Product Safety Assessment

VITHALAK™ Black Lacquer (Vinyl Resin)


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Names
- VITHALAK™ Black Lacquer (vinyl resin)
- VITHALAK H55 Black 12C (P) Lacquer
- VITHALAK H55 NERO 12C (P) Lacquer

Product Overview
- VITHALAK™ Black Lacquer is a vinyl resin black liquid with a solvent odor. For further details, see Product Description.
- VITHALAK Black Lacquer is used in artificial leather and textile applications. For further details, see Product Uses.
- VITHALAK Black Lacquer is for commercial use only. Worker exposure is possible during manufacture, transport, or application. Consumers may purchase finished goods such as footwear or apparel that have been treated with VITHALAK Black Lacquer. Exposure to the final products is not expected to present a risk to consumers. For further details, see Exposure Potential.
- Potential health effects for this product family would primarily be derived from the solvents used in the formulation. Eye contact with solvent vapor during processing may cause irritation and local damage. Skin contact may cause slight irritation. Prolonged or repeated skin contact may cause defatting and drying of the skin. Inhalation of solvent vapor can cause irritation of the nose, throat, and lungs, as well as headache, nausea, narcosis, and central nervous system effects. Aspiration into the respiratory system during ingestion or from vomiting may result in lung damage. Prolonged overexposure to some solvents may result in effects on the kidney, liver, and central nervous system. For further details, see Health Information and the relevant Safety Data Sheet.
- The solvents used in VITHALAK Black Lacquer are readily biodegradable, have a low tendency to bioaccumulate in the food chain, and range from slightly toxic to practically non-toxic to aquatic organisms on an acute basis. The 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 or other aquatic organisms. For further details, see Environmental Information.
- This product is highly flammable, but it is stable under recommended storage and normal use conditions. Avoid exposure to heat, flames, and sparks. For further details, see Physical Hazard Information.
Manufacture of Product

- **Locations** – VITHALAK™ Black Lacquer is formulated by approved contract manufacturers to meet stringent Dow specifications for quality and performance. The materials are produced in locations and quantities necessary to meet market demand.
- **Process** – VITHALAK Black Lacquer is produced using proprietary chemistries, processes, and blending techniques.

Product Description

VITHALAK™ Black Lacquer is a liquid preparation with a solvent odor. It contains approximately 10% by weight of high molecular weight vinyl resin based on a vinyl acetate/vinyl chloride copolymer. The balance of the preparation is a mixture of solvents including ethyl acetate, toluene, methyl isobutyl ketone, and 1-ethoxypropan-2-ol.

Product Uses

VITHALAK™ Black Lacquer is used to achieve a deep black appearance in textile coatings and artificial leather production.

Exposure Potential

VITHALAK™ Black Lacquer is used in the production of industrial and consumer products. Based on the uses for this product, the public could be exposed through:

- **Workplace exposure** – Exposure can occur either in facilities that manufacture VITHALAK Black Lacquer or in the various industrial or manufacturing facilities that use this product. It is produced, distributed, and stored in closed systems. Those working with VITHALAK Black Lacquer in manufacturing operations could be exposed during maintenance, sampling, testing, application, 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 VITHALAK Black Lacquer** – Dow does not sell VITHALAK Black Lacquer for direct consumer use, but it is used in small amounts to color textiles and artificial leathers with which consumers may come into contact. Exposure to the final products is not expected to present a risk to consumers. See Health Information.

- **Environmental releases** – Due to the use pattern for this product, releases to the environment are expected to be minimal. If released, the solvents used in the product will exhibit low to moderate tendencies to volatilize from water. In air, the solvents will degrade within days from exposure to photochemically produced hydroxyl radicals. Since these compounds are readily biodegradable, they are expected to be removed from water and soil environments, including biological wastewater treatment plants. The vinyl acrylic resin will tend to float in water and will be removed in biological wastewater treatment plants by adsorption to biosolids. In the event of a spill, the focus is on containing the spill to prevent contamination of soil, surface water, or groundwater. Respiratory protection is necessary for cleaning up spills and leaks. Eliminate all sources of ignition immediately. For small spills, VITHALAK Black Lacquer should be absorbed with noncombustible materials such as sand. 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. An approved positive-pressure, self-contained breathing apparatus (SCBA) with a full-face mask is recommended for emergency work. Eliminate all sources of ignition immediately. Use only explosion-proof equipment; ground and bond all containers and handling equipment. See Environmental, Health, and Physical Hazard Information.

- **In case of fire** – Deny any unnecessary entry into the area and consider the use of unmanned hose holders. Use water spray or fog, carbon-dioxide or dry-chemical extinguishers, or foam to fight the fire. Use of a direct water stream may spread the fire. Firefighters should wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing. Vapors can travel to a source of ignition and flash back. Heated product can form flammable or explosive vapors with air. The public should be warned of downwind vapor explosion hazards if appropriate. Keep vapors out of sewers. Vapors are heavier than air and may travel a long distance and accumulate in low-lying areas. Keep fire water out of waterways and sewers to minimize the potential for environmental damage. Follow emergency procedures carefully. Follow emergency procedures outlined in the Safety Data Sheet carefully. See Environmental, Health, and Physical Hazard Information.
Health Information

Health information for VITHALAK™ Black Lacquer is summarized on the relevant Safety Data Sheets. It is important to note that health risks associated with individual products may vary based on their formulation or intended use. Besides the solvents in each product which have significant hazards, these products may contain minor components or additives that have other health risks. The Safety Data Sheet is the preferred source for specific health information. An overview of health information for VITHALAK Black Lacquer appears below.

**Eye contact** – Contact with the product or exposure to product vapors may be irritating to eyes.

**Skin contact** – Skin contact to the solvent toluene may cause slight irritation with local redness. Prolonged or repeated skin exposure may cause dryness or cracking.

**Inhalation** – Prolonged inhalation exposure to solvent vapors may cause irritation to upper respiratory tract and lungs, drowsiness, and dizziness.

**Ingestion** – These products have low toxicity if swallowed. Small amounts swallowed incidentally during normal handling operations are unlikely to cause injury; however, swallowing larger amounts may cause injury. Aspiration of this product into the respiratory system during ingestion or from vomiting may result in lung damage or even death due to chemical pneumonia.

**Repeated exposure** – Excessive exposure to methyl isobutyl ketone may cause respiratory irritation, gastrointestinal distress, anesthesia, kidney and liver effects. Excessive exposure to ethyl acetate may cause dizziness or drowsiness. Toluene has caused hearing loss in laboratory animals upon exposure to high concentrations.

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

Environmental Information

The solvents used in VITHALAK™ Black Lacquer exhibit a range of volatility and water solubility. When introduced, the solvents will have a low to moderate tendency to evaporate from water with minimal tendency to bind to soil and sediment. The vinyl acrylic resin is insoluble and will tend to float in water and bind to soil, suspended particles, or sediment.

The solvents used in VITHALAK Black Lacquer are unlikely to persist in the environment. In the atmosphere, they will degrade within days by reaction with photochemically produced hydroxyl radicals. The solvents are readily biodegradable, which suggests that they will be removed from water and soil environments, including biological wastewater treatment plants. Although the resin is essentially non-biodegradable, it will be expected to slowly degrade in the environment, including degradation by physical action or by exposure to sunlight. The resin would likely be removed in biological wastewater treatment plants by adsorption to biosolids.

The solvents used in VITHALAK Black Lacquer are not likely to accumulate in the food chain (bioconcentration potential is low) and range from slightly toxic (EC/LC$_{50}$ 11 mg/L) to practically non-toxic ( EC/LC$_{50}$ >100 mg/L) to fish and other aquatic organisms on an acute basis. The vinyl acrylic resin is not expected to accumulate in the food chain due to its high molecular weight, and it is not expected to be toxic to fish or other aquatic species on an acute basis.

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

VITHALAK™ black lacquer is stable under recommended storage and normal use conditions, but can decompose at elevated temperatures. Decomposition can release harmful gases.

This product is highly flammable. Keep product away from heat, flames and sparks. Fire may release harmful gases.

For more information, request the relevant 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 VITHALAK™ Black Lacquer. 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.

Additional Information

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

For more business information about VITHALAK black lacquer, contact the Dow Customer Information Group at www.dow.com/assistance/dowcig.htm

References

1. VITHALAK™ H55 Black 12C Safety Data Sheet, Rohm and Haas Company
2. VITHALAK™ H55 Nero 12C [lacquer], Technical Data Sheet, Rohm and Haas Italia S.R.I.
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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