Product Safety Assessment

ROVACE™ Vinyl Acetate Polymers and Vinyl Acetate-Acrylic Copolymers


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
- POLYCO™ 3103NP Emulsion
- POLYCO 2149A Emulsion
- POLYCO 2160 Emulsion
- POLYCO 3916 Emulsion
- POLYCO 3960 Emulsion
- POLYCO 6107 Emulsion
- RES™ 3083 Emulsion
- ROVACE™ 86 Emulsion
- ROVACE 117 Emulsion
- ROVACE 661 Emulsion
- ROVACE 3270 Emulsion
- ROVACE 6930 Emulsion
- ROVACE 6940T Emulsion
- ROVACE 9900 Emulsion
- ROVACE HP-2931 Emulsion
- ROVACE 5140 Emulsion
- ROVACE 9100AF Emulsion
- ROVACE 6206 Emulsion

Product Overview
- Vinyl acetate polymers and vinyl acetate-acrylic copolymers are families of emulsion products manufactured by The Dow Chemical Company, and its global affiliates. Most of these products are marketed under the tradenames POLYCO™ Emulsions or ROVACE™ Emulsions. For further details, see Product Description.
- Vinyl acetate polymers and vinyl acetate-acrylic copolymers are used for a wide range of applications including paints, bond coats, binders, pigmented paper coatings, textiles, and nonwovens. For further details, see Product Uses.
- Worker exposure is possible in manufacturing facilities or facilities that use these polymers. Exposure is minimized through engineering controls and the use of appropriate personal protective equipment. Consumers may be exposed to these products indirectly when using or handling products such as bond coats, caulk, paints, nonwovens, fiberfill, packaging, paper, and paperboard which are made from these products. Consumers should read and follow all label instructions when using such products. For further details, see Exposure Potential.
- Direct contact with these emulsions may cause slight irritation of the eyes and skin. Skin contact with some formulations may cause sensitization. Inhalation of vapor or mist may cause irritation of the nose, throat, and lungs or result in headache and nausea.

© Trademark of The Dow Chemical Company (“Dow”) or an affiliated company of Dow
Prolonged or repeated overexposure may have human health effects.\textsuperscript{4} For further details, see Health Information or use and request the relevant Safety Data Sheet from the Dow Customer Information Group.\textsuperscript{5}

- If released to soil or water environments, these products would be inert, eventually forming solids (coagulating) which would then bind to soil, suspended solids, or sediment. The solids would be removed by wastewater-treatment facilities via adsorption to biosolids. These products would not be expected to accumulate in the food chain because of their high molecular weight.\textsuperscript{5} Vinyl acetate polymers and vinyl acetate-acrylic copolymers are expected to be practically nontoxic to slightly toxic to aquatic organisms. For further details, see Environmental Information.

- Vinyl acetate polymers and vinyl acetate-acrylic copolymers are stable under recommended storage and normal use conditions. There are no known materials that are incompatible with these products.\textsuperscript{5} For further details, see Physical Hazard Information.

Manufacture of Product

- **Locations** – The Dow Chemical Company and its global affiliates manufacture vinyl acetate polymers and vinyl acetate-acrylic copolymers at several facilities globally.

- **Process** – These products are produced by emulsion polymerization using proprietary materials and processes.

Product Description\textsuperscript{4,6}

Vinyl acetate polymers and vinyl acetate-acrylic copolymers are families of emulsion products manufactured by The Dow Chemical Company and its global affiliates. Most are marketed under the tradenames of POLYCO™ Emulsions or ROVACE™ Emulsions. These milky white, water-based emulsions have a slight vinyl acetate odor. They range from 40 - 60 % solids.

The products are available in two general polymer types: vinyl acetate homopolymers and vinyl acetate-acrylic copolymers. They may also contain surfactants, dispersants, and thickeners. Properties such as adhesion, molecular weight, composition, etc. are often optimized for specific applications.

Product Uses\textsuperscript{2,3,7}

Vinyl acetate polymers and vinyl acetate-acrylic copolymers are used for a wide range of applications in the construction, design, and paper industries. Their properties – spreadability, good wet tack strength, good adhesion, excellent wet and dry tensile strength, durability to washing and dry cleaning, salt stability, and heat sealability – make them well-suited for the following uses:

- **Bond coat** – Unmodified mortar and concrete, plaster and drywall, paneling and studs, packaging, and for use as wet glues for laminations

- **Construction mastics**

- **Drywall tape joint compound**

- **Binder for nonwovens** – interlinings, wet wipes, industrial wipes, and fiberglass scrim stabilization

- **Fiberfill bonding** – apparel, furniture cushions, and home furnishings (comforters, bedspreads, mattresses and padding, carpet underlay), fiberfill, automotive padding

- **Binder for paint and caulk** – interior flat and semigloss paints, economy caulk, and interior texture finishes

- **Binder for paper and paperboard** – applications requiring a balance of strength, printability, enhanced optical coverage, and glueability

Exposure Potential\textsuperscript{1,4}

Vinyl acetate polymers and vinyl acetate-acrylic copolymers are used in industrial and consumer products. Based on the uses for these polymers, individuals could be exposed through:

- **Workplace exposure** – Vinyl acetate polymers and vinyl acetate-acrylic copolymers are not considered hazardous in emulsion form and are manufactured in closed systems using engineering controls that prevent the escape of liquid or vapors and minimize release to the environment. The potential for exposure is further reduced by the use of appropriate personal protective equipment. Those
who produce these polymers may be exposed during maintenance, sampling, testing, or other procedures. Facilities that manufacture or formulate these products should have a thorough training program for employees and appropriate work processes and safety equipment in place to prevent exposure. See Health Information.

- **Consumer exposure to products containing vinyl acetate polymers and vinyl acetate-acrylic copolymers** – Consumers may be exposed to these products in adhesives, caulks, paints, nonwovens, fiberfill, packaging, paper, and paperboard. Consumers should read and follow all label instructions when using such formulated products. These products are not considered to present a risk to consumers when used appropriately. See Health Information.

- **Environmental releases** – If released to soil and water environments, vinyl acetate polymers and vinyl acetate-acrylic copolymers would be expected to be inert. These products would eventually form solids (coagulate), which would then bind to soil, suspended solids, or sediment. The solids would be removed by wastewater-treatment facilities via adsorption to biosolids. They would not be expected to accumulate in the food chain because of their high molecular weight. 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. Industrial spills or releases are infrequent and generally contained. Use personal protective equipment. Keep people away from and upwind of spill/leak. Material can create slippery conditions. Keep spills and cleaning runoff out of municipal sewers and open bodies of water. Contain spills immediately with inert materials (e.g., sand, earth), and 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** – These products are not combustible unless evaporated to dryness. The dried product can burn, and the liquid material can splatter above 100°C (212°F). Use extinguishing media appropriate for the surrounding fire. Thermal decomposition may yield acetaldehyde, vinyl acetate monomer, and acrylic monomers which are hazardous. Wear self-contained breathing apparatus and protective suit when fighting fire. Follow emergency procedures outlined in the Safety Data Sheet carefully. See Environmental, Health, and Physical Hazard Information.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.
If released to the soil and water environments, vinyl acetate polymers and vinyl acetate-acrylic copolymers would be expected to be inert. These products would eventually form solids (coagulate), which would then bind to soil, suspended solids, or sediment. The solids would be removed by wastewater-treatment facilities via adsorptions to biosolids. Trace amounts of other components are readily biodegradable.

These products would not be expected to accumulate in the food chain (low bioconcentration potential), because of their high molecular weight and are expected to be practically nontoxic to slightly toxic to aquatic organisms on an acute basis.

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

2. ROVACE™ 3270, *Premium Performing Vinyl Acetate Fiberfill Binder*, Rohm and Haas Company, Form No. 20T32
3. ROVACE™ 6930, *Vinyl Acrylic Binder for Nonwovens*, Rohm and Haas Company, Form No. 20N17a
4. ROVACE™ 3270 Emulsion Material Safety Data Sheet, The Dow Chemical Company
5. ROVACE™ 6930 Emulsion Material Safety Data Sheet, The Dow Chemical Company
6. ROVACE™ 6940T 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.

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