Product Safety Assessment

ACUSOL™ Opacifiers


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Names
- ACUSOL™ opacifiers
- ACUSOL opacifying agents
- ACUSOL OP301 opacifier
- ACUSOL OP302B opacifier
- ACUSOL OP303B opacifier
- ACUSOL OP305 opacifier

Product Overview
- ACUSOL™ opacifiers are white, milky liquids with a mild, acrylic odor. They are styrene/acrylic or styrene/acrylamide emulsion copolymers with about 40% solids.¹ For further information, see Product Description.
- ACUSOL opacifiers are used in a variety of liquid household cleaners and laundry products to impart a milky, white appearance.² For further information, see Product Uses.
- Worker exposure to ACUSOL opacifiers is possible during manufacture, transport, or use. Consumers may use household products that contain these polymers.³ For further information, see Exposure Potential.
- Direct eye and skin contact can cause slight irritation. Inhalation of vapor, mist, or dust can cause irritation of the nose, throat, and lungs.⁴ For further information, see Health Information.
- ACUSOL opacifiers are expected to be relatively inert in the environment. The polymers are unlikely to bioaccumulate in the food chain and are practically nontoxic to fish and other aquatic organisms on an acute basis. Consumers should read and follow label instructions.⁵ For further information, see Environmental Information.
- ACUSOL opacifiers are noncombustible and stable under recommended storage and normal use conditions.⁶ For further information, see Physical Hazard Information.

Manufacture of Product
- Locations – Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company, manufactures ACUSOL™ opacifiers at facilities in Croydon, Pennsylvania, USA, and through its foreign affiliates in Landskrone, Sweden, in quantities sufficient to meet global demand.
- Process – ACUSOL opacifiers are produced by emulsion polymerization in batch operations using proprietary methods and technology.

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**Product Description**
ACUSOL™ opacifiers are water-based styrene/acrylic or styrene/acrylamide copolymer emulsions with a mild odor. These products are white, milky liquids typically with 40% solids that have been designed to scatter light effectively in liquid formulations.

**Product Uses**
ACUSOL™ opacifiers are used at 0.1 to 1.0% to impart a milky or lotionized appearance in formulated liquid products for household cleaners and laundry applications, such as:
- Acid systems and toilet cleaners
- Car shampoos
- Cationic systems
- Dishwashing detergents
- Floor cleaning formulations
- General-purpose formulations
- Hand-wash formulations
- Liquid soaps
- Laundry detergents and fabric softeners

**Exposure Potential**
ACUSOL™ opacifiers are used in the production of household cleaners and laundry products. Based on this, exposure could occur through:
- **Workplace exposure** – Those working with ACUSOL opacifiers 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 opacifiers** – These products are not sold for direct consumer use, but may be formulated at low levels (0.1 to 1.0%) into household cleaners and laundry products. ACUSOL opacifiers are safe for normal use. Always read and follow product label instructions. See Health Information.
- **Environmental releases** – Because these products are formulated into household 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 polymers 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.
- **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™ opacifiers 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 opacifiers appears below.

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

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

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

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

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**Environmental Information**

ACUSOL™ opacifiers are water-based emulsions. If released to the environment, the polymer components would be inert, and would likely be removed by biological wastewater-treatment facilities via adsorption to biosolids. If released to surface waters, the polymers would initially remain dispersed in water, but eventually settle into sediments. If ACUSOL opacifiers are released to soil, they would be expected to remain in place and be degraded gradually by sunlight and mechanical action.

ACUSOL opacifiers are not expected to accumulate in the food chain (low bioconcentration potential). Based upon test results for compositionally similar polymer materials, ACUSOL opacifiers are practically nontoxic to aquatic organisms on an acute basis.

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

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**Physical Hazard Information**

ACUSOL™ opacifiers are stable under recommended storage and normal use conditions. Monomer vapors can be released when these products are heated during processing operations. Keep these products from freezing. There are no known materials that are incompatible with these products. ACUSOL opacifiers are noncombustible, but dried product residue can burn.

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

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**Regulatory Information**

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of ACUSOL™ opacifiers. 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.

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**Additional Information**

- Request the Safety Data Sheet from the Dow Customer Information Group ([www.dow.com/assistance/dowcig.htm](http://www.dow.com/assistance/dowcig.htm))
- Contact Us ([www.dow.com/assistance/thoughts.htm](http://www.dow.com/assistance/thoughts.htm))


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