



Product Safety Assessment

STYROFOAM™ Brand Extruded Polystyrene Insulation Products for Residential, Commercial, and Other Applications in North America

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Example Names¹

- STYROFOAM™ Brand BLUEBOARD™ Insulation
- STYROFOAM™ Brand Buoyancy Billets
- STYROFOAM™ Brand CAVITYMATE™ Insulation
- STYROFOAM™ Brand CHANNELMATE™ Insulation
- STYROFOAM™ Brand CLADMATE™ Insulation
- STYROFOAM™ Brand DECKMATE™ Insulation
- STYROFOAM™ Brand DECKMATE™ Plus FA Insulation
- STYROFOAM™ Brand DURAMATE™ Plus Insulation
- STYROFOAM™ Brand Highload Insulation
- STYROFOAM™ Brand FREEZERMATE™ Insulation
- STYROFOAM™ Brand PERIMATE™ Insulation
- STYROFOAM™ Brand PLAZAMATE™ Insulation
- STYROFOAM™ Brand Pipe Insulation
- STYROFOAM™ Brand Residential Sheathing Insulation
- STYROFOAM™ Brand Residing Board Insulation
- STYROFOAM™ Brand ROOFMATE™ Insulation
- STYROFOAM™ Brand SCOREBOARD™ Insulation
- STYROFOAM™ Brand Tongue and Groove Insulation
- STYROFOAM™ Brand UTILITYFIT™ Insulation
- STYROFOAM™ Brand WALLMATE™ Insulation

Product Overview

OSHA Regulatory Status This product is considered an article. 29 CFR 1910.1200(c) definition of an article is as follows: "Article" means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees

WHMIS Regulatory Status This product is considered an article per the Canadian Hazardous Products Regulation SOR/2015-17 Manufactured articles which meet the definition of the Canadian Hazardous Products Act (any article that is formed to a specific shape or design during manufacture, the intended use of which when in that form is dependent in whole or in part on its shape or design, and that, when being installed, if the intended use of the article requires it to be installed, and under normal conditions of use, will not release or otherwise cause an individual to be exposed to a hazardous product) are not regulated by the Canadian Hazardous Products Regulation SOR/2015-17

GHS - Classification This product is not classified hazardous according to GHS criteria

- STYROFOAM™ Brand insulation products are a family of extruded polystyrene foam board used for thermal insulation and sheathing applications. STYROFOAM Brand products have been insulating homes and buildings for over 60 years. They are made from blends of foaming agents and polymer mixtures. See [Product Description](#).
- This product safety assessment focuses on STYROFOAM Brand insulation products used for building and construction in North America. Dow sells

STYROFOAM™ Brand products that are tailored for particular markets and applications. In addition to thermal insulation for building and construction, uses for STYROFOAM Brand products include: agricultural applications, buoyancy billets for dock construction, mechanical pipe insulation solutions and floral and craft applications. For more information about the specific uses, see [Product Uses](#).

- Because STYROFOAM Brand products are used by the general public as well as by construction professionals, exposure to STYROFOAM Brand insulation products is possible for many individuals. Workers could be exposed in a facility that manufactures STYROFOAM Brand insulation products, or at the many construction sites that use these products. See [Exposure Potential](#).
- Based on available data, repeated exposures to STYROFOAM Brand insulation products are not anticipated to cause significant adverse health effects. Solid additives that are encapsulated in the product are not expected to be released under normal processing or use conditions. See [Health Information](#).
- If released or spilled onto soil, STYROFOAM Brand insulation is expected to remain in the soil. If released or spilled into water, the material is expected to float. Surface photodegradation of the material is expected with exposure to sunlight. However, no appreciable biodegradation is expected. STYROFOAM Brand insulation products are not expected to be acutely toxic to aquatic organisms. See [Environmental Information](#).
- STYROFOAM Brand insulation products are thermally stable at typical use temperatures. Nevertheless, exposure to highly elevated temperatures can cause the product to decompose. STYROFOAM Brand insulation products are combustible and should be protected from flames and other high-heat sources. They contain a flame retardant to inhibit accidental ignition from small fire sources. During a fire, smoke may be heavy and contain the original material as well as combustion products of varying composition that may be irritating. Based on combustion toxicity testing, the products of combustion from this foam are not more acutely toxic than the products of combustion from common building materials such as wood. See [Physical Hazard Information](#).

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Manufacture of Product

- **Locations** – STYROFOAM™ Brand insulation products are produced exclusively by The Dow Chemical Company and its affiliates (Dow). Dow has production facilities for STYROFOAM Brand insulation products in the following locations:

U.S. Locations	Canada Locations
<ul style="list-style-type: none">– Dalton, GA– Joliet, IL– Pevely, MO– Burley, ID	<ul style="list-style-type: none">– Varennes, Quebec

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Product Description

STYROFOAM™ Brand insulation products are a family of rigid, extruded polystyrene foam board products used for thermal insulation and sheathing applications. The final product is blue in color and does not have an odor.

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Product Uses

STYROFOAM™ Brand insulation products are used in commercial and residential (industrial and consumer) applications for building and construction, such as walls, basements, crawl spaces, under concrete slabs and in attics. They are also used to insulate agricultural structures.

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Exposure Potential

Based on the uses for STYROFOAM™ Brand insulation products, the public could be exposed through:

- **Workplace exposure** – Exposure to STYROFOAM Brand insulation products is probable for workers in a facility that manufactures STYROFOAM Brand insulation products and also for workers that use these products in building and construction applications. No precautions other than clean body-covering clothing should be needed. However, safety glasses or safety goggles are recommended for fabrication operations because particles and dust can be created during fabrication. Dust or particles of STYROFOAM Brand insulation products can be mechanically irritating to the eyes. Provide general and/or local exhaust ventilation to control airborne dust levels below the exposure guidelines and to reduce the potential for dust explosion. Gloves could also be used to protect from mechanical injury during fabrication and installation. Fabrication methods which involve cutting into this product may release the blowing agent remaining in the cells. Provide adequate ventilation to assure localized concentrations are maintained below any applicable limits such as lower flammable limit. Concentrations of the blowing agents incidental to proper handling are expected to be well below those which cause acute inhalation effects and below exposure guidelines. For more information, see the [Health](#) or [Physical Hazard Information](#) sections of this document.
- **Consumer exposure to STYROFOAM Brand insulation products** – In “do-it-yourself” construction applications, consumers may have potential for exposure to STYROFOAM Brand insulation products and should follow the same precautions noted above for workers using these products in building and construction applications. Consumers using the product in fabrication operations should follow the guidelines listed above for workers in the industry. For more information, see the [Health](#) or [Physical Hazard Information](#).
- **Environmental releases** – Dispose of foam board material according to all governmental requirements. Requirements may vary in different locations. See [Environmental Information](#).
- **Large release** – Due to the solid nature of STYROFOAM Brand insulation products, releases are unlikely. A large amount of this material is not expected to be hazardous to the environment or surrounding community. See [Environmental](#), [Health](#) and [Physical Hazard Information](#).

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Health Information

Based on available data, repeated exposures to STYROFOAM™ Brand insulation products are not anticipated to cause significant adverse health effects. Because of the physical state of STYROFOAM Brand insulation products, very few health concerns result from its handling. Dust or solid particles of STYROFOAM Brand insulation products may cause eye irritation or corneal injury due to mechanical action, as with any other solid particulate that may contact the eye. The dust may also cause irritation to the upper respiratory tract.

Fumes or vapor released during thermal operations such as hot-wire cutting of STYROFOAM Brand products may cause eye and respiratory irritation. Users are responsible to understand their ventilation requirements for thermal operations.

Concentrations of the blowing agent incidental to proper handling are expected to be well below those which cause acute inhalation effects and are below exposure guidelines. Based on available data, repeated exposures are not anticipated to cause significant adverse effects. Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Handling STYROFOAM Brand insulation products will not cause reaction or irritation to the skin. Skin absorption is unlikely due to the physical properties of STYROFOAM Brand insulation products.

Swallowing of STYROFOAM Brand insulation products is unlikely because it is a solid material. There is a very low risk of toxicity if the product is swallowed. Harmful effects are not anticipated from swallowing small amounts. Choking or blockage of the digestive tract is possible if the product is swallowed. In case of ingestion, do not give laxatives and do not induce vomiting unless directed to do so by medical personnel.

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Environmental Information

Bioconcentration of STYROFOAM™ Brand insulation products is not expected because of the relatively high molecular weight of the product. If released or spilled onto soil, STYROFOAM Brand insulation products are expected to remain in the soil. If released or spilled into water, these products will float. Surface photodegradation of the material is expected with exposure to sunlight. However, no appreciable biodegradation is expected. STYROFOAM Brand insulation products are not expected to be acutely toxic to aquatic organisms.¹

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Physical Hazard Information

Fire / Explosion Considerations

STYROFOAM™ Brand insulation products contain a flame retardant to inhibit accidental ignition from small fire sources; however, they are combustible and should be protected from flames and other high-heat sources.

- During a fire, dense smoke is produced. The smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.
- Based on combustion toxicity testing, the products of combustion from this foam are not more acutely toxic than the products of combustion from common building materials such as wood.

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- In smoldering or flaming conditions, carbon monoxide, carbon dioxide and carbon are generated. Additional combustion products may include hydrogen chloride, hydrogen fluoride, or trace amounts of hydrogen bromide.
- In the case of fire, follow emergency procedures carefully. A positive pressure, self-contained breathing apparatus (SCBA) with a full-face mask approved by NIOSH is recommended for emergency work. Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition.
- If material is molten, do not apply direct water stream. Instead, use a fine water spray or foam. Cool surroundings with water to localize the fire zone.

Mechanical cutting, grinding or sawing of STYROFOAM™ Brand insulation products can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.

Fabrication methods which involve cutting into this product may release the blowing agent(s) remaining in the cells. Provide adequate ventilation to assure localized concentrations in release areas are maintained below the lower flammable limit. This product is combustible and may constitute a fire hazard if improperly used or installed. When installed, this product should be adequately protected as directed by national and local building regulations or instructions in the specific application brochure.

Storage Considerations

STYROFOAM™ Brand insulation products are thermally stable at typical use temperatures and hazardous polymerization will not occur. However, exposure to elevated temperatures (570°F; 300°C) can cause the product to decompose. Under high-heat, non-flaming conditions, small amounts of aromatic hydrocarbons such as styrene and ethylbenzene may be generated. Avoid contact with oxidizing materials. Avoid contact with aldehydes, amines, esters, liquid fuels, or organic solvents.

When large quantities of this product are stored or fabricated, foaming agents may be released. Released foaming agents may thermally decompose in the combustion chambers of heaters, boilers and other equipment to form gases which may accelerate corrosion or rust formation in these heaters, boilers, gas fired re-circulating air furnaces or heaters, or gas water heaters. Flammable vapors may accumulate in some storage situations. In order to prevent buildup of combustible vapors, do not store large quantities of this product in unventilated spaces.

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Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use and/or disposal of STYROFOAM™ Brand insulation products. These regulations may vary by city, state, country or geographic region. Information may be found by consulting the relevant [SDS](#) or [Contact Dow](#).

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Additional Information

- Safety Data Sheet (<http://www.dow.com/webapps/msds/msdssearch.aspx>)
- Product literature available on Dow's website for STYROFOAM™ Brand insulation products (<http://www.dow.com/styrofoam/>)
- Contact Dow (<http://www.dowstyrofoam.com/architect>)

For more business information about STYROFOAM™ Brand insulation products, visit Dow's [Building and Construction](http://www.dow.com/styrofoam/) web site (<http://www.dow.com/styrofoam/>).

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References

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¹ 15-Year Limited Warranty, The Dow Chemical Company, Dow Form No.179-06331X-0906P&M.
www.dow.com/styrofoam

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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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