

Insulation

US & CA

GreenGuard[®]

XPS Insulation Board

SAFETY DATA SHEET

1 Identification of Products and Company

Products:

Kingspan[®] GreenGuard[®] Type IV

Kingspan[®] GreenGuard[®] Type VI

Kingspan[®] GreenGuard[®] Type VII

Kingspan[®] GreenGuard[®] Type 4 XPS

Kingspan[®] GreenGuard[®] SLX

Recommended use:

Identified uses: Construction

Restrictions on use: Any use not specified.

Supplier:

Kingspan Insulation LLC

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Tel: 1-800-241-4402

Email: info@kingspaninsulation.us

Website: www.kingspaninsulation.us

2 Hazards Identification

GHS Classification:

Not classified as a hazardous chemical.

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) (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/Information on Ingredients

Chemical Name	Case No.	% Weight Range	GHS US classification
Formic acid (potential by-product)	64-18-6	<1.0%	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

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 Contact: 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 water spray, foam, carbon dioxide, dry chemical, or other extinguishing media appropriate for the surrounding fire. Water or foam may cause frothing. Use water to keep fire-exposed material cool.

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.

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:

KEEP OUT OF REACH OF CHILDREN. Protect from water and moisture. See

Section 13 for disposal considerations.

Incompatible materials: Strong oxidizers, aromatic and chlorinated hydrocarbons.

8 Exposure Controls / Personal Protection

Formic acid (64-18-6)	
USA - OSHA - Occupational Exposure Limits	
Local name	Formic acid
OSHA PEL (TWA) [1]	9 mg/m ³
OSHA PEL (TWA) [2]	5 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
ACGIH OEL TLV-TWA	5 ppm
ACGIH OEL TLV-STEL	10 ppm
Regulatory reference	ACGIH 2021
Remark (ACGIH)	TLV® Basis: URT, eye & skin irr

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 large 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 Physician 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/freezing point:	>93°C (200°F).
Initial boiling point and boiling range:	Not applicable.
Flash point:	Not applicable.
Evaporation rate:	Not applicable.
Flammability (solid, gas):	>260°C (500°F) ASTM D1929.
Upper/lower flammability or explosive limits:	Not available.
Vapor pressure:	Not applicable.
Vapor density:	Not applicable.
Relative density:	0.07 (water=1).
Solubility (ies):	Insoluble in water.
Partition coefficient (n-octanol/water):	Not available.
Auto-ignition temperature:	>482°C (900°F).
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
Sensitivity to mechanical impact:	Not applicable
Sensitivity to static discharge:	Not available
Decomposition temperature:	Not available.
Viscosity:	Not applicable.
VOC content:	Not available.

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, aldehydes, halogens, ketones, monomers, possible hydrocarbons, carbon monoxide and carbon dioxide.

11 Toxicological Information

Acute health effects:

Acute toxicity data are not available for this article.

Formic acid (64-18-6)	
LD50 Oral rat	730 mg/kg
LD50 Dermal rat	> 2000 mg/kg Wistar, no mortality observed
LC50 Inhalation rat	7.4 mg/l/4h Sprague-Dawley

Skin corrosion / irritation:

Not available.

Chronic health effects:

None known.

Sensitization:

None known

Neurological 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).

Reproductive toxicity:

Data not available.

Developmental effects:

The flame retardant additive possesses developmental effects (Repr. 2, Lact.) with a NOAEL for teratogenic effects of 1,000 mg/kg bw (rat, gavage). The flame retardant is present at less than 0.1% and GHS classification is not required.

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:

Formic acid (64-18-6)

LC50 fish 1 130mg/l 96 h

EC50 crustacea 540mg/l 48 h

Persistence and degradability

GreenGuard® LG XPS Insulation Board: 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.

Formic acid (64-18-6)

Biodegradation 100% 14d

Bioaccumulative potential

GreenGuard® LG XPS Insulation Board

Log Pow No applicable

Formic acid (64-18-6)

Log Pow -0.46

Mobility in soil:

No data 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.

California Prop 65: This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

Canada:

WHMIS Classification: Not controlled. Product meets the definition of a "manufactured article" and is not subject to the regulations of the Hazardous Products Act.

Component	State or local regulations
Formic acid(64-18-6)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Minnesota - Hazardous Substance List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S. - New York - Right to Know List of Hazardous Chemicals; U.S. - Pennsylvania - List of Hazardous Substances; U.S. - Washington - Permissible Exposure Limits - STELs

16 Other Information

Revision date:

April 6, 2021

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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