Product Overview
• VITHADERM™ ND 24A Nitrocellulose Lacquer is a white, milky, turbid liquid composed of nitrocellulose resin dissolved in an organic lacquer solvent. It is not soluble in water.\(^1\,^2\) For further details, see Product Description.
• VITHADERM ND 24A Nitrocellulose Lacquer is used as a coating on heat-branded diary covers and labels in the leather and textile industry.\(^1\) For further details, see Product Uses.
• Exposure to VITHADERM ND 24A Nitrocellulose Lacquer may occur during the manufacture or use of this product. This product is not sold for direct consumer use, but it is used as a coating on leather and textile books and labels. Exposure to cured and/or dried product is not considered to present a risk to consumers.\(^2\) For further details, see Exposure Potential.
• Exposure to the liquid or vapor may cause eye and skin irritation. Inhalation of vapor may cause respiratory irritation and central nervous system depression. The components in this product have very low toxicity if swallowed; however, aspiration into the lungs may cause lung damage (pulmonary edema and pneumonitis).\(^2\) For further details, see Health Information and request the relevant Safety Data Sheet from the Dow Customer Information Group.
• VITHADERM ND 24A Nitrocellulose Lacquer is biodegradable and unlikely to accumulate in the food chain. The components in this product range from moderately toxic to practically nontoxic to aquatic organisms on an acute basis.\(^2\) For more information, see Environmental Information.
• VITHADERM ND 24A Nitrocellulose Lacquer is stable under recommended storage and normal use conditions. This product is highly flammable. Keep In a well-ventilated place away from sources of ignition, and avoid static discharge.\(^2\) For further details, see Physical Hazard Information.
Product Description

VITHADERM™ ND 24A Nitrocellulose Lacquer is a white, milky, turbid liquid composed of nitrocellulose resin dissolved in an organic lacquer solvent. It is not soluble in water. Nitrocellulose is a derivative of natural cellulose, so it does not contain hazardous monomers. It dissolves readily in organic solvents and, with its relatively rigid molecule chain, forms a hard but flexible film that is ideal for good surface finishes. It is compatible with many binders and plasticizers, which allows it to be formulated for particular applications. It may be blended with other solvent-based lacquers and diluted with alcohols, esters, and aromatic hydrocarbons.

Product Uses

VITHADERM™ ND 24A Nitrocellulose Lacquer is generally applied by a printing roll in the production of heat-branded diary covers and labels in the leather and textile industry. The product provides a hard, matte surface in addition to the heat, light, alcohol, and water-resistant properties of nitrocellulose coatings.

Exposure Potential

VITHADERM™ ND 24A Nitrocellulose Lacquer is used in the production of industrial and consumer products. Based on the uses for these materials, individuals could be exposed through:

- **Workplace exposure** – Exposure can occur either in facilities that manufacture VITHADERM™ ND 24A Nitrocellulose Lacquer or in the various industrial or manufacturing facilities that use this product. It is produced, distributed, stored, and consumed in closed systems. Those working with VITHADERM ND 24A Nitrocellulose Lacquer 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 products containing VITHADERM ND 24A Nitrocellulose Lacquer** – This product is not sold for direct consumer use; however, it is used in coatings for leather and textile books and labels used by consumers. Exposure to cured and/or dried product is not considered to present a risk to consumers. Always read the product information prior to use and carefully follow instructions. 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. Respiratory protection is necessary for cleaning up spills and leaks. Eliminate all sources of ignition immediately. For small spills, VITHADERM ND 24A Nitrocellulose Lacquer should be absorbed with noncombustible absorbents such as sand or earth. Spilled product can create slippery conditions. If released, the nitrocellulose components will tend to float in water and will be removed in biological wastewater treatment plants by adsorption to biosolids. Since they are biodegradable, they are also expected to be removed from water and soil environments by biodegradation. If released, the solvent components will exhibit low to high tendencies to volatilize from water. In air, the solvents will degrade within days from exposure to photochemically produced hydroxyl radicals. Since these solvents range from inherently to readily biodegradable, they are expected to be removed from water and soil environments, including biological wastewater treatment plants. 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 regulations. Evacuate personnel to safe areas, and ensure adequate ventilation. This product is highly flammable. Remove all sources of ignition. Material can create slippery conditions. Use personal protective equipment. Do not flush into surface water or sanitary sewer system. See Environmental, Health, and Physical Hazard Information.

- **In case of fire** – Deny any unnecessary entry into the area. Use water spray, carbon-dioxide or dry-chemical extinguishers, or foam to fight the fire. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat. Cool closed containers with water spray. Containers should be stored separately in closed containments. Heating or fire can liberate toxic gas containing and not limited to carbon oxides. Vapors can travel to a source of ignition and flash back. Firefighters should wear self-contained breathing apparatus (SCBA) and protective suit. Keep fire water out of waterways and sewers to minimize the potential for environmental damage. Follow emergency procedures carefully. See Environmental, Health, and Physical Hazard Information.

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

Health information for VITHADERM™ ND 24A Nitrocellulose Lacquer is provided on the relevant Safety Data Sheet, which is the preferred source for specific health information. Cured products are not expected to represent health hazards. General health information for the products appears below.

Eye contact – Exposure to the uncured liquid product and its vapors may cause moderate eye irritation and slight temporary corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness.

Skin contact – Brief contact with the liquid product and its vapors may cause skin irritation with local redness, discomfort, and drying and flaking of the skin. Prolonged contact may cause severe skin irritation with local redness and discomfort. The product and/or components are not a contact skin sensitizer.

Inhalation – Prolonged excessive exposure may cause adverse effects. Excessive exposure to vapor may cause irritation of upper respiratory tract (nose and throat) and lungs. Symptoms of excessive exposure may be anesthetic or narcotic, dizziness and drowsiness may also be observed.

Ingestion – This product has very low toxicity if swallowed. Small amounts swallowed incidental to normal handling are not expected to cause harmful effects. Aspiration into lungs may cause pulmonary edema and pneumonitis.

Other – In repeated dose animal studies, effects were reported on the following organs: nasal tissue, kidney, liver, central nervous system, respiratory tract, heart, blood and blood forming organs (bone marrow and spleen). Toluene has caused hearing loss in laboratory animals when exposed to high concentrations. Some of the components in this product have effects on reproduction, but these were only at doses toxic to the parent animals. There was no effect on fertility in animal studies. Some of the components have been toxic to the fetus in lab animals at doses non-toxic to mother. In laboratory animals, toluene has been toxic to the fetus at doses toxic to the mother; and has caused birth defects in mice when administered orally but not by inhalation. Exaggerated doses of xylene given orally to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice. In animal inhalation studies, xylene caused toxicity to the fetus, but did not cause birth defects. Based on information for components, in vitro and in vivo genetic toxicity studies were mostly negative.

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

Environmental Information

The nitrocellulose components in VITHADERM™ ND 24A Nitrocellulose Lacquer are not soluble and will tend to float in water and eventually bind to soil, suspended particles, or sediment. The solvent components in this product exhibit a range of volatility and water solubility. When introduced, the solvents will have a low to high tendency to evaporate from water.

This product is unlikely to persist in the environment. The nitrocellulose components are biodegradable, which suggests that they will be removed from water and soil environments. They would also likely be removed in biological wastewater treatment plants by adsorption to biosolids. The solvent components range from inherently to readily biodegradable, which suggests that they will be removed from water and soil environments, including biological wastewater treatment plants. In the atmosphere, the solvents will also degrade within days by reaction with photochemically produced hydroxyl radicals.

The nitrocellulose components are not likely to accumulate in the food chain and they are practically nontoxic to aquatic organisms on an acute basis (LC50/EC50 > 100 mg/L in the most sensitive species tested). The solvent components in this product are not likely to accumulate in the food chain (bioconcentration potential is low) and they range from moderately toxic (LC50/EC50 between 1 mg/L and 10 mg/L in the most sensitive species tested) to practically nontoxic to aquatic organisms on an acute basis (LC50/EC50 > 100 mg/L in the most sensitive species tested).

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

VITHADERM™ ND 24A Nitrocellulose Lacquer is stable under recommended storage and normal use conditions.

This product is highly flammable. Automatic sprinkler systems are recommended for storage areas. Heat generated by fire may cause pressure build-up in storage containers. Heat or fire may cause harmful gases to be released, including but not limited to carbon oxides.

Nitrocellulose-based products damped with water or alcohol may dry out if the damping agent is allowed to evaporate. The nitrocellulose is subsequently sensitive to impact and heat. Nitrocellulose containers should always be kept tightly sealed to prevent evaporation.

For more information, request the relevant 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 VITHADERM™ ND 24A Nitrocellulose 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.

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**Additional Information**

- Request the relevant Safety Data Sheet from the Dow Customer Information Group
- Contact Us (www.dow.com/dowwolff/en/contact/)

For more business information about VITHADERM™ ND 24A Nitrocellulose Lacquer, visit the Dow Customer Information Group at www.dow.com/assistance/dowcig.htm.

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**References**

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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