Insulation

First Revision July 2016

GreenGuard® XPS Insulation Board

SAFETY DATA SHEET

1 Identification of Products and Company

Products
Kingspan GreenGuard® IV XPS Insulation Board
Kingspan GreenGuard® VI XPS Insulation Board
Kingspan GreenGuard® IV 4 XPS Insulation Board

Company
Kingspan Insulation LLC
2100 RiverEdge Parkway, Suite 175
Atlanta, GA
USA, 30328
Tel: 1-800-241-4402
Email: info@kingspaninsulation.us
Website: www.kingspaninsulation.us

2 Hazards Identification

Classification of the substance or mixture according to GHS Classifications:
Not classified as a hazardous chemical according to GHS.

Label Elements: No hazard classifications.

Other Hazards: Board Product does not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as cutting, sawing or machining which result in the generation of airborne particulate.

Other Hazards Classifications:

USA: This product conforms to the U.S. Occupational Safety and Health Administration (OSHA) Hazard Communication Standard's definition of an "Article," i.e., "…a manufactured item: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent … upon its shape or design …; and (iii) which does not release, or otherwise result in exposure to, a hazardous chemical, under normal conditions of use." [29 CFR 1910.1200 (b) (6) (iv)].

This product is an article pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard requirement.

Canada: This is not a controlled product under WHMIS. This product meets the definition of a "Manufactured Article" and is not subject to the regulations of the Hazardous Products Act.

While this product is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) and under WHMIS, this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

3 Composition

CHEMICAL NAME	CAS NO.	% WEIGHT RANGE
Hexabromocyclododecane flame retardant additive	**3194-55-6**	**< 0.1**

4 First-Aid Measures

Description of first aid measures:

Inhalation: If symptoms are experienced, remove source of contamination or have person move to fresh air. Obtain medical advice.

Skin: If irritation does occur, wash with plenty of water. If irritation persists, obtain medical advice.

Eyes: If particulate contacts the eyes, rinse cautiously with water while holding the eyelids open. If irritation persists obtain medical attention. DO NOT attempt to manually remove anything stuck to the eye.

Ingestion: Not acutely toxic if swallowed.
If swallowed, call a POISON CENTER or doctor.

Most important symptoms and effects, both acute and delayed:
High concentrations of dust may cause coughing and mild, temporary irritation following a short-term exposure.
Heavy prolonged industrial exposure to high airborne concentrations of dust may cause impaired lung function. Chronic bronchitis, pulmonary fibrosis and respiratory tract lesions have also been reported with high level inhaled dust exposures.

5 Fire-Fighting Measures

Extinguishing media: Use extinguishing agents approved for Class A hazards e.g. water spray, foam, carbon dioxide or dry chemical.

Special hazards arising from the substance:
Not flammable. Product can burn if involved in a fire. During a fire, combustion can generate toxic fumes which may include resin fragments, smoke, carbon monoxide and carbon dioxide.

Advice for firefighters: As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance. Prevent water runoff from fire control from entering natural waterways, sewers and drinking water supplies.

6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:
Wear proper personal protective equipment as indicated in Section 8.

Environmental precautions: It is good practice to prevent release of this product into the environment.

Methods and material for containment and cleaning up:
Sweep, scoop or vacuum product for recovery, recycling or disposal. Avoid raising dusts during cleaning.

Additional information: See Section 8 for information on selection of personal protective equipment.
See Section 13 for information on disposal of spilled product.

7 Handling and Storage

Precautions for safe handling:

During cutting machining operations, avoid contact with eyes and skin. Wear protective gloves. Avoid breathing dusts. Do not eat, drink or smoke in work areas. Wash hands thoroughly after handling this material.

Conditions for safe storage, including any compatibilties:

KEEP OUT OF REACH OF CHILDREN. Protect from water and moisture. See Section 13 for disposal considerations.

8 Exposure Controls / Personal Protection

Occupational exposure Limits:

Consult local authorities for acceptable exposure limits.

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INGREDIENT	ACGIH TWA	U.S OSHA TWA	ONTARIO (Canada) TWA
Inhalable dust	3 mg/m^3 (respirable) 10 mg/m^3 (inhalable) Particles (insoluble or poorly soluble) Not Otherwise Specified (PNOS)	5 mg/m^3 (respirable) 15 mg/m^3 (total dust) Particles (insoluble or poorly soluble) Not Otherwise Regulated (PNOR)	3 mg/m^3 (respirable) 10 mg/m^3 (inhalable) Particles (insoluble or poorly soluble) Not Otherwise Specified (PNOS)

Exposure Controls:

Engineering controls: Provide good general ventilation or local exhaust ventilation when necessary to control dust concentrations below exposure limits.

Personal protection: Follow the directions for personal protective equipment for the worksite. Appropriate protective footwear is recommended when handling boards.

Inhalation: When dust concentrations in air exceed the occupational exposure guidelines, wear an approved particulate respirator equipped with an N95, R95 or P95 filter.

A respiratory protection program that meets the regulatory requirements, such as OSHA's 29 CFR 1910.134 and ANSI Z88.2 or Canadian Standards Association (CSA) Standard Z94.4, must be followed whenever workplace conditions warrant a respirator's use.

Eyes / Face: Wear safety glasses or goggles for all cutting operations.

Skin: Not required for normal use of this product, however it is good practice to wear gloves and clean body-covering clothing.

9 Physical and Chemical Properties

Information on basic physical and chemical properties:

Appearance: Solid; Green extruded polystyrene insulation board.

Odor: Odorless.

Odor threshold: Not applicable.

pH: Not applicable.

Melting point: >93°C (200°F).

Initial boiling point and boiling range:
Not applicable.

Evaporation Rate: Not applicable.

Flash point: Not applicable.

Flammability: >260° C (500°F) ASTM D 1929.

Auto-ignition temperature:
>482°C (900°F).

Upper / lower flammability or explosive limits:
Not applicable.

Explosive properties: Not applicable.

Oxidizing properties: Not applicable.

Sensitivity to mechanical impact:
Not applicable.

Sensitivity to static discharge:
Not available.

Vapor pressure : Not applicable.

Vapor Density: Not applicable.

Relative density: 0.07 (water=1).

Solubility (is): Insoluble in water.

Partition coefficient (n-octane / water):
Not applicable.

Decomposition temperature:
Not available.

VOC Content: Not available.

Viscosity: Not applicable.

10 Stability and Reactivity

Reactivity: Not classified for reactivity hazards.

Chemical stability: Stable at normal ambient and anticipated storage and handling conditions.

Possibility of hazardous reactions:
None known.

Conditions to avoid: Do not use in conditions of extreme heat or near open flames.

Incompatible materials: Strong oxidizers, aromatic and chlorinated hydrocarbons.

Hazardous decomposition products:
Thermal decomposition and incomplete combustion can produce toxic fumes containing the following: acids, acrolein, aldyhydes, halogens, ketones, monomers, possible hydrocarbons, carbon monoxide and carbon dioxide.

11 Toxicological Information

Information on toxicological effects:

Acute health effects: Acute toxicity data are not available for this article.

Irritation: Worker experience with this material indicates the product is non-irritating. Animal test data indicates the material is non-irritating. Dusts of this product may cause mild, temporary skin irritation by mechanical abrasion. Dusts may cause temporary irritation as a foreign objection in the eye.

Chronic health effects: None known.

Sensitization: None known.

Neurological effects: None known.

Genetic effects: None known.

Reproductive effects: Data not available.

Developmental effects: For the flame retardant additive listed in section 3: NOAEL for teratogenic effects = 1,000 mg/kg bw (rat, gavage).

Target organ effects: None known.

Carcinogenicity: The component substances are not classified as carcinogens in humans as described by ACGIH (American Conference of Governmental Industrial Hygienists) and IARC (International Agency for Research on Cancer).

Medical conditions aggravated by exposure:
None known.

Interactions with other chemicals:
Tobacco smoking in combination with long-term high dust exposures may increase both smoking and dust-related pulmonary health problems.

12 Ecological Information

Toxicity: Not available.

Persistence and degradability:
This product is not readily bio-degradable. Plastic components will photodegrade with prolonged exposures to UV light (e.g. sunlight). Product is treated with a flame retardant substance which is known to be persistent, bioaccumulative and toxic in the aquatic environment. Prevent releases to the environment and ensure proper disposal.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

13 Disposal Considerations

Waste treatment methods: Where facilities exist, the product and packaging can be recycled. Dispose in accordance with local regulations. Store material for disposal as indicated in Section 7 Handling and Storage. Proper incineration in state-of-the-art incinerators equipped with after-burners, yields carbon dioxide and water. Polymer materials may not decompose in modern sanitary landfills. Materials may be recycled where adequate collection and recycling facilities exist.

14 Transport Information

UN Number: Not regulated as a dangerous good for transport.

UN proper shipping name: Not regulated as a dangerous good for transport.

Transport hazard class(es): Not applicable.

Packing group: Not applicable**.**

Environmental hazards: Not applicable.

Special precautions for user: None known**.**

15 Regulatory Information

Safety, health and environmental regulations / legislation specific for the substance or mixture:

USA: OSHA: Article, Non-Hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.120 (2012).
TSCA Inventory: All component substances are listed on the TSCA 8(b) inventory.
Contains: Hexabromocyclododecane as flame-retardant TSCA Section 8(a) PAIR reporting list; Section 8(d) health and safety reporting list of substances.
SARA Title III : Sec.302 / 304 : None.
Sec. 313 : None.

Canada: WHMIS Classification: Not controlled. Product meets definition of a “manufactured article and is not subject to the regulations of the Hazardous Products Act.
DSL: Component substances are listed on the DSL.

RoHS Compliance: Restricted substances Cadmium, Lead, Mercury, Chromium VI, Polybrominated Biphenyls (PBBs)and Polybrominated Diphenyl Ethers (PBDEs) were below RoHS limits.

16 Other Information

Revision Date: October 1, 2014.

References and sources for data:

Supplier MSDS for component materials**.**

Legend to abbreviations:

ACGIH: American Conference of Governmental Industrial Hygienists.
GHS: Globally Harmonized System for Classification and Labeling, UNECE 2013.
IARC: International Agency for Research on Cancer.
OSHA: United States, Occupational Safety and Health Administration.
NOAEL: No observed adverse effect level.
NTP: National Toxicology Program.
WHMIS: Canada, Workplace Hazardous Materials Information System.

Additional information: For additional product and / or MSDS information, please contact Kingspan Insulation LLC at (800) 241-4402.

Information provided by sources external to our company and set forth herein is offered in good faith as accurate, but without guarantee. Safety precautions contained herein cannot anticipate all individual and unique situations. Conditions of use and suitability of the product for particular uses are beyond our control. All risks of use of the product are, therefore, assumed by the user, and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing herein is intended as recommendation for uses which infringe valid patents or as extension of license under valid patents. Appropriate warnings and safe handling procedures should be provided to users.

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