Product Safety Assessment

ADCOTE™ Water-Based Extrusion Primers


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Names
• ADCOTE™ Water-Based Extrusion Primers
• ADCOTE 313 Primer
• ADCOTE 313E Primer
• ADCOTE 1544H Extrusion Primer

Product Overview
• ADCOTE™ Water-Based Extrusion Primers are waterborne emulsion polymers supplied as clear, off-white, or tan liquids with a mild odor.\(^1\) For further details, see Product Description.
• ADCOTE Water-Based Extrusion Primers are used in packaging applications as primers for polyethylene-coated paper for cups, milk cartons, bag liners, and release papers.\(^2,3\) For further details, see Product Uses.
• Exposure can occur either in facilities that manufacture these products or in the various industrial or manufacturing facilities that use these products. ADCOTE Water-Based Extrusion Primers are not sold directly to consumers, but they are used in food and medical packaging with which consumers may come into contact. Products used for food-contact or medical packaging applications should comply with applicable regulatory standards. Exposure to cured and/or dried product is not considered to present a risk to consumers.\(^4\) For further details, see Exposure Potential.
• Eye contact with the individual components or uncured product may cause severe irritation, reddening, and possible corneal injury. Skin contact may cause moderate irritation. These products may be harmful if swallowed, causing gastrointestinal irritation, nausea, vomiting, and diarrhea. Inhalation of vapor or mist may cause headache, nausea, and irritation of the nose, throat, and lungs.\(^5\) Repeated or prolonged overexposure to n-propanol, a minor component of some products, may cause adverse male reproductive effects and liver damage. For further details, see Health Information.
• The polymers in ADCOTE Water-Based Extrusion Primers are expected to degrade slowly in the environment. Due to their high molecular weight, the polymers are not expected to accumulate in the food chain and they are not expected to be toxic to fish or other aquatic organisms.\(^6\) For further details, see Environmental Information.
• ADCOTE Water-Based Extrusion Primers are stable under recommended storage and use conditions. Avoid temperatures above 230°C (446°F). Avoid contact with acids and strong oxidizing agents.\(^7,8\) For further details, see Physical Hazard Information.

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The Dow Chemical Company
Manufacture of Product

- **Locations** – ADCOTE™ Water-Based Extrusion Primers are manufactured in various global locations by Rohm and Haas Company, a wholly owned subsidiary of The Dow Chemical Company, and its global affiliates.
- **Process** – ADCOTE Water-Based Extrusion Primers are produced using proprietary processes and materials.

Product Description

ADCOTE™ Water-Based Extrusion Primers are waterborne solutions of Polyethylene Imine (PEI) that are clear, off-white, or tan, and have a mild odor. These products range from around 10-20% solids, but customers further dilute with deionized water to reduce solids to 1-4% to achieve desired application dry coating weight.

Product Uses

ADCOTE™ Water-Based Extrusion Primers are designed for extrusion coating applications on cellulosic substrates. These products offer improved adhesion between paper, paperboard, and polyethylene layers in various packaging applications, including food and medical products. These primers may be used on polyethylene-coated paper stock for:

- Paper cups
- Milk cartons
- Bag liners and bag stocks
- Unit portion packs of hygroscopic powders
- Release papers

Exposure Potential

ADCOTE™ Water-Based Extrusion Primers are used in the production of industrial and consumer products. Based on the uses for these products, individuals could be exposed through:

- **Workplace exposure** – Exposure can occur either in facilities that manufacture ADCOTE Water-Based Extrusion Primers or in the various industrial or manufacturing facilities that use these primers. These products are produced, distributed, and stored in closed systems. Those working with ADCOTE Water-Based Extrusion Primers 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 prevent exposure. See Health Information.
- **Consumer exposure to products containing ADCOTE Water-Based Extrusion Primers** – Dow does not sell ADCOTE Water-Based Extrusion Primers for direct consumer use, but these products are used in applications with which consumers may come into contact, such as food and medical packaging. Products used for food-contact or medical packaging applications should comply with applicable regulations set by the U.S. Food and Drug Administration (FDA) and European Union (EU) Directives concerning food contact. Exposure to cured and/or dried product is not considered to present a risk to consumers. See Health Information.
- **Environmental releases** – If released, the polymers 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. Small spills should be absorbed with 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 regulations. Keep people away from and upwind of the spill. Spilled material may pose a slipping hazard. An approved respirator is recommended for emergency work. See Environmental, Health, and Physical Hazard Information.
- **In case of fire** – These products are not combustible until evaporated to dryness. The residue may be combustible. Use extinguishing media appropriate to the surrounding fire. Firefighters should wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing. 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 ADCOTE™ Water-Based Extrusion Primers 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. ADCOTE Water-Based Extrusion Primers may also contain minor components or additives that have additional health risks. The Safety Data Sheets are the preferred source for specific health information. An overview of health information for ADCOTE Water-Based Extrusion Primers appears below.

**Eye contact** – Contact may cause severe eye irritation, reddening, and possible corneal injury.

**Skin contact** – Contact with the solvents in these products may cause moderate skin irritation.

**Inhalation** – Inhalation of vapor or mist may cause headache, nausea, and irritation of the nose, throat, and lungs.

**Ingestion** – These products may be harmful if swallowed, causing gastrointestinal irritation, nausea, vomiting, and diarrhea.

**Repeated exposure** – Repeated or prolonged overexposure to n-propanol, a minor component of some products, may cause adverse male reproductive effects and liver damage.

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

Environmental Information

The high molecular weight polymers in ADCOTE™ Water-Based Extrusion Primers are insoluble in water and are nonvolatile. If released, the polymers would likely disperse and float on water, and would ultimately bind to soil, suspended solids and sediments. Although the polymers are essentially non-biodegradable, they would be expected to degrade slowly in the environment, including degradation by physical action or by exposure to sunlight. The polymers would likely be removed in biological wastewater treatment facilities by adsorption to biosolids.

Due to their high molecular weight, these polymers are not expected to accumulate in the food chain and are expected to be practically non-toxic (EC₅₀ >100 mg/L) to fish or other aquatic organisms on an acute basis.

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

Physical Hazard Information

ADCOTE™ Water-Based Extrusion Primers are stable under recommended storage and use conditions. Keep these products from freezing, as product stability may be affected. Avoid exposure to temperatures above 230°C (446°F), the onset of polymer decomposition. Thermal decomposition is dependent on time and temperature. Dried residue can burn, and the material can splatter above 100°C (212°F).

Avoid contact with acids and strong oxidizing agents.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.
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/dowcig.htm or www.dow.com/packaging/contact/index.htm)
- ADCOTE™ 313 Primer (Technical Data Sheet), Packaging and Building Materials, Rohm and Haas Company
- ADCOTE™ 1544H Extrusion Primer (Technical Data Sheet), Packaging and Building Materials, Rohm and Haas Company

For more business information about ADCOTE™ Water-Based Extrusion Primers, visit the Dow Packaging Products website at www.dow.com/products/market/packaging/product-line/adcote/.

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References

11. ADCOTE™ 313 Primer (Technical Data Sheet), Packaging and Building Materials, Rohm and Haas Company, September 2008, pages 1 and 3.

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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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