CALDO XPS Product

Issue Date 28/08/2022

Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

1. Product and Company Identification

Product Name – XPS board

Supplier details:

CALDO Limited
PO Box 300347, Albany Auckland 0752
www.caldo.co.nz
info@caldo.co.nz
+64 22 403 7594
+64 21 9234 63

2. Hazards Identification

Emergency Overview

Upper side/Lower side: Grey
Middle layer colour: Yellow or Blue
Physical State: Board
Odor: Odorless

Hazards of product:
Toxic fumes may be released in fire situations.

OSHA Hazard Communication Standard

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects:

Eye Contact: Solid or dust may cause irritation due to mechanical action. Fumes/vapour released during thermal operations such as hot-wire cutting may cause eye irritation.

Skin Contact: Essentially no irritating to skin. Mechanical injury only.

Skin Absorption: Skin absorption is unlikely due to physical properties.

Inhalation: Dust may cause irritation to upper respiratory tract (nose and throat). Fumes/vapors released during thermal operations such as hot wire cutting may cause respiratory irritation. Concentrations of the blowing agents anticipated incidental to proper handling are expected to be well below those which cause acute inhalation effects and below exposure guidelines.

Ingestion: Swallowing is unlikely because of the physical state. Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking or blockage of the digestive tract if swallowed.

Birth Defects/Developmental Effects: Contains component(s) which did not cause birth defects in animals; other fetal effects occurred only at doses toxic to the mother. The component(s) is/are: 1,1,1,2-Tetrafluoroethane. Testing has indicated that normal handling and cutting are unlikely to result in exposure levels sufficient to cause the listed effects.

3. Composition Information

Component	CAS #	Amount
2-Propenenitrile, polymer with ethenylbenzene	9003-54-7	< 90.0 %
Styrene, polymers	9003-53- 6	< 90.0 %
1,1,1,2-Tetrafluoroethane	811-97- 2	>= 0.0 - < 10.0 %
1-Chloro-1,1-difluoroethane	75-68-3	>= 0.0 - < 10.0 %
Copolymer mixture	Trade Secret	< 5.0 %

Extruded styrene polymer foam containing a halogenated flame retardant system.

4. First-aid Measures

Eye Contact: May cause injury due to mechanical action. If irritation occurs, Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Skin Contact: Wash skin with plenty of water.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Ingestion: If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical person.

Notes to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

Fire Fighting Procedures: 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. Use fine water spray or foam. Cool surroundings with water to localize fire zone.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire and Explosion Hazards: Container may vent and/or rupture due to fire. When product is stored in closed containers, a flammable atmosphere can develop. Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate. This product contains a flame retardant to inhibit accidental ignition from small fire sources. This plastic foam product is combustible and should be protected from flames and other high heat sources. Dense smoke is produced when product burns.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. In smouldering or flaming conditions, carbon monoxide, carbon dioxide and carbon are generated. Combustion products may include and are not limited to: Hydrogen halides. Combustion products may include trace amounts of: Acrylonitrile. Hydrogen cyanide. Based on combustion toxicity testing, the effects of combustion from this foam are not more acutely toxic than the effects of combustion from common building materials such as wood.

6. Accidental Release Measures

Steps to be taken if material is released or spilled:

Recover material if possible. See Section 13, Disposal Considerations, for additional information.
Personal Precautions: There are no special required instructions.

Environmental Precautions: There are no special required instructions.

7. Handling and Storage

Handling

General Handling: 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.

Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate. 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 building regulations or instructions in the specific application brochure. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage

Minimize sources of ignition, such as static build-up, heat, spark or flame. When large quantities of this product are stored or fabricated, blowing agents may be released. Released blowing agents may thermally decompose to form gases which may accelerate corrosion or rust formation of heaters, boilers, gas fired recirculating air furnaces or heaters, or gas water heaters. Flammable vapors may accumulate in some storage situations. In order to prevent build-up of combustible vapors, do not store large quantities of this product in unventilated spaces. Transport bulk shipments of this product in ventilated vehicles. During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources.

8. Exposure Controls/Personal Protection

Exposure Limits

Component	List	Type	Value
1,1,1,2-Tetrafluoroethane	WEEL	TWA	4,240 mg/m3 1,000 ppm
1-Chloro-1,1-difluoroethane	WEEL	TWA	4,100 mg/m3 1,000 ppm

Concentrations of the blowing agents anticipated incidental to proper handling are expected to be well below those which cause acute inhalation effects and below exposure guidelines.

Personal Protection

Eye/Face Protection: Eye protection should not be necessary. For fabrication operations safety glasses are recommended. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin Protection: No precautions other than clean body-covering clothing should be needed.

Hand protection: Use gloves to protect from mechanical injury. Selection of gloves will depend on the task.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse

effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. When respiratory protection is required for certain operations, including but not limited to saw, router or hot- wire cutting, use an approved air-purifying respirator. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapour cartridge with a particulate pre-filter.

Ingestion: No precautions necessary due to the physical properties of the material.

Engineering Controls

Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

9. Physical and Chemical Properties

Physical State	**Board**
Color	Blue or yellow
Odor	Odorless
Flash Point - Closed Cup	Not applicable
Flammable Limits In Air	Lower: Not applicable
	Upper: Not applicable
Autoignition Temperature	354 °C (669 °F) ASTM D1929
Vapor Pressure	Not applicable
Boiling Point (760 mmHg)	Not applicable
Vapor Density (air = 1)	Not applicable
Specific Gravity (H2O = 1)	0.027 - 0.064 Estimated
Freezing Point	No test data available
Melting Point	90 - 130 °C (194 - 266 °F) Estimated
Solubility in water (by weight)	Insoluble in water
pH	Not applicable
Decomposition Temperature	No test data available
Kinematic Viscosity	Not applicable

10. Stability and Reactivity

Stability/Instability
Thermally stable at typical use temperatures.

Conditions to Avoid: Avoid temperatures above300°C (572°F). Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight.

Inhibitor: Cristobalite.

Incompatible Materials: Avoid contact with oxidizing materials. Avoid contact with: Aldehydes. Amines. Esters. Liquid fuels. Organic solvents.

Hazardous Polymerization
Will not occur.

Thermal Decomposition
Does not normally decompose. Evolution of small amounts of hydrogen halides occur when heated over 250°C (482°F). Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aromatic compounds. Aldehydes. Hydrogen halides. Polymer fragments. Decomposition products can include trace amounts of: Acrylonitrile. Hydrogen cyanide. Styrene. Ethylbenzene. Toxic flammable gases can be released during decomposition.

11. Toxicological Information

Repeated Dose Toxicity
Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Chronic Toxicity and Carcinogenicity

Contains component(s) which did not cause cancer in laboratory animals.

Developmental Toxicity
Contains component(s) which did not cause birth defects in animals; other fetal effects occurred only at doses toxic to the mother. The component(s) is/are: 1,1,1,2-Tetrafluoroethane. Testing has indicated that normal handling and cutting are unlikely to result in exposure levels sufficient to cause the listed effects. Contains component(s) which did not cause birth defects or any other fetal effects in lab animals.

Reproductive Toxicity
Contains component(s) which did not interfere with reproduction in animal studies.

Genetic Toxicology
Genetic toxicity studies on tested components were predominantly negative. Animal genetic toxicity studies were predominantly negative.

12. Ecological Information

Environmental Fate

Movement & Partitioning
No bio concentration is expected because of the relatively high molecular weight (MW greater than 1000). In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material is expected to float.

Persistence and Degradability
Surface photo degradation is expected with exposure to sunlight. No appreciable biodegradation is expected. Based largely or completely on information for the blowing agent: 1,1,1,2-tetrafluoroethane (HFC-134a) remains in the foam and diffuses out slowly, most of it degrading in the troposphere to CO2 and HF. 1,1,1,2-Tetrafluoroethane (HFC-134a) has a stratospheric ozone depletion potential (ODP) of zero, relative to CFC 12 (ODP=1). Chlorodifluoroethane (HCFC 142b) has a stratospheric ozone depletion potential (ODP) of 0.065, relative to CFC 12 (ODP=1).

ECOTOXICITY
Not expected to be acutely toxic to aquatic organisms.

13. Disposal Considerations

Product: All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations.

Packaging: Please recycle the carboard box. If recycling is not available, dispose of it in compliance with local regulations.

14. Transport information

The product is not classified as hazardous material according to road, sea, rail and air transport regulations.

15. Regulatory Information

OSHA Hazard Communication Standard

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	**No**
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

16. Other Information

Hazard Rating System

NFPA	Health	Fire	Reactivity
	0	1	0

We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

CALDO Limited
www.caldo.co.nz **Email**: admin@caldo.co.nz info@caldo.co.nz