and a polar solvent.

Product Uses

ACUSOL™ HEUR rheology modifiers are used worldwide as thickeners and stabilizers in liquid cleaners and laundry products for household and industrial applications, such as:

- Fabric softeners
- Acidic household cleaners
- Acidic abrasive cleaners
- Toilet bowl cleaners
- Scale and rust removers
- Detergent sanitizers
- Cationic silicone emulsions
- Peroxide-based detergents
- Hydrogen peroxide bleach products
- Acid metal cleaners/brighteners
- Industrial and institutional laundry sours
- Dye leveling aids
- Acid rinse aids

Exposure Potential

ACUSOL™ HEUR rheology modifiers are used in the production of household and industrial cleaners and laundry products. Based on this, exposure could occur through:

- **Workplace exposure** – Those working with ACUSOL HEUR rheology modifiers in manufacturing and/or formulating 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 ACUSOL HEUR rheology modifiers** – These products are not sold for direct consumer use, but may be formulated at low levels into household cleaners and laundry products used by the general public. The polymers in ACUSOL HEUR rheology modifiers have a well-established toxicological profile and are considered safe for normal use. Always read and follow product label instructions. See Health Information.

- **Environmental releases** – Because these products are formulated into household and industrial cleaners as well as laundry products, small quantities could enter wastewater-treatment facilities when these products are used or discarded. If released to water, the polymers would initially disperse in water, and eventually settle into the sediment. These products will degrade slowly in the environment and will likely be removed by biological wastewater-treatment facilities by adsorbing onto biosolids. These products are not acutely toxic to fish or other aquatic organisms. 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. Evacuate personnel upwind and away from the spill or leak. Appropriate protective equipment must be worn when handling spills of these products. Dike the spill and absorb with inert solids such as sand or soil. Collect liquids and solid diking material in suitable separate containers. Spilled material can create slippery conditions. See Environmental, Health, and Physical Hazard Information.

Trademark of the Dow Chemical Company (“Dow”) or an affiliated company of Dow

Created: April 1, 2013 The Dow Chemical Company
Product Safety Assessment: ACUSOL™ HEUR Rheology Modifiers

- **In case of fire** – These products are noncombustible, but the dried residue can burn. Use extinguishing media appropriate for the surrounding fire. Firefighters should wear positive-pressure, self-contained breathing apparatus and protective firefighting clothing. 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**

Health information for ACUSOL™ HEUR rheology modifiers is summarized on the relevant Safety Data Sheet. It is important to note that health risks associated with individual products may vary based on their formulation and/or intended use. The Safety Data Sheet is the preferred source for specific health information. These products may also contain minor components or additives that have additional health risks. An overview of health information for ACUSOL HEUR rheology polymers appears below.

**Eye contact** – Direct contact can cause moderate eye irritation.

**Skin contact** – Prolonged or repeated contact can cause slight skin irritation.

**Inhalation** – Inhalation of heated product vapor or mist can cause irritation of the nose, throat, and lungs. Headache, nausea, and dizziness are also possible.

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

---

**Environmental Information**

ACUSOL™ HEUR rheology modifiers are expected to be inert in the environment. If released to surface waters, the polymers would initially remain dispersed in water, and eventually settle into the sediment. These polymers will likely be removed by biological wastewater-treatment facilities by adsorbing onto biosolids.

Although these polymers are generally considered nonbiodegradable, they are likely to degrade slowly in the environment, including degradation by physical action or upon exposure to sunlight.

Because of their high molecular weight, these polymers would not be expected to accumulate in the food chain (low bioconcentration potential). ACUSOL HEUR rheology modifiers 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**

ACUSOL™ HEUR rheology modifiers are stable under recommended storage and normal use conditions. Keep these products from freezing. Avoid contact with acids, alkalis, and strong oxidizing agents. ACUSOL HEUR rheology modifiers are noncombustible, but the dried residue can burn.

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 ACUSOL™ HEUR rheology modifiers. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet or Contact Us.

---

\[**™**\] Trademark of the Dow Chemical Company (“Dow”) or an affiliated company of Dow.
Additional Information

- Request the Safety Data Sheet from the Dow Customer Information Group (www.dow.com/assistance/dowcig.htm)
- Contact Us (www.dow.com/assistance/thoughts.htm)
- ACUSOL™ Rheology Modifiers for Home and Fabric Care Products, Rohm and Haas, Form No. CS-727D, May 2008 (www.dow.com/assets/attachments/business/acusol_guides/AcusolRheo_low.pdf)
- ACUSOL™ 880 and ACUSOL 882 Detergent Grade Rheology Modifiers and Stabilizers, Rohm and Haas, Form No. 880-882.PDS.E., July 2006 (www.dow.com/assets/attachments/business/pmat/acusol_rheology_modifiers/acusol_880-882/tds/acusol_880-882.pdf)

For more business information about ACUSOL™ products, visit the Dow webpage for ACUSOL rheology modifiers at www.dow.com/products/product-line/acusol-rheology-modifiers/.

References

3. ACUSOL™ 880 and ACUSOL 882 Detergent Grade Rheology Modifiers and Stabilizers, Rohm and Haas, July 2006, page 1.
4. ACUSOL™ 880 and ACUSOL 882 Detergent Grade Rheology Modifiers and Stabilizers, Rohm and Haas, July 2006, page 1.
11. ACUSOL™ 880 and ACUSOL 882 Detergent Grade Rheology Modifiers and Stabilizers, Rohm and Haas, July 2006, page 1.

Back to top
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.

The information herein is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Dow be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information herein or the product to which that information refers.

Nothing contained herein is to be construed as a recommendation to use any product, process, equipment or formulation in conflict with any patent, and Dow makes no representation or warranty, express or implied, that the use thereof will not infringe any patent.

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

Dow makes no commitment to update or correct any information that appears on the Internet or on its World-Wide Web server. The information contained in this document is supplemental to the Internet Disclaimer, www.dow.com/homepage/term.asp.

Back to top