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Names
- EPITEX™ Sunscreen Water Resistant Polymers
- EPITEX 66 Polymer
- EPITEX AC Powder
- Styrene/Acrylate Copolymers
- Acrylate Copolymers
- Styrene/Acrylic Copolymers
- Acrylic Copolymers

Product Overview
- EPITEX™ Sunscreen Water Resistant Polymers are supplied as liquid solutions or powders by The Dow Chemical Company and its global affiliates. For further details, see Product Description.
- EPITEX Sunscreen Water Resistant Polymers are added to sunscreen formulations to offer increased water resistance and improved skin feel. For further details, see Product Uses.
- Worker exposure to EPITEX Sunscreen Water Resistant Polymers is possible during manufacture, formulation, transport, or use. Although EPITEX Sunscreen Water Resistant Polymers are not sold directly to consumers, they are added to sunscreen products used by consumers. Based on toxicology tests conducted on a compositionally similar acrylic co-polymers, the mammalian LD₅₀ values for EPITEX™ Polymers are by single oral and dermal exposure are both expected to be >5000 mg/kg.
- For further details, see Exposure Potential.
- In the industrial setting, eye contact with undiluted polymers may cause irritation. Prolonged or repeated skin contact may cause slight irritation. Inhalation of vapor or mist may cause headache, nausea, and irritation of the nose, throat, and lungs. For further details, see Health Information and the relevant Safety Data Sheet.
- Acrylate copolymers and styrene/acrylic copolymers are considered inert in the environment and are unlikely to accumulate in the food chain. Although these polymers are nonbiodegradable, they would be removed by adsorption to sediment, suspended solids, and organic matter. Based on eco-toxicology tests conducted on a compositionally similar acrylic co-polymers, the aquatic organism LC₅₀ values for EPITEX™ Polymers for fish, Daphnia, and algae are all expected to be >1000 mg/l.
- For further details, see Environmental Information.
- EPITEX Sunscreen Water Resistant Polymers are stable under recommended storage and normal use conditions. For further details, see Physical Hazard Information.

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**Product Safety Assessment: EPITEX™ Sunscreen Water Resistant Polymers**

**Manufacture of Product**
- **Locations** – EPITEX™ Sunscreen Water Resistant Polymers are manufactured at facilities in North America by The Dow Chemical Company and its global affiliates.
- **Process** – EPITEX Sunscreen Water Resistant Polymers are manufactured by an emulsion polymerization process.

**Product Description**
EPITEX™ 66 Polymer is an acrylate polymer that is supplied as a liquid polymer emulsion ranging from 39 to 46% solids. EPITEX AC Powder is a styrene/acrylic polymer emulsion that is supplied in powder form.

**Product Uses**
EPITEX™ Sunscreen Water Resistant Polymers are added to lotion and aerosol spray sunscreen formulations to help provide long-lasting water and rub-off resistance as well as improved skin feel. These polymers are added in very small amounts, typically between 0.5 and 5.0% based on the key ingredient. EPITEX Sunscreen Water Resistant Polymers have been reviewed by the Cosmetic Ingredient Review Expert Panel in the broad context of acrylate copolymers (INCI Names are acrylate copolymer and styrene/acrylate copolymer). An assessment of these acrylate copolymers was published in a CIR Panel report on December 21, 1999.

**Exposure Potential**
EPITEX™ Sunscreen Water Resistant Polymers are used in the production of personal-care products, including sunscreen and cosmetics. Based on the uses for EPITEX Sunscreen Water Resistant Polymers, individuals could be exposed through:
- **Workplace exposure** – Those working with EPITEX Polymers 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, ventilation, and safety equipment in place to limit exposure. See Health Information.
- **Consumer exposure to products containing EPITEX Sunscreen Water Resistant Polymers** – Dow does not sell EPITEX Sunscreen Water Resistant Polymers for direct consumer use, but small amounts are formulated into personal-care products used by consumers. Acrylate copolymers and styrene/acrylate copolymers have been evaluated by the Cosmetic Ingredient Review (CIR) Expert Panel and deemed safe as a cosmetic ingredient. Always read and follow product label instructions before use. See Health Information.
- **Environmental releases** – In the event of a spill, the focus is on containing the spill to prevent contamination of soil, surface water, or groundwater. Because EPITEX Sunscreen Water Resistant Polymers are formulated into sunscreen products, small quantities could enter wastewater-treatment facilities when these products are washed off or discarded. The polymers are expected to be inert in the environment and would likely be removed by biological wastewater-treatment facilities. Based on eco-toxicology tests conducted on a compositionally similar acrylic co-polymers, the aquatic organism LC50 values for EPITEX™ Polymers for fish, Daphnia, and algae are all expected to be >1000 mg/l. 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 product should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Use personal protective equipment. Keep people away from and upwind of spill/leak. Spilled product can create slippery conditions. Keep spills and cleaning runoff out of municipal sewers and open bodies of water. Contain spills immediately with inert materials such as sand or earth. Transfer liquids and solid diking material to separate suitable containers for recovery and disposal. See Environmental, Health, and Physical Hazard Information.
- **In case of fire** – Use extinguishing media appropriate for the surrounding fire. Thermal decomposition may yield acrylic monomers. Material can splatter above 100°C (212°F). Dried product can burn. Wear self-contained breathing apparatus and protective suit. Follow emergency procedures outlined in the Safety Data Sheet carefully. See Environmental, Health, and Physical Hazard Information.

For more information, see the relevant Safety Data Sheet.
Health Information

EPITEX™ Sunscreen Water Resistant Polymers and a variety of structurally similar polymers have been tested in a number of nonclinical and clinical tests to evaluate potential hazards associated with the use and handling of the product. Based on toxicology tests conducted on a compositionally similar acrylic co-polymers, the mammalian LD$_{50}$ values for EPITEX™ Polymers are by single oral and dermal exposure are both expected to be >5000 mg/kg.

Following inhalation exposure at high concentrations in sub-acute and sub-chronic studies, the polymer in EPITEX AC Powder produced slight effects in the lungs, which were consistent with inflammatory effects observed for inert particles in general. EPITEX Sunscreen Water Resistant Polymers are considered nonsensitizing and nonmutagenic when tested in two in vitro mutagenicity assays. These polymers are safe and appropriate for use in sunscreen lotions, creams, and pump sprays.

The safety of acrylate copolymers and styrene/acrylate copolymers has been assessed by the Cosmetic Ingredient Review (CIR) Expert Panel and found to be safe for use in cosmetics and personal-care products.

The following health information refers to the concentrated EPITEX Polymer encountered during manufacturing. By contrast, formulated personal-care products contain only 0.5 to 2.0% of the EPITEX Polymer.

**Eye contact** – Contact with undiluted product may cause slight eye irritation.

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

**Inhalation** – Inhalation of heated vapor or mist can cause headache, nausea, and irritation of the nose, throat, and lungs.

For more information, see the relevant Safety Data Sheet.

Environmental Information

Acrylate copolymers and styrene/acrylate copolymers are stable materials that are dispersible in water and would be expected to be inert in the environment. They are not considered readily biodegradable, but are likely to degrade slowly in the environment, including degradation by physical action or upon exposure to sunlight. The polymers are expected to be removed by wastewater-treatment facilities by adsorption to biosolids. If released to surface water, the polymers would initially remain dispersed in water and eventually adsorb onto suspended solids and sediments.

Because of their high molecular weight, these polymers are not likely to accumulate in the food chain (bioconcentration potential is low). Based on eco-toxicology tests conducted on a compositionally similar acrylic co-polymers, the aquatic organism LC$_{50}$ values for EPITEX™ Polymers for fish, Daphnia, and algae are all expected to be >1000 mg/l.

For more information, see the relevant Safety Data Sheet.

Physical Hazard Information

EPITEX™ Sunscreen Water Resistant Polymers are stable under recommended storage and normal use conditions. Monomer vapors can be evolved when the polymers are heated during processing operations. Protect these products from freezing.

For more information, see the relevant Safety Data Sheet.
Regulatory Information
Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of EPITEX™ Sunscreen Water Resistant Polymers. 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/webapps/msds/msdssearch.aspx)
- Contact Us (www.dow.com/personalcare/contact/sample.htm)

For more business information about EPITEX™ Sunscreen Water Resistant Polymers, visit the Dow Personal Care website at www.dow.com/personalcare.

References
1 EPITEX™ 66 Polymer Technical Data Sheet, The Dow Chemical Company, Form No. 324-00459-0412
2 EPITEX™ 66 Polymer Overview Literature, Form No. 324-00447-0513
3 EPITEX™ 66 Polymer Material Safety Data Sheet, The Dow Chemical Company
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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