

Product Safety Assessment

ADCOTE™ and ROBOND™ 37 Series
Ethylene Vinyl Acetate (EVA) Heat-Seal Coatings


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Names
- ADCOTE™ Heat-Seal Coatings
- ADCOTE 37 Series EVA Heat-Seal Coatings
- ROBOND™ Heat-Seal Coatings
- ROBOND 37 Series EVA Heat-Seal Coatings
- ADCOTE 37JD991 Heat-Seal Coating
- ADCOTE 37JD1198 Heat-Seal Coating
- ADCOTE 37JD1198-20 Heat-Seal Coating
- ADCOTE 37P295 Heat-Seal Coating
- ADCOTE 37P295-30 Heat-Seal Coating
- ADCOTE 37P295 E Heat-Seal Coating
- ADCOTE 37P295 E-A Heat-Seal Coating
- ADCOTE 37P295 HV Heat-Seal Coating
- ADCOTE 37P295 HV E Heat-Seal Coating
- ADCOTE 37R345 Heat-Seal Coating
- ADCOTE 37R345 E Heat-Seal Coating
- ADCOTE 37R345-PS Heat-Seal Coating
- ADCOTE 37R345-1 Heat-Seal Coating
- ADCOTE 37R929 Heat-Seal Coating
- ADCOTE 37R972-42 Heat-Seal Coating
- ADCOTE 37R972 E Heat-Seal Coating
- ADCOTE 37R972 E-42 Heat-Seal Coating
- ADCOTE 37R987 Heat-Seal Coating
- ADCOTE 37R987 E Heat-Seal Coating
- ADCOTE 37R987-PS Heat-Seal Coating
- ADCOTE 37R987-PS E Heat-Seal Coating
- ADCOTE 37R972 Heat-Seal Coating
- ADCOTE 37R972-42 Heat-Seal Coating
- ADCOTE 37WW654 Heat-Seal Coating
- ROBOND HS 37X122 Heat-Seal Coating
- ROBOND HS 37X123 Heat-Seal Coating
- ROBOND HS 37-138 Heat-Seal Coating
- ROBOND HS 37-140 Heat-Seal Coating
- ROBOND HS 37-144 Heat-Seal Coating
- ROBOND HS 37-145 Heat-Seal Coating
- ROBOND HS 37-148 Heat-Seal Coating
- ROBOND HS 37-149-1 Heat-Seal Coating
- ROBOND HS 37-150 Heat-Seal Coating
- ROBOND HS 37-151 Heat-Seal Coating
- ADCOTE 37R929 E Heat-Seal Coating
- ADCOTE 37R929-PS E Heat-Seal Coating
- ADCOTE 37R987 Heat-Seal Coating
- ADCOTE 37R987-PS Heat-Seal Coating
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- ROBOND HS 37-148 Heat-Seal Coating
- ROBOND HS 37-148 Heat-Seal Coating
- ROBOND HS 37-149-1 Heat-Seal Coating
- ROBOND HS 37-150 Heat-Seal Coating
- ROBOND HS 37-151 Heat-Seal Coating

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Product Overview

- ADCOTE™ and ROBOND™ 37 Series Ethylene Vinyl Acetate (EVA) Heat-Seal Coatings are water-based dispersions based on high molecular weight ethylene inter polymers. These products are supplied as white milky liquids with a mild odor.\(^1,2\) For further details, see Product Description.
- ADCOTE and ROBOND 37 Series EVA Heat-Seal Coatings are applied to a variety of substrates to provide a film surface that can be sealed by the application of heat. Products in this series may also be used to produce other functional coatings.\(^3,4\) 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. These products are not sold directly to consumers, but are used in products with which consumers may come into contact, such as food or medical packaging. For further details, see Exposure Potential.
- Eye contact may cause slight irritation, tearing, and reddening. Skin contact may cause slight irritation and reddening. Inhalation of solvent vapor or mist may cause irritation of the nose, throat, and lungs.\(^5\) For further details, see Health Information.
- The polymer components in ADCOTE and ROBOND 37 Series EVA Heat-Seal Coatings 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. The vinyl acetate and acetaldehyde components are readily biodegradable, have a low tendency to accumulate in the food chain (bioconcentration potential is low), and range from moderately toxic to slightly toxic to aquatic organisms on an acute basis.\(^6\) For further details, see Environmental Information.
- ADCOTE and ROBOND 37 Series EVA Heat-Seal Coatings are stable under recommended storage and use conditions.\(^5\) For further details, see Physical Hazard Information.

Manufacture of Product

- **Locations** – ADCOTE™ and ROBOND™ 37 Series EVA Heat-Seal Coatings 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 and ROBOND 37 Series EVA Heat-Seal Coatings are produced using proprietary processes and materials.

Product Description\(^2,3,5,6\)

ADCOTE™ and ROBOND™ 37 Series EVA Heat-Seal Coatings are a family of water-based dispersions based on high molecular weight ethylene inter polymers. These products are supplied as white, milky liquids with a mild odor, and range from 20 to 45% solids. Depending on the formulation, these products may contain other components, including, but not limited to wax blends, and polyethylene-based copolymers.

Product Uses\(^3,4\)

ADCOTE™ and ROBOND™ 37 Series EVA Heat-Seal Coatings are applied to a variety of substrates to provide a film surface that can be sealed by the application of heat, especially where excellent moisture resistance is required. Some of the products in this series may also be compounded to produce other functional coatings.

Exposure Potential\(^7\)

ADCOTE™ and ROBOND™ 37 Series EVA Heat-Seal Coatings 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 and ROBOND 37 Series EVA Heat-Seal Coatings or in the various industrial or manufacturing facilities that use these products. They are produced, distributed, and stored in closed systems. Those working with ADCOTE and ROBOND 37 Series EVA Heat-Seal Coatings 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.

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- **Consumer exposure to products containing ADCOTE™ and ROBOND™ 37 Series EVA Heat-Seal Coatings** – Dow does not sell these products for direct consumer use, but they are used in products with which consumers may come into contact, such as food and medical packaging. Products suitable for food-contact or medical applications should comply with applicable standards set by the U.S. Food and Drug Administration (FDA) and European Union (EU) Directives concerning food contact. In the dried and cured form, these products are not considered to present a risk to consumers. 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. Spilled material may pose a slipping hazard. For small spills, these products should be absorbed with materials such as sand. Respiratory protection is recommended for cleaning up spills and leaks. If released to the environment, the polymer components will tend to float in water and will be removed in biological wastewater treatment plants by adsorption to biosolids. The vinyl acetate and acetaldehyde components in the products will tend to remain in water. Since these two compounds are 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 requirements. Ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Try to prevent the material from entering drains or water courses. Do not contaminate surface water. Sweep up or vacuum up spillage and collect in suitable container for disposal. 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 that are appropriate to local circumstances and the surrounding environment. Heating or fire conditions liberates toxic gas. To avoid thermal decomposition, do not overheat. Do not allow run-off from firefighting to enter drains or water courses. In case of fire, wear self-contained breathing apparatus (SCBA). Collect contaminated fire extinguishing water separately – this must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Follow emergency procedures outlined in the Safety Data Sheet 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™ and ROBOND™ 37 Series EVA Heat-Seal Coatings 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. The Safety Data Sheets are the preferred source for specific health information. These products may also contain minor components or additives that have additional health risks. An overview of health information for these products appears below.

**Eye contact** – Contact may cause tearing, reddening, and slight eye irritation.

**Skin contact** – Contact may cause slight skin irritation and reddening. Prolonged or repeated skin contact may cause skin sensitization and allergic skin reaction.

**Inhalation** – Inhalation of solvent vapor or mist can cause irritation of the nose, throat, and lungs.

**Ingestion** – Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

**Repeated exposure** – Prolonged or repeated exposure may cause sensitization and allergic respiratory reaction.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.
Environmental Information
Environmental information for ADCOTE™ and ROBOND™ 37 Series EVA Heat-Seal Coatings is summarized on the relevant Safety Data Sheets. It is important to note that environmental risks associated with individual products may vary based on their formulation and/or intended use. The Safety Data Sheets are the preferred source for specific environmental information.

The polymer components in ADCOTE and ROBOND 37 Series EVA Heat-Seal Coatings are nonvolatile and insoluble in water. If released to the environment, the polymers would initially disperse, but eventually bind to soil, suspended solids, or sediment. Although the polymers are not 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. The polymers are not expected to accumulate in the food chain due to their high molecular weight, and they are not expected to be toxic to fish or other aquatic organisms.

Depending on the formulation, these products may contain vinyl acetate and/or acetaldehyde. These two compounds have moderate volatility and range from moderately soluble to very soluble in water. When introduced, the compounds have a low tendency to volatilize from water and minimal tendency to bind to soil and sediment. These two compounds are unlikely to persist in the environment. They are readily biodegradable, which suggests that they will be removed from water and soil environments, including biological wastewater treatment plants. These two compounds are not expected to accumulate in the food chain (bioconcentration potential is low) and range from moderately toxic (LC50/EC50 between 1 to 10 mg/L) to slightly toxic (LC50/EC50 between 10 to 100 mg/L) 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
ADCOTE™ and ROBOND™ 37 Series EVA Heat-Seal Coatings are stable under recommended storage and use conditions. Avoid temperature extremes during storage. Thermal decomposition may yield monomer vapors. There are no known materials that are incompatible with these products.

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 ADCOTE™ and ROBOND™ 37 Series EVA 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 or Contact Us.

Additional Information
- Request Safety Data Sheets and Technical Data Sheets from the Dow Customer Information Group (www.dow.com/assistance/dowcig.htm)
- Contact Us (www.dow.com/assistance/dowcig.htm)
- ADCOTE™ 37P295 Heat-Seal Coating (Technical Data Sheet), Packaging and Converting Materials, Rohm and Haas Company
- ADCOTE™ 37T777 Heat-Seal Coating (Technical Data Sheet), Packaging and Building Materials, Rohm and Haas Company
- ADCOTE™ 37R345 Heat-Seal Coating (Technical Data Sheet), Packaging and Building Materials, Rohm and Haas Company
- ADCOTE™ 37JD1198-20 Heat-Seal Coating (Technical Data Sheet), Packaging and Converting Materials, Rohm and Haas Company

References

1 ADCOTE™ 37P295 Heat-Seal Coating (Technical Data Sheet), Packaging and Converting Materials, Rohm and Haas Company
3 ADCOTE™ 37T77 Heat-Seal Coating (Technical Data Sheet), Packaging and Building Materials, Rohm and Haas Company
4 ADCOTE™ 37R345 Heat-Seal Coating (Technical Data Sheet), Packaging and Building Materials, Rohm and Haas Company
5 ADCOTE™ 37T77 [Heat-Seal Coating] Material Safety Data Sheet, The Dow Chemical Company
6 ADCOTE™ 37JD1198-20 Heat-Seal Coating (Technical Data Sheet), Packaging and Converting Materials, Rohm and Haas Company
7 ADCOTE™ 37R345-1 [Heat-Seal Coating] Material Safety Data Sheet, The Dow Chemical Company
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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Form No. 233-01149-MM-0814