



SAFETY DATA SHEET

DDP SPECIALTY ELECTRONIC MATERIALS US,
INC.

Product name: Pipe Insulation Billets Extruded 10 Inch

Issue Date: 10/18/2018

Print Date: 02/18/2020

DDP SPECIALTY ELECTRONIC MATERIALS US, INC. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: Pipe Insulation Billets Extruded 10 Inch

Recommended use of the chemical and restrictions on use

Identified uses: For industrial use. Thermal insulation. 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.

COMPANY IDENTIFICATION

DDP SPECIALTY ELECTRONIC MATERIALS US,
INC.
400 ARCOLA ROAD
COLLEGEVILLE PA 19426-2914
UNITED STATES

Customer Information Number:

833-338-7668

SDSQuestion-NA@dupont.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with 29 CFR 1910.1200

Combustible dust

Label elements

Signal word: **WARNING!**

Hazards

If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is an article.

Component	CASRN	Concentration
2-Propenenitrile, polymer with ethenylbenzene	9003-54-7	> 60.0 - < 100.0 %
Styrene, polymers	9003-53-6	< 10.0 %
1,1,1,2-Tetrafluoroethane	811-97-2	>= 1.0 - <= 10.0 %
1,1-Difluoroethane	75-37-6	<= 10.0 %

4. FIRST AID MEASURES

Description of first aid measures

General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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

Skin contact: Wash off with plenty of water.

Eye contact: 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. May cause injury due to mechanical action.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

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. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

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 smoldering or flaming conditions, carbon monoxide, carbon dioxide and carbon are generated. Combustion products may include and are not limited to: Hydrogen halides. 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.

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. For more information, contact Dow. Dense smoke is produced when product burns.

Advice for firefighters

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 waterstream. 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 fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: There are no special required instructions.

Environmental precautions: There are no special required instructions.

Methods and materials for containment and cleaning up: Recover spilled material if possible. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe 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.

Conditions for safe 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 buildup 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

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
1,1,1,2-Tetrafluoroethane	US WEEL	TWA	1,000 ppm
1,1-Difluoroethane	US WEEL	TWA	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.

Exposure controls

Engineering controls: 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.

Individual protection measures

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

Skin protection

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

Other protection: No precautions other than clean body-covering clothing should be needed.

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. In dusty or misty atmospheres, use an approved particulate respirator. 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.

The following should be effective types of air-purifying respirators: Particulate filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Billet
Color	blue
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable

Melting point/range	100 - 115 °C (212 - 239 °F) <i>Estimated.</i>
Freezing point	Not applicable
Boiling point (760 mmHg)	Not applicable
Flash point	closed cup Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	May form combustible dust concentrations in air during processing, handling or other means.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	Not applicable
Relative Density (water = 1)	0.02 - 0.06 <i>Estimated.</i>
Water solubility	not soluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	450 °C (842 °F) <i>ASTM D1929</i>
Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	No
Oxidizing properties	No
Softening point	No data available
Molecular weight	No test data available
Pour point	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Avoid temperatures above 300 °C
Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight.

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

Hazardous decomposition products: 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. Toxic

flammable gases can be released during decomposition. Under high heat, non-flaming conditions, small amounts of aromatic hydrocarbons such as styrene and ethylbenzene are generated.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Swallowing is unlikely because of the physical state. Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Single dose oral LD50 has not been determined.

Acute dermal toxicity

Skin absorption is unlikely due to physical properties. The dermal LD50 has not been determined.

Acute inhalation toxicity

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. As product: The LC50 has not been determined.

Skin corrosion/irritation

Mechanical injury only.
Essentially nonirritating to skin.

Serious eye damage/eye irritation

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

Sensitization

For skin sensitization:
Relevant data not available.

For respiratory sensitization:
Relevant data not available.

Specific Target Organ Systemic Toxicity (Single Exposure)

Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

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

Carcinogenicity

Relevant data not available.

Teratogenicity

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

Reproductive toxicity

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

Mutagenicity

Relevant data not available.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

2-Propenenitrile, polymer with ethenylbenzene

Acute oral toxicity

LD50, Rat, > 5,000 mg/kg Estimated.

Acute dermal toxicity

For similar material(s): LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity

The LC50 has not been determined.

Styrene, polymers

Acute oral toxicity

Single dose oral LD50 has not been determined.

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

Dust may cause irritation to upper respiratory tract (nose and throat). Vapors released during thermal processing may cause respiratory irritation.

The LC50 has not been determined.

1.1.1.2-Tetrafluoroethane

Acute oral toxicity

Single dose oral LD50 has not been determined.

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

LC50, Rat, 4 Hour, vapour, > 1,500 mg/l

1.1-Difluoroethane

Acute oral toxicity

LD50, Rat, > 1,500 mg/kg

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Symptoms of excessive

exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. May cause central nervous system effects. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats).

LC50, Rat, male, 4 Hour, gas, 437500 ppm

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Persistence and degradability

Biodegradability: Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

Bioaccumulative potential

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Mobility in soil

In the terrestrial environment, material is expected to remain in the soil.
In the aquatic environment, material is expected to float.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Landfill. Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Not regulated for transport Consult IMO regulations before transporting ocean bulk
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Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

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

Combustible dust

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Worker and Community Right-To-Know Act:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Prop. 65

This product contains a chemical that is at or below California Propositions 65's "safe harbor level" as determined via a risk assessment. Therefore, the chemical is not required to be listed as a Prop 65 chemical on the SDS or label.

United States TSCA Inventory (TSCA)

The product meets the definition of an article and is exempt from inventory requirements.

16. OTHER INFORMATION

Revision

Identification Number: 279103 / A749 / Issue Date: 10/18/2018 / Version: 10.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DDP SPECIALTY ELECTRONIC MATERIALS US, INC. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the

conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

US

Pipe Insulation Billets Extruded 10 Inch

WARNING

Contains: 1,1-Difluoroethane / 75-37-6; 1,1,1,2-Tetrafluoroethane / 811-97-2; Styrenic polymer / Trade secret

Hazards: If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Refer to the Safety Data Sheet before use.

COMPANY IDENTIFICATION

DDP SPECIALTY ELECTRONIC
MATERIALS US,
INC.
400 ARCOLA ROAD
COLLEGEVILLE PA 19426-2914
UNITED STATES

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact:
1 800 424 9300

Local Emergency Contact:
800-424-9300

Customer Information Number:
833-338-7668



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Revision

Identification Number: 279103 / A749 / Issue Date:
10/18/2018 / Version: 10.0



SAFETY DATA SHEET

3313045 NOVA SCOTIA COMPANY

Product name: Pipe Insulation Billets Extruded 10 Inch

Issue Date: 01/02/2019

Print Date: 02/18/2020

3313045 NOVA SCOTIA COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: Pipe Insulation Billets Extruded 10 Inch

Recommended use of the chemical and restrictions on use

Identified uses: For industrial use. Thermal insulation. 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.

COMPANY IDENTIFICATION

3313045 NOVA SCOTIA COMPANY
6925 Century Avenue, Suite 700
MISSISSAUGA ON L5N 7K2
CANADA

Customer Information Number:

833-338-7668

SDSQuestion-NA@dupont.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1-613-996-6666

Local Emergency Contact: 613-996-6666

2. HAZARDS IDENTIFICATION

Hazard classification

This product is not hazardous under the criteria of the Hazardous Products Regulation (HPR) as implemented under the Workplace Hazardous Materials Information System (WHMIS 2015).

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is an article.

Component	CASRN	Concentration
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2-Propenenitrile, polymer with ethenylbenzene	9003-54-7	> 60.0 - < 100.0 %
Styrene, polymers	9003-53-6	>= 0.0 - < 10.0 %
1,1,1,2 Tetrafluoroethane (HFC-134a)	811-97-2	>= 1.0 - <= 10.0 %
1,1-Difluoroethane	75-37-6	>= 0.0 - <= 10.0 %

4. FIRST AID MEASURES

Description of first aid measures

General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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

Skin contact: Wash off with plenty of water.

Eye contact: 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. May cause injury due to mechanical action.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

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. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

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 smoldering or flaming conditions, carbon monoxide, carbon dioxide and carbon are generated. Combustion

products may include and are not limited to: Hydrogen halides. 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.

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. For more information, contact Dow. Dense smoke is produced when product burns.

Advice for firefighters

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 waterstream. 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 fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: There are no special required instructions.

Environmental precautions: There are no special required instructions.

Methods and materials for containment and cleaning up: Recover spilled material if possible. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe 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.

Conditions for safe 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 buildup 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

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Consult local authorities for recommended exposure limits.

Component	Regulation	Type of listing	Value/Notation
1,1,1,2 Tetrafluoroethane (HFC-134a)	US WEEL	TWA	1,000 ppm
1,1-Difluoroethane	US WEEL	TWA	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.

Exposure controls

Engineering controls: 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.

Individual protection measures

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

Skin protection

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

Other protection: No precautions other than clean body-covering clothing should be needed.

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. In dusty or misty atmospheres, use an approved particulate respirator. 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.

The following should be effective types of air-purifying respirators: Particulate filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Billet
Color	blue
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable

Melting point/range	100 - 115 °C <i>Estimated.</i>
Freezing point	Not applicable
Boiling point (760 mmHg)	Not applicable
Flash point	closed cup Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	May form combustible dust concentrations in air during processing, handling or other means.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	Not applicable
Relative Density (water = 1)	0.02 - 0.06 <i>Estimated.</i>
Water solubility	insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	450 °C <i>ASTM D1929</i>
Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	No
Oxidizing properties	No
Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Avoid temperatures above 300 °C
Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight.

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

Hazardous decomposition products: 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. Toxic flammable gases can be released during decomposition. Under high heat, non-flaming conditions, small amounts of aromatic hydrocarbons such as styrene and ethylbenzene are generated.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Swallowing is unlikely because of the physical state. Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

LD50, Rat, > 5,000 mg/kg Estimated.

Acute dermal toxicity

Skin absorption is unlikely due to physical properties.

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity

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.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Mechanical injury only.

Essentially nonirritating to skin.

Serious eye damage/eye irritation

Solid or dust may cause irritation due to mechanical action.

Fumes/vapor released during thermal operations such as hot-wire cutting may cause eye irritation.

Sensitization

For skin sensitization:

Relevant data not available.

For respiratory sensitization:

Relevant data not available.

Specific Target Organ Systemic Toxicity (Single Exposure)

Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

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

Carcinogenicity

Relevant data not available.

Teratogenicity

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

Reproductive toxicity

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

Mutagenicity

Relevant data not available.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

2-Propenenitrile, polymer with ethenylbenzene

Acute inhalation toxicity

The LC50 has not been determined.

Styrene, polymers

Acute inhalation toxicity

Dust may cause irritation to upper respiratory tract (nose and throat). Vapors released during thermal processing may cause respiratory irritation.

The LC50 has not been determined.

1.1.1.2 Tetrafluoroethane (HFC-134a)

Acute inhalation toxicity

LC50, Rat, 4 Hour, vapour, > 1,500 mg/l

1.1-Difluoroethane

Acute inhalation toxicity

In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. May cause central nervous system effects. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats).

LC50, Rat, male, 4 Hour, gas, 437500 ppm

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Persistence and degradability

Biodegradability: Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

Bioaccumulative potential

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Mobility in soil

In the terrestrial environment, material is expected to remain in the soil.
In the aquatic environment, material is expected to float.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Landfill. Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

14. TRANSPORT INFORMATION

TDG

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional

transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Canadian Domestic Substances List (DSL)

The product meets the definition of an article and is exempt from inventory requirements.

16. OTHER INFORMATION

Revision

Identification Number: 279103 / A798 / Issue Date: 01/02/2019 / Version: 1.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of

Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

3313045 NOVA SCOTIA COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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