Product Safety Assessment

MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings


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
- MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings
- MORPRIME 10B Polyolefin Dispersion
- MORPRIME 11B Polyolefin Dispersion
- MORPRIME 14B Polyolefin Dispersion
- MORPRIME 16B Polyolefin Dispersion
- MORPRIME 78HB70APC Polyolefin Dispersion
- MORPRIME 78HB74C Polyolefin Dispersion
- MORPRIME 78LJ8APC Polyolefin Dispersion
- MORPRIME 78LJ10BA Polyolefin Dispersion
- MORPRIME 78LJ10C Polyolefin Dispersion
- MORPRIME 78LJ10C-2 Polyolefin Dispersion
- MORPRIME 78RB14C Polyolefin Dispersion
- MORPRIME 80B Polyolefin Dispersion
- MORPRIME 497 C Polyolefin Dispersion
- MORPRIME 43X100 Polyolefin Dispersion
- MOR-AD M-805 Polyolefin Dispersion

Product Overview
- MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are stable suspensions of polypropylene resins dispersed in a variety of organic solvents, depending on customer needs. They typically contain 12.5% to 16% resin. For further details, see Product Description.
- MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are used as laminating adhesives to bond metal substrates such as aluminum foil, steel, or copper to themselves or to polypropylene for food and industrial-packaging applications. For further details, see Product Uses.
- Exposure can occur either in facilities that manufacture MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings or in the various industrial or manufacturing facilities that use these products. These products are not sold for direct consumer use, but goods used by consumers may incorporate these products. Contact with dried and cured product is not considered to present a risk to consumers. For further details, see Exposure Potential.
- The solvents in these products may cause moderate to severe eye irritation; repeated contact at high concentrations may cause permanent eye injury. The solvents in these products may cause moderate skin irritation, are harmful if absorbed through the skin,
Product Safety Assessment: MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings

and fatal in large amounts. Inhalation of solvent vapor or mist may cause irritation of the nose, throat, and lungs, headache, stupor, shortness of breath, and central nervous system effects. Aspiration may cause pulmonary edema and pneumonitis and even death. The solvents in these products may be harmful if swallowed. Prolonged or repeated overexposure to the solvents in these products may affect the kidney, liver, lungs and may cause adverse reproductive effects. Formaldehyde, a minor component of some of these products, is listed as a known human cancer-causing agent by the International Agency for Research on Cancer (IARC). For further details, see Health Information and request the relevant Safety Data Sheet from the Dow Customer Information Group.

- The polypropylene resins in MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are expected to degrade slowly in the environment. Due to their high molecular weight, the resins are not expected to accumulate in the food chain, and they are not expected to be toxic to fish or other aquatic organisms. The solvents in these products range from inherently to readily biodegradable, have a low tendency to bioaccumulate in the food chain, and range from practically nontoxic to highly toxic to aquatic organisms on an acute basis. For further details, see Environmental Information.

- MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are considered stable under recommended storage and normal use conditions. Some of these products are flammable; others are combustible. Heated product can form flammable or explosive mixtures with air. Some products present an explosion hazard. Solvent vapors can travel to a source of ignition and flash back. Avoid contact with ignition sources, strong acids, oxidizing agents, peroxides, bases, amines, and ammonia. For further details, see Physical Hazard Information.

Manufacture of Product

- Locations – MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are manufactured in various global locations by the Dow Chemical Company and its global affiliates.

- Process – MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are produced using proprietary processes and materials.

Product Description

MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are stable suspensions of polypropylene resins dispersed in a variety of organic solvents, depending on customer needs. These white or off-white translucent to opaque liquids with a mild solvent odor typically contain 12.5% to 16% resin and are not soluble in water.

Product Uses

MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are used as laminating adhesives to adhere metal substrates such as aluminum foil, steel, or copper to themselves or to polypropylene. Applied using a thermal process, they offer high bond strength and chemical resistance to the food- and industrial-packaging applications listed below:

- Heatable pouches
- Heatable and oven-safe food containers
- Medical-device and solutions packaging
- Aseptically processed packages
- Aluminum foil lid stock for containers made from polypropylene or polypropylene coextrusions

Exposure Potential

MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are used in the production of industrial and consumer products. Based on the uses for this product, individuals could be exposed through:

- Workplace exposure – Exposure can occur either in facilities that manufacture MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings or in the various industrial or manufacturing facilities that use these products. They are produced, transported, and stored in closed systems. Those working with MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings 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 MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings – Dow does not sell MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings for direct consumer use, but they are used in the

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Product Safety Assessment: MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings

production of certain industrial and packaging materials. Goods used by consumers may incorporate these products. Contact with dried and cured product is not considered to present a risk to consumers. MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings used for food-contact applications comply with applicable standards set by the U.S. Food and Drug Administration (FDA) and European Union (EU) Directives concerning food-contact. 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. Small spills may be absorbed with noncombustible absorbents such as sand. If released, the polypropylene resins would tend to float in water and would likely be removed in biological wastewater-treatment facilities by adsorption to biosolids. The solvents used in the products will exhibit low to high tendencies to volatilize from water with minimal to very high tendencies to bind to soil and sediment. In the air, the solvents will degrade within hours/days from exposure to photochemically produced hydroxyl radicals. Since these solvents range from readily biodegradable to inherently 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. Appropriate protective equipment must be worn when handling a spill of this material. Keep spills and cleaning runoff out of municipal sewers and open bodies of water. Eliminate all ignition sources. Evacuate personnel to safe areas, and ventilate the area. Floor may be slippery; use care to avoid falling. Soak up with inert absorbent material such as sand; sweep up or vacuum up spillage and collect in suitable container for disposal. No sparking tools should be used. Avoid breathing vapor. See Environmental, Health, and Physical Hazard Information.

- In case of fire – Some products are flammable; others are combustible. Heated product can form flammable or explosive mixtures with air. Some products present an explosion hazard. Fight advanced fires from a protected location. Solvent vapors can travel to a source of ignition and flash back. Fight advanced fires from a protected location. Use water spray, carbon-dioxide or dry-chemical extinguishers, or foam to fight the fire. Remain upwind and avoid breathing smoke. During a fire, irritating and highly toxic gases and/or fumes may be generated during combustion or decomposition. During a fire, wear self-contained breathing apparatus (SCBA) and protective firefighting clothing. Keep fire water out of waterways and sewers to minimize the potential for environmental damage. Closed containers may rupture by pressure build-up when exposed to fire or heat; cool closed containers with water spray. 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.
**Product Safety Assessment: MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings**

**Repeated exposure** – Prolonged or repeated overexposure to the solvent may affect the kidney and liver. Symptoms of excessive exposure may result in narcotic effects and adverse reproductive effects.

**Cancer** – Formaldehyde and ethylbenzene, minor components in some products, have been shown to cause cancer in laboratory animals. Formaldehyde is listed as a known human cancer-causing agent by the International Agency for Research on Cancer (IARC). In laboratory testing, xylene, a component of some products, has been shown to cause increased birth defects, increased female mortality, and delayed fetal development in offspring of female animals exposed during pregnancy.

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

**Environmental Information**

Environmental information for MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings is summarized on the relevant Safety Data Sheets. These materials may also contain solvents or additives that have additional environmental impact. It is important to note that environmental impact associated with individual products may vary based on their formulation or intended use. The Safety Data Sheet is the preferred source for specific environmental information. An overview of environmental information for MORPRIME Solvent-Based Polyolefin Dispersion Heat-Seal Coatings appears below.

The polypropylene resins in MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are insoluble and will tend to float in water and eventually bind to soil, suspended particles, or sediments. Although the polypropylene resins do not biodegrade, they will be expected to degrade slowly in the environment, including degradation by physical action or by exposure to sunlight. The resins would likely be removed in biological wastewater treatment plants by adsorption to biosolids. Because of their high molecular weight, the resins would not be expected to accumulate in the food chain (low bioconcentration potential), and they are not expected to be toxic to fish or other aquatic organisms.

The solvents used in MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings range from low to high volatility, and range from insoluble to miscible in water. When introduced, the solvents will have a low to high tendency to evaporate from water with minimal to very high tendency to bind to soil and sediment. The solvents are unlikely to persist in the environment. In the atmosphere, the solvents will degrade within hours/days by reaction with photochemically produced hydroxyl radicals. The solvents also range from inherently to readily biodegradable, which suggests that they would likely be removed from water and soil environments, including biological wastewater treatment plants. The solvents are not expected to accumulate in the food chain (bioconcentration potential is low) and range from practically nontoxic (LC50/EC50 > 100 mg/L in the most sensitive species tested) to highly toxic (LC50/EC50 between 0.1 and 1.0 mg/L in the most sensitive species tested) to aquatic organisms on an acute basis.

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

**Physical Hazard Information**

MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings are considered stable under recommended storage and normal use conditions but can decompose at elevated temperatures. Thermal decomposition may yield monomer vapors. Some of these products are flammable; others are combustible. Avoid contact with ignition sources such as sparks, open flame, and heated surfaces.

Avoid contact with strong acids, oxidizing agents, peroxides, bases, amines, and ammonia.

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 MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings. 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.
**Product Safety Assessment:** MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings

**Additional Information**
- Request the relevant Safety Data Sheet or Technical Data Sheet from the Dow Customer Information Group ([www.dow.com/assistance/dowcig.htm](http://www.dow.com/assistance/dowcig.htm))
- Contact Us ([www.dow.com/assistance/dowcig.htm](http://www.dow.com/assistance/dowcig.htm))

For more business information about MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings, visit the Dow Performance Packaging website at [www.dow.com/packaging/index.htm](http://www.dow.com/packaging/index.htm).

**References**


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Product Safety Assessment: MORPRIME™ Solvent-Based Polyolefin Dispersion Heat-Seal Coatings


Back to top
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Back to top