Product Safety Assessment

DOW™ Electrical & Telecommunications Products


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Names
- DOW™ Electrical & Telecommunications Products
- Ethylene-octene copolymer
- Ethylene-propylene-diene tripolymer
- Ethylene vinyl acetate (EVA) copolymer
- Chlorinated polyethylene
- Polyethylene (PE)
- High-density polyethylene (HDPE)
- Medium-density polyethylene
- Low-density polyethylene (LDPE)
- Linear low-density polyethylene (LLDPE)

Product Overview

- DOW™ Electrical & Telecommunications Products are a family of products grouped together by their end-use applications. They are each distinctly created for different applications by the use of different additives. Composition, color, and odor properties vary from product to product, as do performance properties and processing characteristics. For further details, see Product Description.
- DOW Electrical & Telecommunications Products provide jacketing and cellular and solid insulation for voice and data applications in the telecommunications wire and cable industries. Applications include: coaxial cable for television and wireless telephones, fiber optic and ocean cable, and telephone and local area network applications, and cable used in the low/medium/high-voltage power market. For further details, see Product Uses.
- Under normal processing conditions, DOW Electrical and Telecommunications Products may be heated to elevated temperatures. Workers should be protected from the possibility of contact with molten resin during fabrication, which may cause burns. For further details, see Exposure Potential.
- DOW Electrical & Telecommunications Products are not anticipated to cause significant adverse health effects when processed within suggested temperature and condition guidelines. Solid or dust may cause irritation or corneal injury due to mechanical action. Mechanical skin injury is possible. Swallowing large amounts may result in a choking hazard. Additives may be used during the manufacture of these resins; however, their concentration in the finished products is expected to be low. For some minor components, an allergic respiratory response may result. For further details, see Health Information and the relevant Safety Data Sheet.
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- DOW™ Electrical & Telecommunications Products are not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life. For further details, see Environmental Information.
- Although the DOW Electrical & Telecommunications product resins are stable materials, it is possible for fumes and other decomposition products to be released during processing. Mechanical handling procedures can generate combustible dust. For further details, see Physical Hazard Information.

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Manufacture of Product
- Locations – The Dow Chemical Company produces DOW™ Electrical & Telecommunications Products are manufactured globally, in quantities sufficient to meet demand.
- Process – DOW Electrical & Telecommunication Products are formulated by mixing additives with certain base plastic resins to give the desired balance of properties in the end-use product. Base plastic resins such as high-density polyethylene (HDPE), low density polyethylene (LDPE) and linear low-density polyethylene (LLDPE), and others are mixed with the additives in extruders and pelletized. The pellets are then processed in cable manufacturers’ single-screw extruders for wire coating or cable extrusion.

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Product Description
DOW™ Electrical & Telecommunications Products are a family of products grouped together by their end-use applications. They are each distinctly created for different applications by their use of different additives. For specific information regarding formulations, consult the relevant Safety Data Sheet for the product of interest.

Composition, color, and odor properties vary from product to product, as do performance properties and processing characteristics.

DOW Electrical & Telecommunications Products have good pellet uniformity and low levels of contaminants for high-speed extrusion. The compounds meet various flame retardancy requirements, depending on the application. In addition to halogenated or nonhalogenated flame retardants, key additives include lubricants, processing aids, stabilizers or antioxidants, conductive additives, such as carbon black, and pigments.

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Product Uses
DOW™ Electrical & Telecommunications Products are part of a broad portfolio of products and compounds utilized in the Electrical & Telecommunications Industry. They are used in low-, medium- and high-voltage power cable applications, telecommunications, and specialty cable applications where special characteristics such as flame retardant properties are required.

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Exposure Potential
DOW™ Electrical & Telecommunications Products 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 to these products and their components is possible for workers in facilities that manufacture DOW Electrical & Telecommunications Products. Workers that use these formulated products to produce wires and cables also have the potential for exposure to these materials during processing, maintenance, sampling, or testing. Facilities that manufacture or use these products should have a thorough training program for employees and appropriate work processes and safety equipment in place to limit unnecessary exposure, including personal protective equipment and adequate ventilation for processing areas. For solid, formulated DOW Electrical & Telecommunications Products, no precaution other than clean body-covering clothing should be needed. However, safety glasses or safety goggles are recommended for manufacturing operations because particles and dust can be created during cutting. Dust or particles of these products can be mechanically irritating to the eyes. Under normal processing conditions, these products are heated to elevated temperatures and contact with the material may cause thermal burns. Workers should be protected from the possibility of contact with molten resin during fabrication. See Health Information.
- Consumer exposure to products containing DOW™ Electrical & Telecommunications Products – Dow does not sell DOW Electrical & Telecommunications Products for direct consumer use, but they are used in cable and wire products used by consumers. See Health Information.
Environmental releases – In the event of a spill, pellets or beads may present a slipping hazard. Material should be swept up as soon as possible. Keep pellets out of ditches, sewers, and water supplies. Spills should be collected to prevent contamination of waterways. Consult the relevant Safety Data Sheet for more information about protective equipment and procedures for the specific product being used. 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. Spilled product may present a slipping hazard. See Environmental, Health, and Physical Hazard Information.

In case of fire – In case of fire, deny any unnecessary entry into the area. Under fire conditions, some components of this product may decompose. The smoke may contain toxic and/or irritating compounds. Use water fog or fine spray, dry chemical or carbon dioxide fire extinguishers, or foam. Cool surroundings with water to localize the fire zone. 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 about DOW™ Electrical & Telecommunications Products is summarized on the relevant Safety Data Sheet. It is important to note that the health risks associated with individual products may vary. The Safety Data Sheet is the preferred source for specific health information. These products may also contain minor components or additives that have additional health risks. Additives used in some of these products may have exposure guidelines. However, the additives are encapsulated in the plastic resin and final product. Therefore, exposure to these additives in toxicologically significant amounts is unlikely. An overview of health information appears below.

Eye contact – Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

Skin contact – Prolonged contact is essentially nonirritating to skin. Mechanical injury is possible. Under normal processing conditions, material is heated to elevated temperature; contact with the heated material may cause thermal burns.

Inhalation – No adverse effects are anticipated from single exposure to dust. Vapors released during thermal processing may cause respiratory irritation.

Ingestion – Very low toxicity if swallowed. Harmful effects are not anticipated from swallowing small amounts. Swallowing large amounts may result in a choking hazard.

Repeated exposure – For some minor components, such as maleic anhydride, an allergic respiratory response may result.

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

Environmental Information

Environmental information for DOW™ Electrical & Telecommunications Products is summarized on the relevant Safety Data Sheet. It is important to note that environmental information associated with individual products may vary. The Safety Data Sheet is the preferred source for specific environmental information.

No bioconcentration of the polymers is expected. DOW Electrical & Telecommunications products are not soluble in water; therefore, in water, these materials will remain in the sediment. In soil, the materials are expected to remain with no appreciable biodegradation. These products are not expected to be acutely toxic to aquatic organisms, but materials in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.
Physical Hazard Information\textsuperscript{2,3}
DOW™ Electrical & Telecommunications Products are stable under recommended storage conditions. Keep containers closed. Avoid breathing vapors. Keep containers away from heat, sparks, and flame. During processing and use of some of these products, fumes and other decomposition materials may be released.

Good housekeeping and dust control are necessary for safe handling of these products. Pneumatic conveying and other mechanical handling operations can generate combustible dust. Electronically bond and ground equipment and do not permit dust to accumulate.

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

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/company/contact/)

For more business information about DOW™ Electrical & Telecommunications Products, visit the DOW™ Electrical & Telecommunications business web site at www.dow.com/electrical/.

Reference
\begin{enumerate}
\item The Dow Chemical Company. DOW™ Electrical & Telecommunications, www.dow.com/electrical/
\item The Dow Chemical Company. DFDA-1648 NT EXP1, Safety Data Sheet
\item The Dow Chemical Company. DQDE-1388 BK EXP3, Safety Data Sheet
\end{enumerate}
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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