Product Safety Assessment

**VITHANE™ 120 High-Solids Resin**

Product Safety Assessment documents are available at www.dow.com/productsafety/finder/.

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Names

- VITHANE™ 120 high-solids resin
- VITHANE 120 base bulk resin
- VITHANE 120 solvent-free resin

Product Overview

- VITHANE™ 120 high-solids resin is a two-component polyurethane elastomer formulation manufactured and marketed by Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company. “Elastomers” are resilient polymers that can bend or stretch and then return to their original shape. VITHANE 120 high-solids resin is a solvent-free, viscous liquid.\(^1\) For further details, see Product Description.
- VITHANE 120 high-solids resin is used in the production of synthetic leather. Footwear, apparel, and other goods are manufactured from synthetic leathers made with VITHANE 120 high-solids resin.\(^2\) For further details, see Product Uses.
- VITHANE 120 high-solids resin is intended for commercial use. Worker exposure is possible during manufacture, transport, or application. Consumers may purchase finished goods, such as footwear or furniture, manufactured with VITHANE resins.\(^3\) For further details, see Exposure Potential.
- There are no known health hazards associated with VITHANE 120 high-solids resin.\(^4\) For further details, see Health Information.
- The polyurethane resin in VITHANE 120 high-solids resin is expected to slowly degrade in the environment. Due to its high molecular weight, the resin is not expected to accumulate in the food chain, and it is not expected to be toxic to fish and other aquatic organisms.\(^5\) For further details, see Environmental Information.
- VITHANE 120 high-solids resin is stable under recommended storage and normal use conditions. This product is noncombustible.\(^6\) For further details, see Physical Hazard Information.

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\(^{1,2,3,4,5,6}\) Trademark of The Dow Chemical Company (“Dow”) or an affiliated company of Dow
Manufacture of Product

- **Locations** – Global affiliates of Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company, produce VITHANE™ 120 high-solids resin at facilities in Mozzate, Italy.
- **Process** – VITHANE 120 high-solids resin is formulated in batch operations using proprietary materials and technology.

Product Description

VITHANE™ 120 high-solids resin is a clear or hazy viscous liquid that requires the addition of a curing agent to fully cure. It is nominally 100 percent “solids” (a term that refers to the percentage of polyurethane resin that is present and will become a solid upon curing). The cured (solidified) resin forms strong flexible films or “skins” that are resistant to scratches, yellowing, and attack by water. The resulting polyurethane films are soft and pliable.

Product Uses

VITHANE™ 120 high-solids resin is used as a basecoat in the production of synthetic leathers and textiles. Synthetic leathers made with these resins are used for the following applications:

- Footwear (e.g., uppers for shoes and safety shoes)
- Upholstery for furniture (e.g., sofas) and automotive (e.g., dashboards, gearshifts, etc.) applications
- Apparel and accessories (e.g., handbags, belts, etc.)
- Bags and linings
- Garments (e.g., labels, jackets, etc.)

Exposure Potential

VITHANE™ 120 high-solids resin is used in the production of synthetic leather and textiles. Based on this, the public could be exposed through:

- **Workplace exposure** – Exposure can occur in facilities that manufacture these resins, during transport, or during synthetic leather manufacture. VITHANE 120 high-solids resin is produced, distributed, and stored in closed systems. Those working with this product 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, ventilation, and safety equipment in place to limit exposure. See Health Information.
- **Consumer exposure to VITHANE 120 high-solids resin** – This product is not sold directly to consumers. Synthetic leather manufactured with VITHANE 120 high-solids resin may be used to manufacture footwear, furniture, or other consumer goods. Consumers would contact only the cured resin, which would not present a risk. See Health Information.
- **Environmental releases** – Due to the use pattern for VITHANE 120 high-solids resin, releases to the environment are expected to be minimal. If released, the polyurethane resins will tend to float in water and will be removed in wastewater-treatment facilities by adsorption to biosolids. In the event of a spill, the focus is on containment to prevent contamination of soil, surface water, or groundwater. See Environmental, Health, and Physical Hazard Information.
- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, collect the spilled material in suitable and properly labeled containers.

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Clean-up personnel must wear personal protective equipment. See Environmental, Health, and Physical Hazard Information.

- In case of fire – Evacuate personnel and deny unnecessary entry. Use extinguishing measures that are suitable for the surrounding materials. Firefighters should wear positive-pressure, self-contained breathing apparatus (SCBA) 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

There are no known health hazards associated with VITHANE™ 120 high-solids resin. Finished consumer products manufactured using VITHANE 120 high-solids resin would contain only the fully cured, nonhazardous resin.

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

Environmental Information

The polyurethane resins in VITHANE™ 120 high-solids resin are not volatile and are insoluble in water. If released to the environment, the resins will float on water and eventually bind onto soil, suspended particles, or sediment.

Although polymers are generally not considered biodegradable, the polyurethane resins are likely to degrade slowly in the environment, including degradation by physical action or upon exposure to sunlight. The resins would likely be removed in biological wastewater-treatment facilities by adsorption to biosolids.

Because of their high molecular weight, the polyurethane resins would not be expected to accumulate in the food chain and they are not expected to be toxic to fish and other aquatic organisms.

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

Physical Hazard Information

VITHANE™ 120 high-solids resin is stable under recommended storage and normal use conditions, but can decompose at elevated temperatures. These products are noncombustible.

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 VITHANE™ 120 high-solids resin. 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

- Request the relevant Safety Data Sheet or Technical Data Sheet from the Dow Customer Information Group (www.dow.com/assistance/dowcig.htm)
- Contact Us (www.dow.com/assistance/thoughts.htm)

For more business information about VITHANE™ 120 high-solids resin, contact the Dow Customer Information Group at www.dow.com/assistance/dowcig.htm.

References


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