City of Springfield

Memo

To: File – 1749 E. Trafficway (Engineered Packaging)

From: Gene Pabst

CC:

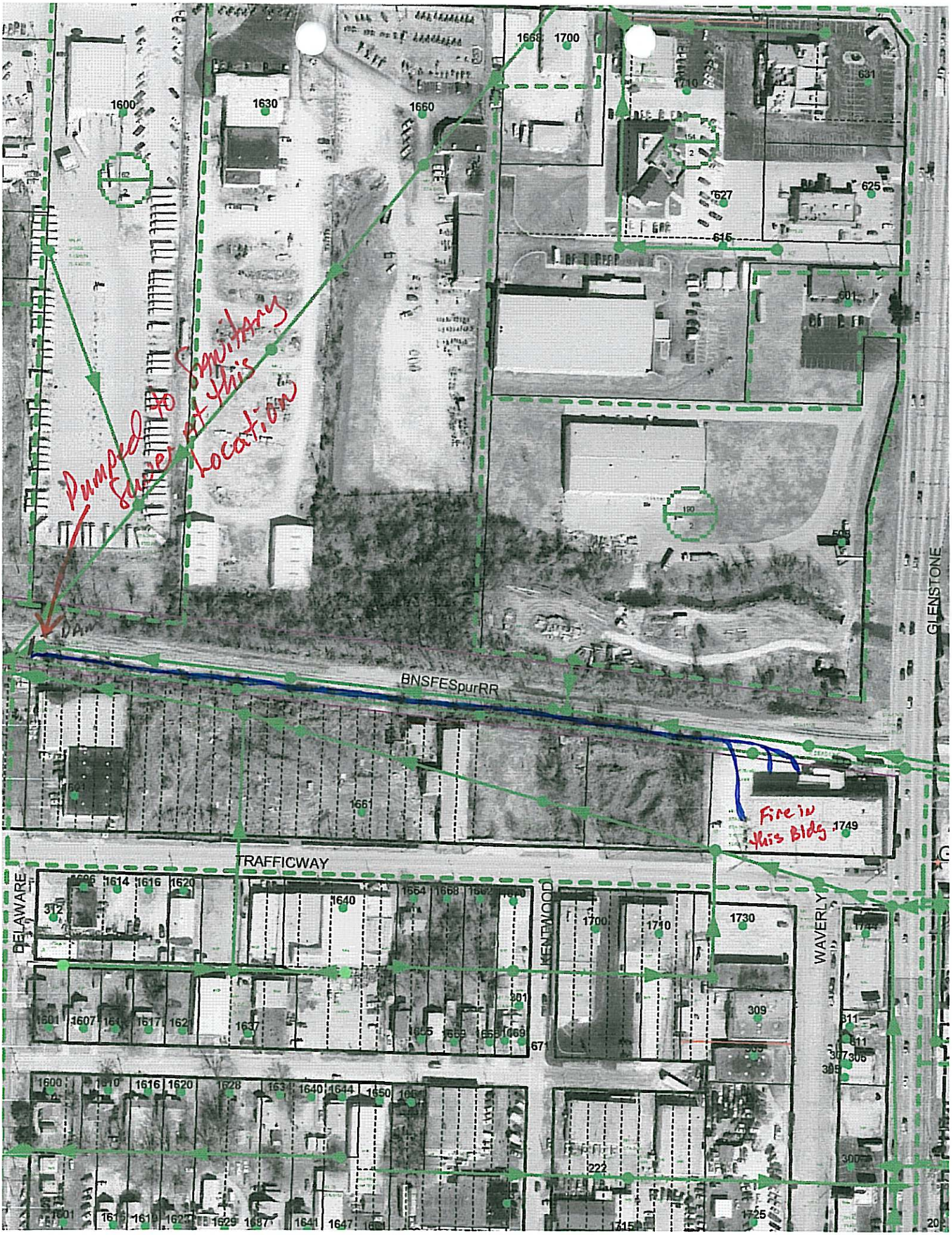
Date: 07/10/03

Re: Fire and disposal of water from Engineered Packaging

On July 8, 2003 (1:30 P.M.) I received a call from Randy Lyman stating that they was a fire at Engineered Packaging, 1749 E. Trafficway, and there was a request to dispose of the water to the sanitary sewer. Randy said that the Street Division had already arrived and put up a dam in the storm ditch to capture the water. When I arrived I talked to Jim Fry, Health Department, and he explained the situation to me. I also talked to Kevin Mattson, MDNR. We looked at the storm ditch that was blocked and located the City sanitary sewer. There were several manholes along the storm ditch that we could possibly pump to. Jim Fry said that they were having MSD Sheets faxed to them about the material in the building. When the MSD Sheets were faxed to the Health Dept. they faxed them to Randy Lyman. Randy Lyman called me and said that it looked okay to discharge the material to the sanitary sewer. He had a crew bring pumps to the site. The crew arrived at approximately 4:30 P.M. I helped them get the pump set up and working. I returned to the office at 5:30 P.M. Dennis Mork was on the pump crew and he told me on July 9, 2003 they pumped until 7:00 P.M. He said they pumped until the ditch was dry.

See attached map and MSD Sheets

1749 E. Trafficway



Pumped to Sanitary Sewer at this Location
Fire in this Bldg
BNSFESpurRR
TRAFFICWAY
DELAWARE
KENTWOOD
WAVERLY
GLENSTONE
1600
1630
1660
1668
1700
1710
631
627
625
615
601
505
1661
1749
1614
1616
1620
1640
1654
1668
1700
1710
1730
312
301
309
1601
1607
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1669
1668
1669
671
1600
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1628
1640
1644
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222
1725
1715
1629
1641
1647

864-1918

Jim Fry

Creative Packaging, Inc.
1235 Spur Drive
Marshfield, MO 65706
Phone: (417) 468-7333
Fax: (417) 859-5525

Engineered Packaging
1749 E. Trafficway

Fax

To: Kevin Mattson From: Char Kruzel
Fax: 864-1466 Date: 7-8-03
Phone: Pages: 19
Re: MSDS Sheets CC:

☒ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

•Comments:

- 1st 3 pages Crosslink Material
- 2nd 4 pages Polyurethane Material
- 3rd 6 pages Epcan Polyethylene + Epcan Polypropylene
- 4th 5 pages Polyethylene Material

* Kevin:
If you can't read some of the info, call me @ 859-3413. Char Kruzel

TOILON Corporation

Material Safety Data Sheet
Crosslinked Expanded Polyolefin

Validation Date: August 1, 2001
Version Number: 3.00

SECTION 1: IDENTIFICATION

Product Name: T, TI, and TB
Product Type: Crosslinked Polyethylene Foam
Manufacturer: Toilon Corporation
600 South Etiwanda Avenue
Ontario, California 91761
Name Of Preparer: John S. Kim

Telephone Numbers:
Emergency: 1-(800) 531-3626
Information: 1-(909) 390-6644: phone
1-(909) 390-6641: fax

SECTION 2: COMPOSITION / PHYSICAL & CHEMICAL CHARACTERISTICS

Polyethylene: 75 - 99 %
Proprietary Additives: 01 - 25 %

Product Type: Crosslinked Polyethylene Foam
Physical State: Roll, Bun, or Sheet
Color: Black, Charcoal, Grey, Natural, and White

Odor: Slight / Faint

Specific Gravity:
Solid/ Liquid: Not Applicable
Vapors: Not Applicable

Water Solubility: Insoluble

Boiling Point: Not Applicable

Temperature Points:
Melting: ± 104 - 138°C (± 219 - 280°F)
Freezing: N / A

Evaporation Rate: Not Applicable

Vapor Pressure: Not Applicable

pH: N / A

SECTION 3: HAZARD IDENTIFICATION

Material Overview: Product supplied essentially contains no hazardous ingredients.

Routes of Exposure: Eye, Skin, Inhalation, and Ingestion

Eye: Mechanical irritation is possible.
Skin: Non-Toxic however molten polymer may cause thermal burns.
Inhalation: At processing temperatures irritation fumes may be produced. Inhalation of processed fumes and vapors may cause soreness in the nose and throat and coughing.
Ingestion: Due to the products physical state choking, if swallowed, may occur.

Emergency and First Aid Procedures: For minor burns caused my molten plastic material, treat with cool running water immediately. If ingested contact a physician.

Acute and Chronic Health Effects: No known acute and chronic health effects under normal processing conditions.

HMIS: H F R
0 1 0

TOILON.

Material Safety Data Sheet
Crosslinked Expanded Polyolefin

Validation Date: August 1, 2001
Version Number: 3.00

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flammability Classification: No available classification. Foam will burn but does not ignite readily.

Flash Point & Method: N / A

Auto-Ignition Temperature: 343°C (650°F)

Flammable Limits:
Upper: N / A
Lower: N / A

Extinguishing Media: Dry Chemicals, CO_2 and/or Water (Spray or Fog)

Special Fire Fighting Procedures:
Wear: NIOSH approved positive pressure self-contained breathing apparatus and fire fighter turnout gear.
Instructions: Use flooding quantities of water until well after fire is out

Unusual Fire & Explosion Hazards:
See REACTIVITY AND STABILITY DATA

SECTION 5: REACTIVITY AND STABILITY DATA

Stability: Stable

Conditions to Avoid: Avoid excessive heat (≥ 299°C (570°F)), sparks or open flame.

Incompatibility With: Strong Oxidizing Agents, Acids and Bases

Hazardous Decomposition Or By Products: Carbon Monoxide, Carbon Dioxide and Hydrocarbons can be generated during thermal decomposition and combustion. However, not expected to decompose under normal conditions.

Hazardous Polymerization: Not likely.

Reactions with Air & Water: Does not react with air, water or other common materials.

SECTION 6: ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity is expected to be low based on the low water solubility of material.

Environmental Fate: No information found in our selected references.

Bioaccumulation: Not expected to occur.

HMIS: H F R
0 1 0

TOILON

Material Safety Data Sheet
Crosslinked Expanded Polyolefin

Validation Date: August 1, 2001
Version Number: 3.00

SECTION 7: PRECAUTIONS FOR SAFE HANDLING USE

Waste Disposal Method: In accordance with local, state, and federal regulations.

Storage: Store within a clean and dry area protected from external source of heat and direct sunlight.

Handling: During fabricating processes avoid breathing vapors.

Ventilation: General and/or local exhaust ventilation

Respiratory Protection: With adequate ventilation and under normal process condition protection is not required. However, should conditions exist that require respiratory protection, then a vapor protection mask is recommended.

Skin Protection: No skin protection should be needed under normal processing conditions.

Eye Protection: No eye protection should be needed under normal processing conditions.

Work / Hygienic Practices: Wash hands after handling and before eating.

SECTION 8: DISCLAIMER

Disclaimer: The information on this MSDS to the best of Toilon's knowledge was obtained from sources, which we believe are reliable, and is believed to be true. These sources such as raw material suppliers are providing information without any warranty. Moreover, some information presented and conclusions drawn herein are form sources other that direct test data on the substance itself. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. This material safety data sheet will supersede any that was previously received for reasons that it contains the most up to date information.

HMIS: H F R
0 1 0

ALLIANCE FOR THE POLYURETHANES INDUSTRY
A BUSINESS UNIT OF THE AMERICAN PLASTICS COUNCIL
June, 2002 AX 239

ALLIANCE FOR THE POLYURETHANES INDUSTRY
TECHNICAL BULLETIN

Fire Safety Guidelines on Flexible Polyurethane Foams (FPFs) Used in Upholstered Furniture and Bedding excerpts

Flexible Polyurethane Foams and Combustibility

Flexible polyurethane foam (FPF) is an organic material. As such, it will burn if exposed to a sufficient heat source, as will all other organic materials, both natural and synthetic. Its open-celled structure contributes to its combustibility.

Combustion characteristics of any material involve factors such as ease of ignition, propensity to smolder, surface flame spread, rate of heat release, total heat release, fuel contribution, and products of combustion, including smoke and gases.

Some of the combustion characteristics of FPFs can be altered by varying formulations and including flame retardants and other additives during production. However, all FPFs, whether they contain flame retardants or not, should be considered combustible and handled accordingly. When used in furniture and bedding, FPFs are used in combination with fabric coverings and other materials that can significantly influence the combustibility of the finished article. Of particular concern are how quickly a fire involving FPFs may grow and the intensity of the resulting flame, particularly if the foam does not contain flame retardants.

In fire testing of products, it is important to determine the combustibility behavior of the completed assembly as well as the component parts. Testing a completed full assembly or mock-up sample gives more realistic fire performance information than testing only material components. Because of the great variety of combinations of filling and covering materials and configurations involved, it is generally recognized that evaluating combustibility characteristics of composites is much more difficult than examining the individual components.

Small scale laboratory tests have a function in identifying combustibility characteristics of materials and can be used as screening tools. They should not be used to predict the behavior of an assembly unless a definite correlation between the test procedure and actual fire situations has been established on the basis of large scale tests.

In describing the combustibility characteristics of an assembly or component material, such terms as "self-extinguishing", "non-combustible", and "non-burning" are misleading and should not be used unless, in fact, such terms accurately reflect performance under actual fire conditions.

Fire tests of products containing FPFs have been conducted by manufacturers and government agencies both in the United States and in the United Kingdom, using such ignition sources as cigarettes, methenamine pills, newspapers, and gas burners. The tests indicate that the combustibility characteristics of an upholstered assembly vary according to the types of coverings, configuration of the final assembly, formulation of the foam, and ignition source. The use of certain interliners between the covering and filling materials can significantly increase the article's resistance to flaming ignition and, if ignited, tend to reduce spread of flame and toxic gas generation. Interliners can have a negative effect on comfort, ease of manufacturing, and cost.

Flexible polyurethane foam, like all organic materials, will generate smoke and a variety of toxic gases when burning. The principal gases have been identified as carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxides (NO_x), hydrogen cyanide (HCN), and trace quantities of isocyanates. Depending on the precise formula of FPF, trace amounts of other chemical compounds may be emitted. Fires in fully furnished rooms produced both CO and HCN. CO has been found to be the major toxicant.

Safety and Design Considerations in the Use of Flexible Polyurethane Foam

Flexible polyurethane foam used in furniture and bedding always requires a covering material. Selection of a covering material and design of the finished assembly are important considerations in fire safety. Some assemblies may call for use of an interliner. Whatever covering material is applied to the foam, the combustibility characteristics of the final assembly will be different from the combustibility characteristics of the individual components.

Fabrics that cover upholstered furniture can be treated with flame-retardants. The CPSC has shown the use of these treated fabrics can significantly reduce the ignition and early fire propagation from small open flame sources.

Designing and testing assemblies should take into account such factors as end uses (residential, commercial, transportation, places of public assembly, etc.) and other fire protection measures employed (automatic detection and suppression, etc.).

It is the responsibility of each furniture or bedding manufacturer or re-upholsterer to know the pertinent information concerning the combustibility of its products and the expected end uses in order to meet any required combustibility standards, such as the requirements in California for TB-117. It also is the responsibility of each furniture or bedding manufacturer or re-upholsterer to provide appropriate warnings and safety information to the users of its products.

Handling and Storage of Flexible Polyurethane Foam

Large amounts of FPF assembled in one place, such as for processing into finished products or in storage, present a potential fire hazard. Once ignited, these foams may melt to form flammable liquids, which may spread flame rapidly and produce intense heat, dense smoke and toxic gases.

General fire safety management provisions that apply to storage of other combustible materials also apply to the storage of FPF. These include building location, construction, detection, alarms and suppression systems, smoke venting, floor drainage, personnel training, housekeeping, etc.

Raw foam and fabricated items should be stored indoors, away from fabricating operations, and be protected by automatic sprinklers. The Factory Mutual System Bulletin 8-17S, *Storage of Flexible Polyurethane*, provides recommendations on the height of foam piles and sprinkler installations. Access aisles should be maintained between foam piles.

Ignition sources such as smoking materials, bare light bulbs, open flames and exposed heating elements should be kept away from storage and fabricating areas.

Scrap foam should not be permitted to accumulate but should be disposed of promptly.

Unless extinguished immediately after ignition, foam fires should be fought by professional fire personnel only.

Fire fighters should use self-contained breathing apparatus.

Important Note: The above information is based on available data. Manufacturers should be consulted for more complete information and for any changes in technology that may permit different applications from those described in these guidelines. In no case are these guidelines to be considered as superseding any specific government regulations or customer specifications.

ALLIANCE FOR THE POLYURETHANES INDUSTRY
A BUSINESS UNIT OF THE AMERICAN PLASTICS COUNCIL

1300 WILSON BOULEVARD
ARLINGTON, VA 22209
703.741.5656 FAX 703.741.5655
www.polyurethane.org
www.plastics.org

This guide was developed by the Alliance for the Polyurethanes Industry (API), a business unit of the American Plastics Council. It is intended to summarize briefly the current state of health hazard and safety information associated with flexible polyurethane foams, as provided in good faith by API members. It is not intended to provide specific legal or technical advice, nor to endorse specific polyurethane proprietary products or processes, and is made WITHOUT WARRANTY, EXPRESSED OR IMPLIED AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR ANY OTHER MATTER. Persons setting up polyurethane operations should consult with their own technical and legal advisors and other appropriate sources of safety and handling information, including information from product suppliers, product labels, technical bulletins, MSDSs, and other sales literature.

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Hickory Springs

MATERIAL SAFETY DATA SHEET

Date of Preparation: June 1, 1989

SECTION I - IDENTIFICATION

NAME:
Flexible urethane foam

CHEMICAL TYPE:
Polyether-base urethane polymer

TRADE NAMES AND SYNONYMS:
Flexible poly foam, foam, poly foam, PUR foams, CAL 117 foams, Code Red II foams, HR foams, filled foams, Code Yellow foams, and Rebonded foam.

SECTION II - PHYSICAL AND CHEMICAL CHARACTERISTICS

Since urethane foam is a solid, physical characteristics such as boiling point, vapor pressure, vapor density, percent volatiles, evaporation rate, etc. are not applicable.

DENSITY:
0.7 - 4.0 lbs. per cu. ft.

APPEARANCE:
Looks like a cellular material.
Can be any color.

IGNITION POINT:
600-650 degrees F

AUTOIGNITION POINT:
750-800 degrees F

SECTION III - FIRE AND EXPLOSION HAZARD DATA

OSHA CLASSIFICATION:
Combustible solid

NFPA SPRINKLER CLASSIFICATION:
Upholstery with plastic foams extra hazard.

EXTINGUISHING MEDIA:
Water, Carbon Dioxide, Dry chemical

FIRE FIGHTING PROTECTION:
Fire fighters must be equipped with NIOSH approved self-contained breathing apparatus and turnout gear.

UNUSUAL FIRE HAZARDS:
Once ignited, can produce rapid flames spread, intense heat, dense smoke and toxic gases. Can turn into burning liquid which can drip and flow.

Piles of polyurethane dust can be readily ignited and presents a potential fire hazard. High concentrations of polyurethane dust in the air can be a potential explosion hazard if exposed to flame, sparks, or other ignition sources.

REACTIVITY:
Stable; hazardous polymerization will not occur.

OTHER SOURCES OF TOXIC FUMES:
Hot wire cutting, heat sealing, hot stamping, and flame laminating operations may produce toxic fumes.

SECTION IV - HEALTH HAZARDS

THRESHOLD LIMIT VALUE:
None established

OSHA PERMISSIBLE EXPOSURE:
None established

ACUTE INHALATION LC 50:
No available data

PRIMARY ROUTE OF ENTRY:
Foam dust - inhalation

ACUTE ORAL LD 50:
Greater than 5,000 mg/kg (rat)

ACUTE DERMAL LD 50 LIMIT:
No available data

PRIMARY SKIN IRRITANT:
Not known to be an irritant

EYE IRRITATION:
Dust can cause irritation

INHALATION:
Animal studies indicate that chronic overexposure to dusts may cause inflammation of the lungs, fibrosis, and airway obstruction.

SECTION V - SAFE HANDLING

- Store buns, sheets and fabricated items indoors under fusible sprinkler protections.
- Allow a minimum of six feet clearance between tops of foam stacks and sprinkler heads.
- Do not smoke or use naked lights, open flames, exposed electrical heating elements, or other ignition sources near stored flexible foam.
- Store buns and sheets with adequate aisleways to permit access to all storage areas.
- Never use flexible polyurethane foam as an exposed interior wall or ceiling finish.
- Do not allow cuttings or foam scrap to accumulate.
- Be aware that terms like "fire retardant" and "flame resistant" sometimes used to describe flammability properties, do not mean fire safety under all conditions and that small scale fire tests are NOT INTENDED TO REFLECT HAZARDS PRESENTED BY THESE OR ANY OTHER MATERIALS UNDER ACTUAL FIRE CONDITIONS.
- When fabricating flexible polyurethane foam, keep a fire extinguisher nearby.

SECTION VI - GOOD WORK PRACTICES

VENTILATION:
Use adequate mechanical ventilation when hot-wire cutting, heat sealing, hot stamping and flame-laminating flexible urethane foam. Also use ventilation in operations that will generate large quantities of foam dust such as in continuous sawing, fabrication, or buffing operations.

PROTECTIVE EQUIPMENT:
Unless exposure to foam dust is anticipated, goggles, gloves, and dust masks are not required.

SECTION VII - EMERGENCY AND FIRST AID PROCEDURES

SKIN:
None necessary

INGESTION:
None necessary

EYES:
Flush thoroughly with water.

INHALATION (OF DUST)
Call physician if coughing, discomfort, or air passage obstruction occurs.

NOTICE: While Hickory Springs Manufacturing Company believes the information set forth above is accurate, it makes no warranty with respect thereto. In particular, NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE IS MADE.

kaneka
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

(281) 447-0755

KANEKA TEXAS CORPORATION
17 S. BRIAR HOLLOW LANE
HOUSTON, TX 77027

I. GENERAL

Trade Name: Eperan or Eperan-PP	Telephone Number: (713) 840-1751 Emergency: (713) 474-7534
Other Names (Synonyms):	
Chemical Family: Polyethylene or Ethylene Propylene Copolymer	DOT Proper Shipping Name: Not regulated. DOT Hazard Class: Regulated DOT Hazard Label: Not required DOT ID#: Not Required
Generic Name:	

II. COMPONENTS

Product	Component Name	CAS No.	Composition amount (Wt.)
Eperan	Polyethylene	9002-88-4	>99%
Eperan-PP	Ethylene Propylene Copolymer	9010-79-1	>99%

III. SUMMARY OF HAZARDS

Combustible solid. Vapors or fumes from molten processes may be irritating.

IV. FIRE AND EXPLOSION

Flash Point (Method) N/A	Auto-ignition Temperature: >600F	Flammable Limits: LEL=N/A UEL=N/A

Extinguishing Media: Dry Chemical, CO2, Foam, Water.

KANEKA
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

Special Firefighting Procedures:	Do not enter fire area without proper protection. See decomposition products. Fight fire from safe distance/protected location. For large fire, use lots of water, solid stream to "DIG" into molten mass and open up, cool interior, prevent re-ignition. Use spray/fog for surface cooling. Keep above burning material. Molten material forms flaming drops after igniting. Notify authorities if liquid enters sewer/public waters.
Unusual Fire and Explosion Hazards:	Beads are likely to be charged with static electricity and may become an ignition source.

V. HEALTH HAZARDS

Acute Toxicity:	No known effects.
Chronic Toxicity:	No known effects.
Eyes:	Vapors or fumes from molten polymer may cause irritation.
Skin:	Not expected to present a skin hazard under anticipated conditions of normal use.
Inhalation:	Not expected to present a respiratory problem. Vapors or fumes from molten polymers or beads may be irritating to the respiratory tract. See Respiratory Protection.

VI. PROTECTIVE EQUIPMENT AND OTHER CONTROL MEASURES

Ventilation:	Local exhaust is recommended. Maintain low dust concentration. See Fire and Explosion Hazard section.

KANEKA
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

Respiratory Protection:	Use NIOSH approved high efficiency dust respirator when dusty conditions prevail. No TLV-TWA has been established for this dust. The AGCIH recommends that nuisance particulates be limited to 10 mg/M3, total dust. OSHA and AGCIH recommends that nuisance dust, respirable 5 mg/M3 for 8 hours. An organic vapor respirator may be needed during molten or heating processes if ventilation is inadequate.
Eye and Face Protection:	Chemical worker's goggles may be needed. during molten or heating process if ventilation is inadequate. Do not wear contact lenses.
Other Clothing/ Equipment:	An eyewash should be readily available.

VII. EMERGENCY AND FIRST AID

Inhalation:	Move exposed individual to fresh air. Call a physician.
Eye Irritation:	Immediately flush eyes with flowing water for at least 15 minutes, occasionally lifting upper and lower lids, until no evidence of irritant remains. Get medical attention.
Skin Irritation:	Wash area with mild soap and water. Get medical attention if irritation persists.

VIII. SPILL AND DISPOSAL

Spill Response:	On land, sweep or shovel into suitable disposal containers. On water, material is insoluble. Collect and contain as any solid. Report per regulatory requirements.
Recommended Disposal:	Reuse when possible. Landfill solids. Federal, State and Local regulations should be observed when disposing. See regulatory information.

KANEKA
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

IX. PHYSICAL AND CHEMICAL DATA

Specific gravity: 0.05 - 0.06	Volatiles: <1%	Odor: None

Appearance: Expanded beads, molded planks or other shapes, in white, black, and other colors.

Solubility in Water: Insoluble

Stability: Stable	Conditions to avoid: Avoid exposing dust to ignition sources or high temperatures.

Incompatibility (Materials to avoid): None

Hazardous decomposition products: Normal products of hydrocarbon combustion.

X. ADDITIONAL PRECAUTIONS

Storage and Handling: Store in dry area to maintain product quality. No hazard will occur if product becomes wet. All equipment conveying beads should be grounded to avoid static spark. Do not store near open flames or other sources of ignition.

XI. REGULATORY INFORMATION

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200;
Based on our hazard evaluation, none of the ingredients in this product are hazardous.

CERCLA, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA 302 - EXTREMELY HAZARDOUS SUBSTANCES, 40 CFR 355:
This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

KANEKA
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

SARA 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS, 40 CFR 370:
Our hazard avaluation has found that this product is not hazardous under 29 CFR 1910.1200.

SARA 313 - LIST OF TOXIC CHEMICALS, 40 CFR 372:
This product does not contain ingredients on the List of Toxic Chemicals at greater than the de minimis reporting level.

TOXIC SUBSTANCES CONTROL ACT (TSCA), 40 CFR 710:
The ingredients in this product are on the 8(b) Inventory List.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
If this product becomes a waste, in original form, it does not meet the criteria of a hzardous waste as defined by RCRA.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):
None of the ingredients are specifically listed.

CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82), CLASS I and II Ozone depleting substances):
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:
This product does not contain any chemicals which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:
This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:
This product does not contain ingredients listed by State Right To Know Laws.

KANEKA TEXAS CORPORATION.

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

XII. USER'S RESPONSIBILITY

Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

The information on this MSDS has been gathered from standard reference materials and Kaneka Corporation data and to our best knowledge and belief accurate and reliable. Such information is offered solely for your consideration, investigation and verification, and it is not suggested or guaranteed that the precautions or procedures mentioned are the only ones which exist. Kaneka Corporation makes no warranties, expressed or implied, with respect to the use of such information or the use of the specific material identified herein in combination with any other material or process and, therefore, assumes no responsibility. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, handling and use remains the responsibility of the customer.

MATERIAL SAFETY DATA SHEET

Sealed Air Corporation
Polyethylene Foam Division
101 Maywill Street, Saddle Brook, NJ 07663 (201) 712-7000

EMERGENCY NUMBERS:

Sealed Air Corporation:	(201) 712-7000	*For emergency and general information* 8:30am - 5:00pm (Eastern Time), Monday - Friday
CHEMTREC:	(800) 424-9300	*For Chemical Emergency - spill, leak, fire, exposure or accident, 24 hours*

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Anti-static Cell-Aire®, Corro-Foam™, CelluPlank™, Stratocell™, Stratocell™ Plus, and Cellu-Cushion® polyethylene foams. Includes various extruded polyethylene foam profiles.
Chemical Name:	Polyethylene
Trade Name:	Polyethylene Foam
Chemical Family:	Plastics
Chemical Formula:	N.A.

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient	CAS No.	Wt. %	OSHA-PEL	ACGIH-TLV
Polyethylene	9002-88-4	85-100	N.E.	N.E.
Hydrocarbon Gas	Proprietary	0-5	800 ppm	800 ppm
Glycerol Stearate	Proprietary	0-2	N.E.	N.E.
Ethoxylated Fatty Amine	Proprietary	0-2	N.E.	N.E.
Color Concentrate	Proprietary	0-1	N.E.	N.E.

SECTION 3 - HAZARDOUS IDENTIFICATION

Appearance: Solid Plastic Foam. Pink, white or other color.

Odor: None

Eye: Dust may cause irritation or corneal injury due to mechanical action. Fumes released during hot operation may cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May be harmful if swallowed.

Inhalation: Fumes generated under heat may cause eye irritation and respiratory irritation. Dust may cause irritation to upper respiratory tract and lungs.

Note: Read the entire MSDS for a more thorough evaluation of the hazards.

N.E. = NOT ESTABLISHED N.A. = NOT APPLICABLE

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Sealed Air Corporation. The data on this sheet relates only to the specific material designated herein. Sealed Air Corporation assumes no legal responsibility for use or reliance upon these data.

PE-AS
Page 2 of 5
Issued 7/99

Sealed Air Corporation
P...ythylene Foam Division
3... Mayhill Street, Saddle Brook, NJ 07663 (201) 718-7000

SECTION 4 - FIRST AID MEASURES

Skin Contact: Wash with soap and cool water.

Eye Contact: Flush eyes with plenty of water. Hold the eyelids apart during the flushing for adequate rinsing.

Ingestion: Not a likely route of exposure. Immediately give several glasses of water. Have a physician determine induction of vomiting or not.

Inhalation: Remove to fresh air. If not breathing administer artificial respiration. Oxygen may be given by qualified personnel. Get medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Polyethylene: N.A.
(Hydrocarbon Gas: -120 °F (-84 °C))*

Flammable limits (LEL): Polyethylene: N.A.
(Hydrocarbon Gas: 1.8% by volume)*

Flammable limits (UEL): Polyethylene: N.A.
(Hydrocarbon Gas: 8.5% by volume)*

*Only trace amounts of residual blowing agent present in the foam

Extinguishing Media: Water, carbon dioxide (CO_2) and dry chemical.

Fire and Explosion Hazards: Trace amounts of residual blowing agent may be present in the foam. Mechanical and thermal processes may produce dust and flammable vapors which may be potential explosion hazards. Tightly sealed containers may burst under fire or intense heat.

Special Fire Fighting Procedures: Firefighters should be equipped with positive pressure self-contained breathing apparatus in enclosed areas.

NFPA Hazard Code:

Health:	1
Flammability:	1
Reactivity:	0
Special Hazard:	None.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Handle as general inert material.

SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Max. 160° F (71° C)

N.E. = NOT ESTABLISHED N.A. = NOT APPLICABLE

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Sealed Air Corporation. The data on this sheet relate only to the specific material designated herein. Sealed Air Corporation assumes no legal responsibility for use or reliance upon these data.

Sealed Air Corporation
Polyethylene Foam Division
301 Heyhill Street, Saddle Brook, NJ 07663 (201) 712-7000

SECTION 7 - HANDLING AND STORAGE (continued)

Precautions to be Taken in Handling, Storage and Transportation:

WARNING: This polyethylene foam is made with a flammable hydrocarbon blowing agent, most of which is removed prior to shipment. However, residual flammable vapors may gradually exhaust from the foam during storage, fabrication or use. Avoid close confinement of large foam quantities and sources of ignition near the foam (i.e. smoking, sparks, flames.) Do not store near heating equipment. Heating equipment should be inspected regularly during every heating season to check for pinholes or larger defects in the combustion chamber. Burns readily when exposed to plentiful and hot ignition sources. Use self-contained breathing apparatus in the event of fire.

WARNING: Fabricating operations which cut large numbers of interior foam cells, can release localized amounts of flammable, residual blowing agent. Provide adequate ventilation to avoid the build up of blowing agent concentration.

WARNING: Transport large quantities of this polyethylene foam in ventilated vehicles. Exercise caution when opening vehicles containing this polyethylene foam to avoid all possible sources of ignition (lit tobacco products, sparks, etc.) near the foam and vehicle.

For additional information obtain the Sealed Air Corporation "Polyethylene Foam Safety Guide."

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:	OSHA-PEL:	Hydrocarbon Gas	800 ppm
	ACGIH-TLV:	Hydrocarbon Gas	800 ppm

Respiratory Protection: In dusty atmosphere and where fumes are generated above regulatory limits, wear appropriate respirator protection.

Eye Protection: Use goggles or safety glasses with side shields when exposed to foam dust or particles.

Ventilation: Use local exhaust ventilation if necessary to maintain hydrocarbon gas levels below the PEL and LEL. For guidance on engineering controls, refer to the ACGIH publication "Industrial Ventilation."

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form: Solid plastic foam

Color: Pink, white or other colors.

Vapor Density (Air = 1): N.A.

Molecular Weight: N.E.

Melting Point: 230° F (110° C)

Boiling Point: N.A.

Vapor Pressure: N.A.

Bulk Density: 20 - 200 Kg/m^3

% Volatile by Volume: Nil

Solubility in Water: Not soluble

N.E. = NOT ESTABLISHED N.A. = NOT APPLICABLE

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Sealed Air Corporation

Polyethylene Foam Division
301 Mayfill Street, Saddle Brook, NJ 07663 (201) 712-7000

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Polymerization: Will not occur.

Conditions to Avoid: Avoid flame, very high temperature, and UV.

Incompatible Materials: Strong oxidants (long contact).

Hazardous Decomposition Products: None

SECTION 11 - TOXICOLOGICAL INFORMATION

No applicable or available data for this section.

SECTION 12 - ECOLOGICAL INFORMATION

This product is inert to the environment and is not expected to exhibit any significant biodegradation.

SECTION 13 - DISPOSAL CONSIDERATIONS

Reuse, recycle, incinerate, or dispose in approved landfill. Follow all regulatory requirements for disposal.

SECTION 14 - TRANSPORT INFORMATION

DOT: Not regulated.

IMO: Not regulated.

IATA/ICAO Class: Not regulated.

WARNING: Transport large quantities of this polyethylene foam in ventilated vehicles. Exercise caution when opening vehicles containing this polyethylene foam to avoid all possible sources of ignition (lit tobacco products, sparks, etc.) near the foam and vehicle.

For additional information obtain the Sealed Air Corporation "Polyethylene Foam Safety Guide."

SECTION 15 - REGULATORY INFORMATION

SARA 302 Extremely Hazardous Substances: None

SARA 311/312 Hazard Categories: None

SARA 313 Listed Ingredients: None

RCRA Status: The product as supplied is not classified as a RCRA hazardous waste.

N.B. = NOT ESTABLISHED N.A. = NOT APPLICABLE

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Polyethylene Foam Division
301 Maynill Street, Saddle Brook, NJ 07663 (201) 712-7600

SECTION 16 - OTHER INFORMATION

The following states have regulations that apply to the use of this product.

NJ New Jersey Workplace Hazardous Substance

NJ New Jersey Environmental Hazardous Substance List

PA Pennsylvania Hazardous Substance List

The appropriate state agency should be contacted for further details on regulatory requirements.

Section(s) Revised: New Issue

N.E. = NOT ESTABLISHED N.A. = NOT APPLICABLE

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Sealed Air Corporation. The data on this sheet relates only to the specific material designated herein. Sealed Air Corporation assumes no legal responsibility for use or reliance upon these data.

Gene, FYI & file w/ your memo. R.

,64-1918

Jim FRY

Creative Packaging, Inc.
1235 Spur Drive
Marshfield, MO 65706
Phone: (417) 468 7333
Fax: (417) 859-5525

Fax

To: Kevin Mattson From: Char Kruzel
Fax: 864-1466 Date: 7-8-03
Phone: Pages: 19
Re: MSDS Sheets CC:

☒ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

•Comments:

- 1st 3 pages Crosslink Material
- 2nd 4 pages Polyurethane Material
- 3rd 6 pages Eperan Polyethylene + Eperan Polypropylene
- 4th 5 pages Polyethylene Material

* Kevin:
If you can't read some of the info,
[illegible]

TOILON Corporation

Material Safety Data Sheet
Crosslinked Expanded Polyolefin

Validation Date: August 1, 2001
Version Number: 3.00

SECTION 1: IDENTIFICATION

Product Name:	T, TI, and TB		
Product Type:	Crosslinked Polyethylene Foam		
Manufacturer:	Toilon Corporation 608 South Edwards Avenue Ontario, California 91761	**Telephone Numbers:** **Emergency:** **Information:**	 1-(800) 531-3626 1-(909) 390-6644: phone 1-(909) 390-6641: fax
Name Of Preparer:	John S. Kim		

SECTION 2: COMPOSITION / PHYSICAL & CHEMICAL CHARACTERISTICS

Polyethylene:	75 - 99 %
Proprietary Additives:	01 - 25 %

Product Type:	Crosslinked Polyethylene Foam		
Physical State:	Roll, Bun, or Sheet		
Color:	Black, Charcoal, Grey, Natural, and White		
Odor:	Slight / Faint	**Specific Gravity:** **Solid/ Liquid:**	 Not Applicable
Water Solubility:	Insoluble	**Vapors:**	Not Applicable
Boiling Point:	Not Applicable	**Temperature Points:** **Melting:**	 ± 104 - 138°C (± 219 - 280°F)
Evaporation Rate:	Not Applicable	**Freezing:**	N / A
Vapor Pressure:	Not Applicable	**pH:**	N / A

SECTION 3: HAZARD IDENTIFICATION

Material Overview: Product supplied essentially contains no hazardous ingredients.

Routes of Exposure: Eye, Skin, Inhalation, and Ingestion

Eye: Mechanical irritation is possible.
Skin: Non-Toxic however molten polymer may cause thermal burns.
Inhalation: At processing temperatures irritation fumes may be produced. Inhalation of processed fumes and vapors may cause soreness in the nose and throat and coughing.
Ingestion: Due to the products physical state choking, if swallowed, may occur.

Emergency and First Aid Procedures: For minor burns caused my molten plastic material, treat with cool running water immediately. If ingested contact a physician.

Acute and Chronic Health Effects: No known acute and chronic health effects under normal processing conditions.

HMIS: H F R
0 1 0

TOILON®

Material Safety Data Sheet
Crosslinked Expanded Polyolefin

Validation Date: August 6, 2001
Version Number: 3.00

SECTION 4: FIRE AND EXPLOSION HAZARD DATA

Flammability Classification: No available classification. Foam will burn but does not ignite readily.

Flash Point & Method: N/A

Auto-Ignition Temperature: 343°C (650°F)

Flammable Limits:
Upper: N/A
Lower: N/A

Extinguishing Media: Dry Chemicals, CO_2 and/or Water (Spray or Fog)

Special Fire Fighting Procedures:
Wear: NIOSH approved positive pressure self-contained breathing apparatus and fire fighter turnout gear.
Instructions: Use flooding quantities of water until well after fire is out

Unusual Fire & Explosion Hazards:
See REACTIVITY AND STABILITY DATA

SECTION 5: REACTIVITY AND STABILITY DATA

Stability: Stable

Conditions to Avoid: Avoid excessive heat (≥ 299°C (570°F)), sparks or open flame.

Incompatibility With: Strong Oxidizing Agents, Acids and Heat

Hazardous Decomposition Or By Products: Carbon Monoxide, Carbon Dioxide and Hydrocarbons can be generated during thermal decomposition and combustion. However, not expected to decompose under normal conditions.

Hazardous Polymerization: Not likely.

Reactions with Air & Water: Does not react with air, water or other common materials.

SECTION 6: ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity is expected to be low based on the low water solubility of material.

Environmental Fate: No information found in our selected references.

Bioaccumulation: Not expected to occur.

TOILON

Material Safety Data Sheet
Crosslinked Expanded Polyolefin

Validation Date: August 1, 2001
Version Number: 3.00

SECTION 7: PRECAUTIONS FOR SAFE HANDLING USE

Waste Disposal Method: In accordance with local, state, and federal regulations.

Storage: Store within a clean and dry area protected from external source of heat and direct sunlight.

Handling: During fabricating processes avoid breathing vapors.

Ventilation: General and/or local exhaust ventilation

Respiratory Protection: With adequate ventilation and under normal process condition protection is not required. However, should conditions exist that require respiratory protection, then a vapor protection mask is recommended.

Skin Protection: No skin protection should be needed under normal processing conditions.

Eye Protection: No eye protection should be needed under normal processing conditions.

Work / Hygienic Practices: Wash hands after handling and before eating.

SECTION 8: DISCLAIMER

Disclaimer: The information on this MSDS to the best of Toilon's knowledge was obtained from sources, which we believe are reliable, and is believed to be true. These sources such as raw material suppliers are providing information without any warranty. Moreover, some information presented and conclusions drawn herein are form sources other that direct test data on the substance itself. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. This material safety data sheet will supersede any that was previously received for reasons that it contains the most up to date information.

HMIS: HFR
010

ALLIANCE FOR THE
POLYURETHANES
INDUSTRY
A Further Unit of the American Plastics Council
June, 2002 AX239

ALLIANCE FOR THE POLYURETHANES INDUSTRY

TECHNICAL BULLETIN

Fire Safety Guidelines on Flexible Polyurethane Foams (FPFs) Used in Upholstered Furniture and Bedding excerpts

Flexible Polyurethane Foams and Combustibility

Flexible polyurethane foam (FPF) is an organic material. As such, it will burn if exposed to a sufficient heat source, as will all other organic materials, both natural and synthetic. Its open-celled structure contributes to its combustibility.

Combustion characteristics of any material involve factors such as ease of ignition, propensity to smolder, surface flame spread, rate of heat release, total heat release, fuel contribution, and products of combustion, including smoke and gases.

Some of the combustion characteristics of FPFs can be altered by varying formulations and including flame retardants and other additives during production. However, all FPFs, whether they contain flame retardants or not, should be considered combustible and handled accordingly. When used in furniture and bedding, FPFs are used in combination with fabric coverings and other materials that can significantly influence the combustibility of the finished article. Of particular concern are how quickly a fire involving FPFs may grow and the intensity of the resulting flame, particularly if the foam does not contain flame retardants.

In fire testing of products, it is important to determine the combustibility behavior of the completed assembly as well as the component parts. Testing a completed full assembly or mock-up sample gives more realistic fire performance information than testing only material components. Because of the great variety of combinations of filling and covering materials and configurations involved, it is generally recognized that evaluating combustibility characteristics of composites is much more difficult than examining the individual components.

Small scale laboratory tests have a function in identifying combustibility characteristics of materials and can be used as screening tools. They should not be used to predict the behavior of an assembly unless a definite correlation between the test procedure and actual fire situations has been established on the basis of large scale tests.

In describing the combustibility characteristics of an assembly or component material, such terms as "self-extinguishing", "non-combustible", and "non-burning" are misleading and should not be used unless, in fact, such terms accurately reflect performance under actual fire conditions.

Fire tests of products containing FPFs have been conducted by manufacturers and government agencies both in the United States and in the United Kingdom, using such ignition sources as cigarettes, methenamine pills, newspapers, and gas burners. The tests indicate that the combustibility characteristics of an upholstered assembly vary according to the types of coverings, configuration of the final assembly, formulation of the foam, and ignition source. The use of certain interliners between the covering and filling materials can significantly increase the article's resistance to flaming ignition and, if ignited, tend to reduce spread of flame and toxic gas generation. Interliners can have a negative effect on comfort, ease of manufacturing, and cost.

Flexible polyurethane foam, like all organic materials, will generate smoke and a variety of toxic gases when burning. The principal gases have been identified as carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxides (NO_x), hydrogen cyanide (HCN), and trace quantities of isocyanates. Depending on the precise formula of FPF, trace amounts of other chemical compounds may be emitted. Fires in fully furnished rooms produced both CO and HCN. CO has been found to be the major toxicant.

Safety and Design Considerations in the Use of Flexible Polyurethane Foam

Flexible polyurethane foam used in furniture and bedding always requires a covering material. Selection of a covering material and design of the finished assembly are important considerations in fire safety. Some assemblies may call for use of an interliner. Whatever covering material is applied to the foam, the combustibility characteristics of the final assembly will be different from the combustibility characteristics of the individual components.

Fabrics that cover upholstered furniture can be treated with flame-retardants. The CPSC has shown the use of these treated fabrics can significantly reduce the ignition and early fire propagation from small open flame sources.

Designing and testing assemblies should take into account such factors as end uses (residential, commercial, transportation, places of public assembly, etc.) and other fire protection measures employed (automatic detection and suppression, etc.).

It is the responsibility of each furniture or bedding manufacturer or re-upholsterer to know the pertinent information concerning the combustibility of its products and the expected end uses in order to meet any required combustibility standards, such as the requirements in California for TB-117. It also is the responsibility of each furniture or bedding manufacturer or re-upholsterer to provide appropriate warnings and safety information to the users of its products.

Handling and Storage of Flexible Polyurethane Foam

Large amounts of FPF assembled in one place, such as for processing into finished products or in storage, present a potential fire hazard. Once ignited, these foams may melt to form flammable liquids, which may spread flame rapidly and produce intense heat, dense smoke and toxic gases.

General fire safety management provisions that apply to storage of other combustible materials also apply to the storage of FPF. These include building location, construction, detection, alarms and suppression systems, smoke venting, floor drainage, personnel training, housekeeping, etc.

Raw foam and fabricated items should be stored indoors, away from fabricating operations, and be protected by automatic sprinklers. The Factory Mutual System Bulletin 8-17S, *Storage of Flexible Polyurethane*, provides recommendations on the height of foam piles and sprinkler installations. Access aisles should be maintained between foam piles.

Ignition sources such as smoking materials, bare light bulbs, open flames and exposed heating elements should be kept away from storage and fabricating areas.

Scrap foam should not be permitted to accumulate but should be disposed of promptly.

Unless extinguished immediately after ignition, foam fires should be fought by professional fire personnel only.

Fire fighters should use self-contained breathing apparatus.

Important Note: The above information is based on available data. Manufacturers should be consulted for more complete information and for any changes in technology that may permit different applications from those described in these guidelines. In no case are these guidelines to be considered as superseding any specific government regulations or customer specifications.

ALLIANCE FOR THE
POLYURETHANES
INDUSTRY
A BUSINESS UNIT OF THE AMERICAN PLASTICS COUNCIL

1300 WILSON BOULEVARD
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www.polyurethane.org
www.plastics.org

This guide was developed by the Alliance for the Polyurethanes Industry (API), a business unit of the American Plastics Council. It is intended to summarize briefly the current state of health hazard and safety information associated with flexible polyurethane foams, as provided in good faith by API members. It is not intended to provide specific legal or technical advice, nor to endorse specific polyurethane proprietary products or processes, and is made WITHOUT WARRANTY, EXPRESSED OR IMPLIED AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR ANY OTHER MATTER. Persons setting up polyurethane operations should consult with their own technical and legal advisors and other appropriate sources of safety and handling information, including information from product suppliers, product labels, technical bulletins, MSDSs, and other sales literature.

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Hickory Springs edit, December 2002

Hickory Springs

MATERIAL SAFETY DATA SHEET

Date of Preparation: June 1, 1989

SECTION I - IDENTIFICATION

NAME:
Flexible urethane foam

CHEMICAL TYPE:
Polyether-base urethane polymer

TRADE NAMES AND SYNONYMS:
Flexible poly foam, foam, poly foam, PUR foams, CAL 117 foams, Code Red II foams, HR foams, filled foams, Code Yellow foams, and Rebonded foam.

SECTION II - PHYSICAL AND CHEMICAL CHARACTERISTICS

Since urethane foam is a solid, physical characteristics such as boiling point, vapor pressure, vapor density, percent volatiles, evaporation rate, etc, are not applicable.

DENSITY:
0.7 - 4.0 lbs. per cu. ft.

APPEARANCE:
Looks like a cellular material.
Can be any color.

IGNITION POINT:
600-650 degrees F

AUTOIGNITION POINT:
750-800 degrees F

SECTION III - FIRE AND EXPLOSION HAZARD DATA

OSHA CLASSIFICATION:
Combustible solid

NFPA SPRINKLER CLASSIFICATION:
Upholstery with plastic foams extra hazard.

EXTINGUISHING MEDIA:
Water, Carbon Dioxide, Dry chemical

FIRE FIGHTING PROTECTION:
Fire fighters must be equipped with NIOSH approved self-contained breathing apparatus and turnout gear.

UNUSUAL FIRE HAZARDS:
Once ignited, can produce rapid flames spread, intense heat, dense smoke and toxic gases. Can turn into burning liquid which can drip and flow.

Piles of polyurethane dust can be readily ignited and presents a potential fire hazard. High concentrations of polyurethane dust in the air can be a potential explosion hazard if exposed to flame, sparks, or other ignition sources.

REACTIVITY:
Stable; hazardous polymerization will not occur.

OTHER SOURCES OF TOXIC FUMES:
Hot wire cutting, heat sealing, hot stamping, and flame laminating operations may produce toxic fumes.

SECTION IV - HEALTH HAZARDS

THRESHOLD LIMIT VALUE:
None established

OSHA PERMISSIBLE EXPOSURE:
None established

ACUTE INHALATION LC 50:
No available data

PRIMARY ROUTE OF ENTRY:
Foam dust - inhalation

ACUTE ORAL LD 50:
Greater than 5,000 mg/kg (rat)

ACUTE DERMAL LD 50 LIMIT:
No available data

PRIMARY SKIN IRRITANT:
Not known to be an irritant

EYE IRRITATION:
Dust can cause irritation

INHALATION:
Animal studies indicate that chronic overexposure to dusts may cause inflammation of the lungs, fibrosis, and airway obstruction.

SECTION V - SAFE HANDLING

- Store buns, sheets and fabricated items indoors under fusible sprinkler protections.
- Allow a minimum of six feet clearance between tops of foam stacks and sprinkler heads.
- Do not smoke or use naked lights, open flames, exposed electrical heating elements, or other ignition sources near stored flexible foam.
- Store buns and sheets with adequate aisleways to permit access to all storage areas.
- Never use flexible polyurethane foam as an exposed interior wall or ceiling finish.
- Do not allow cuttings or foam scrap to accumulate.
- Be aware that terms like "fire retardant" and "flame resistant" sometimes used to describe flammability properties, do not mean fire safety under all conditions and that small scale fire tests are NOT INTENDED TO REFLECT HAZARDS PRESENTED BY THESE OR ANY OTHER MATERIALS UNDER ACTUAL FIRE CONDITIONS.
- When fabricating flexible polyurethane foam, keep a fire extinguisher nearby.

SECTION VI - GOOD WORK PRACTICES

VENTILATION:
Use adequate mechanical ventilation when hot-wire cutting, heat sealing, hot stamping and flame-laminating flexible urethane foam. Also use ventilation in operations that will generate large quantities of foam dust such as in continuous sawing, fabrication, or buffing operations.

PROTECTIVE EQUIPMENT:
Unless exposure to foam dust is anticipated, goggles, gloves, and dust masks are not required.

SECTION VII - EMERGENCY AND FIRST AID PROCEDURES

SKIN:
None necessary

INGESTION:
None necessary

EYES:
Flush thoroughly with water.

INHALATION (OF DUST)
Call physician if coughing, discomfort, or air passage obstruction occurs.

NOTICE: While Hickory Springs Manufacturing Company believes the information set forth above is accurate, it makes no warranty with respect thereto. In particular, NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE IS MADE.

kaneka
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

(281) 447-0155

KANEKA TEXAS CORPORATION
17 S. BRIAR HOLLOW LANE
HOUSTON, TX 77027

I. GENERAL

Trade Name: Eperan or Eperan-PP	Telephone Number: (713) 840-1751 Emergency: (713) 474-7534
Other Names (Synonyms):	
Chemical Family: Polyethylene or Ethylene Propylene Copolymer	DOT Proper Shipping Name: Not regulated. DOT Hazard Class: Regulated DOT Hazard Label: Not required DOT ID#: Not Required
Generic Name:	

II. COMPONENTS

Product	Component Name	CAS No.	Composition amount (Wt.)
Eperan	Polyethylene	9002-88-4	>99%
Eperan-PP	Ethylene Propylene Copolymer	9010-79-1	>99%

III. SUMMARY OF HAZARDS

Combustible solid. Vapors or fumes from molten processes may be irritating.

IV. FIRE AND EXPLOSION

Flash Point (Method) N/A	Auto-ignition Temperature: >600F	Flammable Limits: LEL=N/A UEL=N/A

Extinguishing Media: Dry Chemical, CO_2, Foam, Water.

KANEKA
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

Special Firefighting: Procedures:	Do not enter fire area without proper protection. See decomposition products. Fight fire from safe distance/protected location. For large fire, use lots of water, solid stream to "DIG" into molten mass and open up, cool interior, prevent re-ignition. Use spray/fog for surface cooling. Keep above burning material. Molten material forms flaming drops after igniting. Notify authorities if liquid enters sewer/public waters.
Unusual Fire and Explosion Hazards:	Beads are likely to be charged with static electricity and may become an ignition source.

V. HEALTH HAZARDS

Acute Toxicity:	No known effects.
Chronic Toxicity:	No known effects.
Eyes:	Vapors or fumes from molten polymer may cause irritation.
Skin:	Not expected to present a skin hazard under anticipated conditions of normal use.
Inhalation:	Not expected to present a respiratory problem. Vapors or fumes from molten polymers or beads may be irritating to the respiratory tract. See Respiratory Protection.

VI. PROTECTIVE EQUIPMENT AND OTHER CONTROL MEASURES

Ventilation:	Local exhaust is recommended. Maintain low dust concentration. See Fire and Explosion Hazard section.

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MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

Respiratory Protection:	Use NIOSH approved high efficiency dust respirator when dusty conditions prevail. No TLV-TWA has been established for this dust. The AGCIH recommends that nuisance particulates be limited to 10 mg/M3, total dust. OSHA and AGCIH recommends that nuisance dust, respirable 5 mg/M3 for 8 hours. An organic vapor respirator may be needed during molten or heating processes if ventilation is inadequate.
Eye and Face Protection:	Chemical worker's goggles may be needed. during molten or heating process if ventilation is inadequate. Do not wear contact lenses.
Other Clothing/ Equipment:	An eyewash should be readily available.
VII.	**EMERGENCY AND FIRST AID**
Inhalation:	Move exposed individual to fresh air. Call a physician.
Eye Irritation:	Immediately flush eyes with flowing water for at least 15 minutes, occasionally lifting upper and lower lids, until no evidence of irritant remains. Get medical attention.
Skin Irritation:	Wash area with mild soap and water. Get medical attention if irritation persists.
VIII.	**SPILL AND DISPOSAL**
Spill Response:	On land, sweep or shovel into suitable disposal containers. On water, material is insoluble. Collect and contain as any solid. Report per regulatory requirements.
Recommended Disposal:	Reuse when possible. Landfill solids. Federal, State and Local regulations should be observed when disposing. See regulatory information.

KANEKA
KANEKA TEXAS CORPORATION

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

IX. PHYSICAL AND CHEMICAL DATA

Specific gravity: 0.05 - 0.06	Volatiles: <1%	Odor: None

Appearance: Expanded beads, molded planks or other shapes, in white, black, and other colors.

Solubility in Water: Insoluble

Stability: Stable	Conditions to avoid:	Avoid exposing dust to ignition sources or high temperatures.

Incompatibility (Materials to avoid): None

Hazardous decomposition products: Normal products of hydrocarbon combustion.

X. ADDITIONAL PRECAUTIONS

Storage and Handling: Store in dry area to maintain product quality. No hazard will occur if product becomes wet. All equipment conveying beads should be grounded to avoid static spark. Do not store near open flames or other sources of ignition.

XI. REGULATORY INFORMATION

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200;
Based on our hazard evaluation, none of the ingredients in this product are hazardous.

CERCLA, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA 302 - EXTREMELY HAZARDOUS SUBSTANCES, 40 CFR 355:
This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

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MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

SARA 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS, 40 CFR 370:
Our hazard avaluation has found that this product is not hazardous under 29 CFR 1910.1200.

SARA 313 - LIST OF TOXIC CHEMICALS, 40 CFR 372:
This product does not contain ingredients on the List of Toxic Chemicals at greater than the de minimis reporting level.

TOXIC SUBSTANCES CONTROL ACT (TSCA), 40 CFR 710:
The ingredients in this product are on the 8(b) Inventory List.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
If this product becomes a waste, in original form, it does not meet the criteria of a hzardous waste as defined by RCRA.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):
None of the ingredients are specifically listed.

CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82), CLASS I and II Ozone depleting substances):
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:
This product does not contain any chemicals which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:
This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:
This product does not contain ingredients listed by State Right To Know Laws.

Kaneka
KANEKA TEXAS CORPORATION.

MATERIAL SAFETY DATA SHEET

PRODUCT

Eperan or Eperan-PP

XII. USER'S RESPONSIBILITY

Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

The information on this MSDS has been gathered from standard reference materials and Kaneka Corporation data and to our best knowledge and belief accurate and reliable. Such information is offered solely for your consideration, investigation and verification, and it is not suggested or guaranteed that the precautions or procedures mentioned are the only ones which exist. Kaneka Corporation makes no warranties, expressed or implied, with respect to the use of such information or the use of the specific material identified herein in combination with any other material or process and, therefore, assumes no responsibility. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, handling and use remains the responsibility of the customer.

MATERIAL SAFETY DATA SHEET

Sealed Air Corporation
Polyethylene Foam Division
101 Maynard Street, Saddle Brook, NJ 07663 (201) 712-7000

EMERGENCY NUMBERS:

Sealed Air Corporation: (201) 712-7000 *For emergency and general information* 8:30am - 5:00pm (Eastern Time), Monday - Friday

CHEMTREC: (800) 424-9300 *For Chemical Emergency - spill, leak, fire, exposure or accident, 24 hours*

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Anti-static Cell-Aire®, Corro-Foam™, CelluPlank™, Stratocell™, Stratocell™ Plus, and Cellu-Cushion® polyethylene foams. Includes various extruded polyethylene foam profiles.
Chemical Name:	Polyethylene
Trade Name:	Polyethylene Foam
Chemical Family:	Plastics
Chemical Formula:	N.A.

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient	CAS No.	Wt. %	OSHA-PEL	ACGIH-TLV
Polyethylene	9002-88-4	85-100	N.E.	N.E.
Hydrocarbon Gas	Proprietary	0-5	800 ppm	800 ppm
Glycerol Stearate	Proprietary	0-2	N.E.	N.E.
Ethoxylated Fatty Amine	Proprietary	0-2	N.E.	N.E.
Color Concentrate	Proprietary	0-1	N.E.	N.E.

SECTION 3 - HAZARDOUS IDENTIFICATION

Appearance: Solid Plastic Foam. Pink, white or other color.

Odor: None

Eye: Dust may cause irritation or corneal injury due to mechanical action. Fumes released during hot operation may cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May be harmful if swallowed.

Inhalation: Fumes generated under heat may cause eye irritation and respiratory irritation. Dust may cause irritation to upper respiratory tract and lungs.

Note: Read the entire MSDS for a more thorough evaluation of the hazards.

N.E. = NOT ESTABLISHED N.A. = NOT APPLICABLE

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Sealed Air Corporation

P. Jackson Road Oxidator
B Mayhill Drive, Saddle Brook, NJ 07663 (201) 712-7000

SECTION 4 - FIRST AID MEASURES

Skin Contact: Wash with soap and cool water.

Eye Contact: Flush eyes with plenty of water. Hold the eyelids apart during the flushing for adequate rinsing.

Ingestion: Not a likely route of exposure. Immediately give several glasses of water. Have a physician determine induction of vomiting or not.

Inhalation: Remove to fresh air. If not breathing administer artificial respiration. Oxygen may be given by qualified personnel. Get medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Polyethylene: N.A.
(Hydrocarbon Gas: -120 °F (-84 °C))*

Flammable limits (LEL): Polyethylene: N.A.
(Hydrocarbon Gas: 1.8% by volume)*

Flammable limits (UEL): Polyethylene: N.A.
(Hydrocarbon Gas: 8.5% by volume)*

*Only trace amounts of residual blowing agent present in the foam

Extinguishing Media: Water, carbon dioxide (CO_2) and dry chemical.

Fire and Explosion Hazards: Trace amounts of residual blowing agent may be present in the foam. Mechanical and thermal processes may produce dust and flammable vapors which may be potential explosion hazards. Tightly sealed containers may burst under fire or intense heat.

Special Fire Fighting Procedures: Firefighters should be equipped with positive pressure self-contained breathing apparatus in enclosed areas.

NFPA Hazard Code:

Health:	1
Flammability:	1
Reactivity:	0
Special Hazard:	None.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Handle as general inert material.

SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Max. 160° F (71° C)

NS - NOT ESTABLISHED NA - NOT APPLICABLE

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Sealed Air Corporation
Polyethylene Foam Division
301 Mayfair Street, Saddle Brook, NJ 07663 (201) 713-7000

SECTION 7 - HANDLING AND STORAGE (continued)

Precautions to be Taken in Handling, Storage and Transportation:

WARNING: This polyethylene foam is made with a flammable hydrocarbon blowing agent, most of which is removed prior to shipment. However, residual flammable vapors may gradually exhaust from the foam during storage, fabrication or use. Avoid close confinement of large foam quantities and sources of ignition near the foam (i.e. smoking, sparks, flames.) Do not store near heating equipment. Heating equipment should be inspected regularly during every heating season to check for pinholes or larger defects in the combustion chamber. Burns readily when exposed to plentiful and hot ignition sources. Use self-contained breathing apparatus in the event of fire.

WARNING: Fabricating operations which cut large numbers of interior foam cells, can release localized amounts of flammable, residual blowing agent. Provide adequate ventilation to avoid the build up of blowing agent concentration.

WARNING: Transport large quantities of this polyethylene foam in ventilated vehicles. Exercise caution when opening vehicles containing this polyethylene foam to avoid all possible sources of ignition (lit tobacco products, sparks, etc.) near the foam and vehicle.

For additional information obtain the Sealed Air Corporation "Polyethylene Foam Safety Guide."

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:	OSHA-PEL:	Hydrocarbon Gas	800 ppm
	ACGIH-TLV:	Hydrocarbon Gas	800 ppm

Respiratory Protection: In dusty atmosphere and where fumes are generated above regulatory limits, wear appropriate respirator protection.

Eye Protection: Use goggles or safety glasses with side shields when exposed to foam dust or particles.

Ventilation: Use local exhaust ventilation if necessary to maintain hydrocarbon gas levels below the PEL and LEL. For guidance on engineering controls, refer to the ACGIH publication "Industrial Ventilation."

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form: Solid plastic foam

Color: Pink, white or other colors.

Vapor Density (Air = 1): N.A.

Molecular Weight: N.E.

Melting Point: 230° F (110° C)

Boiling Point: N.A.

Vapor Pressure: N.A.

Bulk Density: 20 - 200 Kg/m³

% Volatile by Volume: Nil

Solubility in Water: Not soluble

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Sealed Air Corporation

Polyethylene Foam Division
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SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Polymerization: Will not occur.

Conditions to Avoid: Avoid flame, very high temperature, and UV.

Incompatible Materials: Strong oxidants (long contact).

Hazardous Decomposition Products: None

SECTION 11 - TOXICOLOGICAL INFORMATION

No applicable or available data for this section.

SECTION 12 - ECOLOGICAL INFORMATION

This product is inert to the environment and is not expected to exhibit any significant biodegradation.

SECTION 13 - DISPOSAL CONSIDERATIONS

Reuse, recycle, incinerate, or dispose in approved landfill. Follow all regulatory requirements for disposal.

SECTION 14 - TRANSPORT INFORMATION

DOT: Not regulated.

IMO: Not regulated

IATA/ICAO Class: Not regulated.

WARNING: Transport large quantities of this polyethylene foam in ventilated vehicles. Exercise caution when opening vehicles containing this polyethylene foam to avoid all possible sources of ignition (lit tobacco products, sparks, etc.) near the foam and vehicle.

For additional information obtain the Sealed Air Corporation "Polyethylene Foam Safety Guide."

SECTION 15 - REGULATORY INFORMATION

SARA 302 Extremely Hazardous Substances: None

SARA 311/312 Hazard Categories: None

SARA 313 Listed Ingredients: None

RCRA Status: The product as supplied is not classified as a RCRA hazardous waste.

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Polyethylene Foam Division
901 Maynard Street, Saddle Brook, NJ 07663 (201) 712-7000

SECTION 16 - OTHER INFORMATION

The following states have regulations that apply to the use of this product.

NJ New Jersey Workplace Hazardous Substance

NJ New Jersey Environmental Hazardous Substance List

PA Pennsylvania Hazardous Substance List

The appropriate state agency should be contacted for further details on regulatory requirements.

Section(s) Revised: New Issue

NE = NOT ESTABLISHED NA = NOT APPLICABLE

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