

Safety Data Sheet

IDENTIFICATION

PRODUCT NAME : UltraMOP

COMPANY : Foamtec International Co., Ltd.

Branch 3 : 111/1 Moo 2, Phahonyothin RD. KM. 56 Tambol Lamsai
Amphur Wangnoi, Pranakornsiyayutthaya 13170
Tel +66 35 740 717 Fax +66 35 740 744

Branch 6 : 259/1 Moo 3 Laem Chabang Industrial Estates
Thungsukhla, Sriracha, Chonburi 20230
Tel.: +66 33 678 877 Fax.: +66 33 678 876

Material 1 : Flexible Polyurethane foam

1.1 HAZARD IDENTIFICATION

ROUTES OF ENTRY : Inhalation - Foam dust

HEALTH HAZARDS : Coarse dust can cause mechanical irritation of lungs and eyes.
Airborne dust is evaluated as a nuisance dust. If ignited foam may decompose and emit toxic gases and respiratory.

CARCINOGENICITY

NTP : None

IARC MONOGRAPHS : No

OSHA REGULATED : No

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE : None Known

EMERGENCY FIRST AID PROCEDURES

INHALATION : Remove to fresh air, contact physician if respiratory discomfort persists.

EYES : Flush eyes thoroughly with water for 15 minutes.

SKIN : None necessary

INGESTION : None necessary

1.2 COMPOSITION/ INFORMATION ON INGREDIENTS

NOT APPLICABLE : No established OSHA Permissible Exposure Limit or ACGIH threshold Limit Value.
Foamtec Polyurethane foam is a fully cross-linked reaction product of Polyhydroxy polyol, toluene di isocyanate, catalysts, surfactant, pigment and water. Polyurethane foam product is a polymeric material consisting of repeating units of carbon, hydrogen, oxygen and nitrogen.

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Material 1 : Flexible Polyurethane Foam

1.3 FIRST AID MEASURES

NOT APPLICABLE

1.4 FIRE - FIGHTING MEASURES

FLASH POINT : Decomposition products flash at 500 °F

FLAMMABLE LIMITS : Not applicable

UEL : Not applicable

LEL : Not applicable

CLASSIFICATION : Combustible Solid

NFPA SPRINKLER CLASSIFICATION : Extra Hazard

EXTINGUISHER MEDIA : Dry Chemical, Water, Carbon dioxide

SPECIAL FIRE FIGHTING PROCEDURES : Wear self-contained breathing apparatus in enclosed areas.

UNUSUAL FIRE & EXPLOSION HAZARDS : If ignited, foam can produce rapid flame spread, intense heat, dense black smoke. Accumulated polyurethane dust can be readily ignited and presents a fire risk. High concentrations of dust in the air can explode if exposed to a flame, spark or other ignition oxidizing sources.

1.5 ACCIDENTAL RELEASE MEASURES

NOT APPLICABLE

1.6 HANDLING AND STORAGE

STEP TO BE TAKEN IN CASE : No special response required ---sweep up.

MATERIALS IS RELEASED OR SPILLED WASTE DISPOSAL METHOD : Federal, state and local authorities should be contacted before attempting any form of disposal.

SAFE HANDLING AND STORAGE : Warehousing of bun stock, sheets, rolls, and fabricated items should be stored under a fusible sprinkler system with a minimum of six feet clearance between stacks of foam and the sprinkler heads.

Do not store foam near any ignition sources such as exposed electrical or gas heating elements, open flames and exposed lights. Donot smoke in foam storage areas.

Do not allow foam scrap and cuttings to accumulate and maintain clear aisles with adequate access to all storage areas and exits.

OTHER PRECAUTIONS : Notify local fire companies of presence of large quantities of foam.

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1.7 EXPOSURE CONTROLS / PERSONAL PROTECTION

- VENTILATION** : Local exhaust ventilation is recommended for this processing procedures which may generate foam dust and decomposition products. Examples of these processes include sawing, grinding, buffing and flame lamination, hot wire cutting, heat sealing and hot stamping.
- RESPIRATORY PROTECTION** : Should be selected based on identity and concentration of air contaminant. Only NIOSH-approved respirators for protection against the air contaminant of concern should be used.
- EYE PROTECTION** : Recommended for those processing operations which may generate dust.

1.8 PHYSICAL AND CHEMICAL PROPERTIES

- BOILING POINT** : Not applicable
- MELTING POINT** : 350 - 375 °F
- VAPOR PRESSURE (mmHg)** : Not applicable
- VAPOR DENSITY** : Not applicable
- DENSITY** : 1.1 - 20 lbs/cfc
- EVAPORATION RATE** : Not applicable
- SOLUBILITY IN WATER** : Insoluble
- APPEARANCE AND ODOR** : Uniform cellular solid structure of varying colors with slight characteristic odor.

1.9 STABILITY AND REACTIVITY

STABILITY CONDITIONS TO AVOID INCOMPATIBILITY HAZADOUS DECOMPOSITION PRODUCT

- : Stable
 Hight temperature, open flames; strong oxidizers (i.e. hypochlorites)
 Strong oxidizing acids - will degrade.
- PRODUCTS** : CO, acetaldehyde,acrylonitrile,polymer fragments,oxides of nitrogen and hydragen cyanide.
- HAZARDOUS POLYMERIZATION** : Will not occur.

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1.10 TOXICOLOGICAL INFORMATION

Based on extensive history of use, product is considered generally non-toxic, non-irritating and with little or no potential for allergic reactions. Some foams (particularly those intended for toy use) have been tested for acute eye, skin and ingestion toxicity per 16CFR 1500.3, 1500.40 and 1500.42 (animal toxicity) with no evidence of acute toxicity. Some foams have been tested for human skin irritation (sensitization) with no evidence for sensitizing potential. Foam is generally not recommended for contact with open wounds or for internal use where extractable may be absorbed into the body unless appropriate testing has been done.

1.11 ECOLOGICAL INFORMATION

CHEMICAL FATE INFORMATION : Biodegradation will occur slowly in the presence of light and air.

1.12 DISPOSAL CONSIDERATION

NOT APPLICABLE

1.13 TRANSPORT INFORMATION

SUGGESTED SHIPPING NAME : Flexible Polyurethane Foam (Not currently regulated by DOT).
HAZARD CLASS : Not applicable
HAZARD ID : Not applicable
UN/NA : Not applicable

1.14 REGULATORY INFORMATION

FEDERAL REGULATIONS

TSCA : All components are listed. There is no listing for the finished polymer.
OSHA : Defined as article (29CFR 1910.1200)
CERCLA : Not reportable.

SARA TITLE III

311/312 Hazard Categories : None

CLEAN AIR ACT : No ozone depleting emissions.

INTERNATIONAL REGULATION

CANADIAN WHIMS : Defined as manufactured article.
EUROPEAN (ECC) : None Known.

STATE REGULATION

CALIFORNIA : Although some ingredients used in the manufacture of foam require listing under Proposition 65, they are not present in sufficient quantity in the finished product to require listing, (Also consider implications of water spills and fire run off).

OTHER STATES : None Known.

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Material 1 **Flexible Polyurethane Foam**

1.15 OTHER INFORMATION

Flexible polyurethane foam, like all organic materials, will burn if exposed to a sufficient heat source.

The ignition temperature of polyurethane foam will vary depending on the product chemical formulation, but all polyurethane foam are combustible and can create a fire risk. Flexible polyurethane foams, once ignited, may degrade and melt to a combustible liquid which may add to the fire involvement.

Term such as "fire retardant", "slow burning" and "flame resistant" describe certain flammability properties and should not be regarded as denoting fire safety under all conditions. Small scale fire tests are not intended to reflect hazards presented by these or any other material under real fire conditions.

Thermal decomposition products from polyurethane foams can be toxic and present a risk to humans who are exposed. This is true for all organic materials. Fire risks in varying degrees are common to all fires: heat, carbon monoxide, other toxicants, oxygen depletion and smoke. In fires involving polyurethane foam, particularly flexible foams, large quantities of dense smoke can be generated quickly.

Personnel involved in fire fighting should wear self-contained breathing apparatus and be aware of the exposure to toxic and potentially lethal gases. Standard fire-fighting equipment generally employed by authorized firemen is mandatory.

UNCONTROLLED

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Material 2 : Polyester (Double knit)

2.1 HAZARD IDENTIFICATION

LD50 LC50 MIXTURE	: Not provided.
INHALATION	: NO.
SKIN	: NO.
INGESTION	: NO.
OSHA	: NO.
HEALTH HAZARDS ACUTE AND CHRONIC	: Product is in solid form and will not become airborne except under extreme conditions. Even then it shows no toxic reaction.
EXPLANATION OF CARCINOGENICITY	: IARC lists nylon & polyester as "No adequate evidence".
SIGNS AND SYMPTIONS OF OVEREXPOSURE	: None.
MEDICAL COND AGGRAVATED BY EXPOSURE	: Not provided.

2.2 COMPOSITION/ INFORMATION ON INGREDIENTS

POLYESTER

2.3 FIRST AID MEASURES

Use normal first aid procedures.

2.4 FIRE - FIGHTING MEASURE

FLASH POINT (METHOD USED)	: Marked Class1 "Did Not Ignite" by test method ASTM D1230-1994
FLAMMABLE LIMITS	: Marked Class1 "Did Not Ignite" by test method ASTM D1230-1994
EXTINGUISHING MEDIA	: Self-extinguishing-water or other class a extinguish agent.
FIRE FIGHTING PROCEDURES	: Use NIOSH/MSHA approved SCBA in an enclosed area in fires.
UNUSUAL FIRE / EXPLOSION HAZARD	: None indicated by the MFR.

2.5 ACCIDENTAL RELEASE MEASURES

Spill Release Procedures	: Use proper personal protection; use normal procedures and collect for proper disposal. Nylon fibers and polyester fibers are not toxic.
Neutralizing Agent	: Not provided.

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Material 2 : Polyester (Double knit)

2.6 HANDLING AND STORAGE

Handling and Storage Precautions : Store in a cool, dry, well ventilated area.
Other Precautions : Not Provided.

2.7 EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION : None expected to be necessary.
VENTILATION : Normal room ventilation.
PROTECTIVE GLOVES : None.
EYE PROTECTION : Safety glasses or splash goggles.
OTHER PROTECTIVE EQUIPMENT : As required to prevent prolonged contact.
WORK HYGIENIC PRACTICES : Use good industrial hygiene practice. Avoid unnecessary contact.
SUPPLEMENTAL SAFETY AND HEALTH : Not provided.

2.8 PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT : Not Provided.
MELTING POINT : 249 – 252 °C
VAPOR PRESSURE : Not Provided.
VAPOR DENSITY : Not Provided.
SPEC GRAVITY : 1.15
pH : N/A
VISCOSITY : Not Provided.
EVAPORATION RATE & REFERENCE : Not Provided.
SOLUBILITY IN WATER : Insoluble.
APPEARANCE AND ODOR : White color with a knitting fabrics appearance, No odor.
PERCENT VOLATILES BY VOLUME : <1.0
CORROSION RATE : Not Applicable.

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Material 2 : Polyester (Double knit)

2.9 STABILITY AND REACTIVITY

STABILITY INDICATOR / : Strong acid, formic acid, phenols, cresol.

MATERIALS TO AVOID

STABILITY CONDITION TO AVOID : Melts at 243 °C

HAZARDOUS DECOMPOSITION PRODUCTS : At temp > 660 °F : CO, CO₂, FRAGMENTS OF ORIGINAL MONOMER

HAZARDOUS POLYMERIZATION INDICATOR : NO.

CONDITIONS TO AVOID POLYMERIZATION : None noted.

2.10 TOXICOLOGICAL INFORMATION

NOT APPLICABLE

2.11 ECOLOGICAL INFORMATION

NOT APPLICABLE

2.12 DISPOSAL CONSIDERATION

NOT APPLICABLE

2.13 TRANSPORT INFORMATION

NOT APPLICABLE

2.14 REGULATORY INFORMATION

NOT APPLICABLE

2.15 OTHER INFORMATION

NOT APPLICABLE

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Material 3 : Polyester (Mira)

3.1 HAZARD IDENTIFICATION

LD50 LC50 MIXTURE : Not provided.

INHALATION : NO.

SKIN : NO.

INGESTION : NO.

OSHA : NO.

HEALTH HAZARDS ACUTE AND CHRONIC : Product is in solid form and will not become airborne except under extreme conditions. Even then it shows no toxic reaction.

EXPLANATION OF CARCINOGENICITY : IARC lists nylon & polyester as "No adequate evidence".

SIGNS AND SYMPTIONS OF OVEREXPOSU: None.

MEDICAL COND AGGRAVATED BY EXPOS : Not provided.

3.2 COMPOSITION / INFORMATION ON IDENTIFICATION

Polyamides & Polyester Compound (Micro Fiber Multi-Filament Nylon/Polyester Bi-Components)

3.3 FIRST-AID MEASURES

Use normal first aid procedures.

3.4 FIRE-FIGHTING MEASURES

FLASH POINT (METHOD USED) : Marked Class1 "Did Not Ignite" by test method ASTM D1230-1994

FLAMMABLE LIMITS : Marked Class1 "Did Not Ignite" by test method ASTM D1230-1994

EXTINGUISHING MEDIA : Self-extinguishing-water or other class a extinguish agent.

FIRE FIGHTING PROCEDURES : Use NIOSH/MSHA approved SCBA in an enclosed area in fires.

UNUSUAL FIRE / EXPLOSION HAZARD : None indicated by the MFR.

3.5 ACCIDENTAL RELEASE MEASURES

SPILL RELEASE PROCEDURES : Use proper personal protection; use normal procedures and collect for proper disposal. Nylon fibers and polyester fibers are not toxic.

NEUTRALIZING AGENT : Not provided.

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Material 3 : Polyester (Mira)

3.6 HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS : Store in a cool, dry, well ventilated area.
OTHER PRECAUTIONS : Not provided.

3.7 EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION : None expected to be necessary.
VENTILATION : Normal room ventilation.
PROTECTIVE GLOVES : None.
EYE PROTECTION : Safety glasses or splash goggles.
OTHER PROTECTIVE EQUIPMENT : As required to prevent prolonged contact.
WORK HYGIENIC PRACTICES : Use good industrial hygiene practice. Avoid unnecessary contact.
SUPPLEMENTAL SAFETY AND HEALTH : Not provided.

3.8 PHYSICAL AND CHEMICAL PROPERTIES

BOILING PT : Not provided.
MELTING PT : 243 - 252 °C
VAPOR PRESS : Not provided.
VAPOR DENSITY : Not provided.
SPEC GRAVITY : 1.15
pH : N/A
VISCOSITY : Not applicable.
EVAPORATION RATE & REFERENCE : Not applicable.
SOLUBILITY IN WATER : Insoluble.
APPEARANCE AND ODOR : White color with a herringbone texture-no odor.
PERCENT VOLATILES BY VOLUME : < 1.0
CORROSION RATE : Not applicable.

3.9 STABILITY AND REACTIVITY

STABILITY INDICATOR / MATERIALS TO AVOID : Strong acid, formic acid, phenols, cresol.
STABILITY CONDITION TO AVOID : Melts at 243 °C
HAZARDOUS DECOMPOSITION PRODUCTS : At temp > 660 °F : CO, CO₂, HCN, NO₂, FRAGMENTS OF ORIGINAL MONOMER

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Material 3 : Polyester (Mira)

HAZARDOUS POLYMERIZATION INDICATOR : NO.

CONDITIONS TO AVOID POLYMERIZATION : None noted.

3.10 TOXICOLOGICAL INFORMATION

NOT APPLICABLE

3.11 ECOLOGICAL INFORMATION

NOT APPLICABLE

- : Safety glasses or splash goggles.
- : As required to prevent prolonged contact.
- : Use good industrial hygiene practice. Avoid unnecessary contact.
- : Not provided.

3.12 DISPOSAL CONSIDERATION

WASTE DISPOSAL METHODS : Dispose I/A/W federal, state, local regulations.

3.13 TRANSPORT INFORMATION

NOT APPLICABLE

3.14 REGULATORY INFORMATION

NOT APPLICABLE

3.15 OTHER INFORMATION

NOT APPLICABLE

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Material 4 : Polyester (Dimond)

4.1 HAZARD IDENTIFICATION

LD50 LC50 MIXTURE : Not provided.

INHALATION : NO.

SKIN : NO.

INGESTION : NO.

OSHA : NO.

HEALTH HAZARDS ACUTE AND CHRONIC : Product is in solid form and will not become airborne except under extreme conditions. Even then it shows no toxic reaction.

EXPLANATION OF CARCINOGENICITY : IARC lists nylon & polyester as "No adequate evidence".

SIGNS AND SYMPTIONS OF OVEREXPOSU: None.

MEDICAL COND AGGRAVATED BY EXPOS : Not provided.

4.2 COMPOSITION / INFORMATION ON IDENTIFICATION

Polyamides & Polyester Compound (Micro Fiber Multi-Filament Nylon/Polyester Bi-Components)

4.3 FIRST-AID MEASURES

Use normal first aid procedures.

4.4 FIRE-FIGHTING MEASURES

FLASH POINT (METHOD USED) : Marked Class1 "Did Not Ignite" by test method ASTM D1230-1994

FLAMMABLE LIMITS : Marked Class1 "Did Not Ignite" by test method ASTM D1230-1994

EXTINGUISHING MEDIA : Self-extinguishing-water or other class a extinguish agent.

FIRE FIGHTING PROCEDURES : Use NIOSH/MSHA approved SCBA in an enclosed area in fires.

UNUSUAL FIRE / EXPLOSION HAZARD : None indicated by the MFR.

4.5 ACCIDENTAL RELEASE MEASURES

SPILL RELEASE PROCEDURES : Use proper personal protection; use normal procedures and collect for proper disposal. Nylon fibers and polyester fibers are not toxic.

NEUTRALIZING AGENT : Not provided.

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Material 4 : Polyester (Dimond)

4.6 HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS : Store in a cool, dry, well ventilated area.

OTHER PRECAUTIONS : Not provided.

4.7 EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION : None expected to be necessary.

VENTILATION : Normal room ventilation.

PROTECTIVE GLOVES : None.

EYE PROTECTION : Safety glasses or splash goggles.

OTHER PROTECTIVE EQUIPMENT : As required to prevent prolonged contact.

WORK HYGIENIC PRACTICES : Use good industrial hygiene practice. Avoid unnecessary contact.

SUPPLEMENTAL SAFETY AND HEALTH : Not provided.

4.8 PHYSICAL AND CHEMICAL PROPERTIES

BOILING PT : Not provided.

MELTING PT : 243 - 251 °C

VAPOR PRESS : Not provided.

VAPOR DENSITY : Not provided.

SPEC GRAVITY : 1.15

pH : N/A

VISCOSITY : Not applicable.

EVAPORATION RATE & REFERENCE : Not applicable.

SOLUBILITY IN WATER : Insoluble.

APPEARANCE AND ODOR : White color with a silk-like fabrics appearance no odor.

PERCENT VOLATILES BY VOLUME : < 1.0

CORROSION RATE : Not applicable.

4.9 STABILITY AND REACTIVITY

STABILITY INDICATOR / MATERIALS TO AVOID : Strong acid, formic acid, phenols, cresol.

STABILITY CONDITION TO AVOID : Melts at 243 °C

HAZARDOUS DECOMPOSITION PRODUCTS : At temp > 660 °F : CO, CO₂, HCN, NO₂, FRAGMENTS OF ORIGINAL MONOMER

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Material 4 : Polyester (Dimond)

HAZARDOUS POLYMERIZATION INDICATOR : NO.

CONDITIONS TO AVOID POLYMERIZATION : None noted.

4.10. TOXICOLOGICAL INFORMATION

NOT APPLICABLE

4.11 ECOLOGICAL INFORMATION

NOT APPLICABLE

4.12 DISPOSAL CONSIDERATION

WASTE DISPOSAL METHODS : Dispose I/A/W federal, state, local regulations.

4.13 TRANSPORT INFORMATION

NOT APPLICABLE

4.14 REGULATORY INFORMATION

NOT APPLICABLE

4.15 OTHER INFORMATION

NOT APPLICABLE

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Material 5 : Polyurethane film laminate

5.1 HAZARD IDENTIFICATION

CLASSIFICATION : Not classified

LABEL ELEMENTS

HAZARD SYMBOL : No symbol

SIGNAL WORD : No signal word

HAZARD STATEMENT : Not applicable

PRECAUTIONARY STATEMENT : Not applicable

OTHER HAZARDS WHICH DO NOT RESULT IN GHS CLASSIFICATION : None identified

5.2 COMPOSITION/ INGREDIENTS ON INGREDIENTS

GENERAL INFORMATION : The components are not hazardous or are below required disclosure limits.

ADDITIONAL IDENTIFICATION

CHEMICAL NAME : Polyurethane polymer

RECOMMENDED USE AND RESTRICTION ON USE

RECOMMENDED USE : Not determined

RESTRICTION ON USE : Not determined

5.3 FIRST AID MEASURES

INGESTION : Treat symptomatically. Get medical attention.

INHALATION : Remove exposed person to fresh air if adverse effects are observed.

SKIN CONTACT : Wash with soap and water. If skin irritation occurs, get medical attention.
For contact with molten product, do not remove contaminated clothing. If possible, submerge area with cold water. Pack with ice. DO NOT attempt to peel polymer from skin. Seek medical attention immediately.

EYE CONTACT : Any material that contacts the eye should be washed out immediately with water.
If easy to do, remove contact lenses. If hot melted material should splash into the eyes, flush eyes immediately with water for 15 minutes while holding the eyelids open. Immediately call a poison center or doctor.

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PERSONAL PROTECTION FOR FIRST AID RESPONDERS

: When providing first aid always protect yourself against exposure to chemicals or blood born diseases by wearing gloves, masks and eye protection. After providing first aid, wash your exposed skin with soap and water.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED

SYMPTOMS : See section 11.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

TREATMENT : Treat symptomatically.

5.4 FIRE - FIGHTING MEASURES

GENERAL FIRE HAZARDS : No unusual fire or explosion hazards noted.

SUITABLE (AND UNSUITABLE) EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA : Use water spray, dry chemical or foam for extinction.
CO2 may be ineffective on large fires.

UNSUITABLE EXTINGUISHING MEDIA : Not

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL : See section 10 for additional information.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

SPECIAL FIRE FIGHTING PROCEDURES : Thermoplastic polymers can burn. Protect product from flames; maintain proper clearance when using heat devices, etc. Irritating or toxic substances will be emitted upon burning, combustion or decomposition. Large masses of molten polymer held at elevated temperatures for extended periods of time may auto-ignite.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

: Wear full protective firegear including self-containing breathing apparatus operated in the positive pressure mode with full facepiece, coat, pants, gloves and boots.

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5.5 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

: Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANUP

: Pick up free solid for recycle and/or disposal.

ENVIRONMENTAL PRECAUTIONS

: Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further spillage if safe to do so.

5.6 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

: Avoid prolonged or repeated contact with skin. Contact with heated material may cause thermal burns. Wash thoroughly after handling.

Refer to processing recommendations and / or contact your local Technical Service representative for heat process temperature range. For most thermoplastic urethane films, heat activation process is normally in the 150 - 230°C (300 - 450°F) range, however some products may require different temperatures. Heating above the maximum handling temperature can generate hazardous decomposition products (See Section 10). Review the temperature data list in "Maximum Handling Temperature" in this section for maximum recommended temperature.

Fume condensates may include hazardous contaminants from additives. Condensate may be combustible and should be periodically removed from exhaust hoods, ductwork, and other surfaces. Impervious gloves should be worn during cleanup operations to prevent skin contact.

Post thermal processing activities necessary to produce shaped articles (such as cutting, abrasion, drilling, etc.) may create dust or polymer particulates. may pose a dust explosion hazard. Avoid breathing dust.

Loading and unloading operations may cause nuisance dust to form. Electrostatic buildup may occur when transferring this product from its container. The spark produced may be sufficient to ignite vapors of flammable liquids. Always transfer product by means which avoid static buildup. Avoid transferring product directly from from its container near or into combustible or flammable solvent.

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Conduct any operations emitting fumes or vapors (including thermoforming, heat joining, cutting and / or sealing of articles and clean up) under well ventilated conditions. Avoid breathing process vapors. Do not hold product for extended periods of time at elevated temperatures or allow masses of hot polymer to accumulate because they can decompose emitting hazardous gasses. Do not taste, swallow or chew products. Wash thoroughly after processing. Do not store or consume food in processing areas. The major off-gasses from normal heat processing are expected to be water vapor and carbon dioxide. Other trace volatile organic components may also be emitted. Do not steam sterilize articles made with thermoplastic polyurethanes. Methylene dianiline can be generated as a result. Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment.

MAXIMUM HANDLING TEMPERATURE : 221°C 430°F

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

: Store away from incompatible materials. See Section 10 for incompatible materials. Store in dry, well ventilated place away from sources of heat and direct sunlight.

MAXIMUM STORE TEMPERATURE : Not determined.

5.7 EXPOSURE CONTROLS PERSONAL PROTECTION

CONTROL PARAMETERS :

OCCUPATIONAL EXPOSURE

LIMITS

: None of the components have assigned exposure limits.

APPROPRIATE ENGINEERING

CONTROLS

: Provide adequate ventilation. Thermal processing operations should be ventilated to control gases and fumes given off during processing. No special requirements under ordinary conditions of use and with adequate ventilation.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT

GENERAL INFORMATION

: Use personal protective equipment as required.

EYE / FACE PROTECTION

: If contact is likely, safety glasses with side shields are recommended.

SKIN PROTECTION

HAND PROTECTION

: To avoid burns from contact with molten product, use thermal insulating gloves. Suitable gloves can be recommended by the glove supplier.

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- RESPIRATORY PROTECTION** : Consult with an industrial hygienist to determine to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Under normal use conditions, a respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely. Cutting operations may create small particles from this product. If inhalation of particles cannot be avoided, wear a dust respirator.
- HYGIENE MEASURES** : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and / or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

5.8 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

- PHYSICAL STATE** : Solid (Film)
- COLOR** : Natural
- ODOR** : Faint
- ODOR THRESHOLD** : No data available.
- Ph** : No data available.
- MELTING POINT** : No data available.
- BOILING POINT** : No data available.
- FLASH POINT** : No data available.
- EVAPORATION RATE** : No data available.
- FLAMMABILITY (SOLID, GAS)** : No data available.
- UPPER / LOWER LIMIT ON FLAMMABILITY OR EXPLOSIVE LIMITS**
- FLAMMABILITY LIMIT-UPPER(%)** : No data available.
- FLAMMABILITY LIMIT-LOWER(%)** : No data available.
- EXPLOSIVE LIMIT-UPPER(%)** : No data available.
- EXPLOSIVE LIMIT-LOWER(%)** : No data available.
- VAPOR PRESSURE** : No data available.
- VAPOR DENSITY** : No data available.
- RELATIVE DENSITY** : 1-1.1 68°F (20°C)

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SOLUBILITY

SOLUBILITY IN WATER : Insoluble in water.

SOLUBILITY(OTHER) : No data available.

PARTITION COEFFICIENT

(n-octanol/water) : No data available.

AUTO - IGNITION TEMPERATURE : No data available.

DECOMPOSITION TEMPERATURE VISCOSITY : Not applicable

5.9 STABILITY AND REACTIVITY

REACTIVITY : No data available.

CHEMICAL STABILITY : Material is stable under normal conditions.

POSSIBILITY OF HAZARDOUS REACTIONS : Will not occur.

CONDITIONS TO AVOID : Not determined.

INCOMPATIBLE MATERIALS : Strong acids. Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS : May also include isocyanates and small amounts of hydrogen cyanide. Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, nitrogen oxides, and other products of incomplete combustion.

5.10 TOXICOLOGICAL INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE

INHALATION : No data available.

INGESTION : No data available.

SKIN CONTACT : No data available.

EYE CONTACT : No data available.

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY

ORAL

PRODUCT : Not classified for acute toxicity based on available data.

DERMAL

PRODUCT : Not classified for acute toxicity based on available data.

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INHALATION

PRODUCT : Overexposure to vapors or mist may cause dizziness, headache, nausea, and / or flu-like symptoms. Persons with sensitive airways (e.g. asthmatics) may react to vapors.
Not classified for acute toxicity based on available data.

SKIN CORROSION / IRRITATION

PRODUCT : Pre-existing skin conditions may be aggravated by prolonged or repeated exposure.
Contact with heated polymer may cause thermal burns and adhesion of solidified product to the skin. Remarks: Not classified as a primary skin irritant.

SERIOUS EYE DAMAGE / EYE IRRITATION :

PRODUCT : Remarks: Not classified as a primary eye irritant.

RESPIRATORY SENSITIZATION :

PRODUCT : Remarks: Under decomposition conditions, isocyanates may be generated from this product. Isocyanates can cause skin sensitization and / or respiratory sensitization.

SKIN SENSITIZATION

PRODUCT : Remarks: Under decomposition conditions, isocyanates may be generated from this product. Isocyanates can cause skin sensitization and / or respiratory sensitization.

SPECIFIC TARGET ORGAM TOXICITY - SINGLE EXPOSURE :

No data available.

ASPIRATION HAZARD

: No data available.

OTHER EFFECTS

POLYURETHANE POLYMER : Under decomposition conditions, isocyanates may be generated from this product. Isocyanates can cause skin sensitization and / or respiratory sensitization. Persons with sensitive airways (e.g. asthmatics) may react to vapors.

CHRONIC EFFECTS

CARCINOGENICITY : No data available.

IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISKS TO HUMANS :

No carcinogenic components identified.

U.S. NATIONAL TOXICOLOGY PROGRAM (NTP) REPORT ON CARCINOGENS :

No carcinogenic components identified.

U.S. OSHA SPRCIFICALLY REGULATED SUBSTANCES (29 CFR 1910.1001-1050) :

No carcinogenic components identified.

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GERM CELL MUTAGENICITY : No data available.

REPRODUCTIVE TOXICITY : No data available.

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE :

No data available.

5.11 ECOLOGICAL INFORMATION

ECOTOXICITY

FISH : No data available.

AQUATIC INVERTEBRATES : No data available.

TOXICITY TO AQUATIC PLANTS : No data available.

TOXICITY TO SOIL DWELLING ORGANISMS : No data available.

SEDIMENT TOXICITY : No data available.

TOXICITY TO TERRESTRIAL PLANTS : No data available.

TOXICITY TO ABOVE - GROUND ORGANISMS : No data available.

TOXICITY TO MICROORGANISMS : No data available.

PERSISTENCE AND DEGRADABILITY

BIODEGRADATION : No data available.

BIOACCUMULATIVE POTENTIAL

BIOCONCENTRATION FACTOR (BCF) : No data available.

PARTITION COEFFICIENT N - OCTANOL / WATER (LOG KOW) :

No data available.

MOBILITY : No data available.

OTHER ADVERSE EFFECTS : No data available.

5.12 DISPOSAL CONSIDERATIONS

DISPOSAL INSTRUCTION : Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

CONTAMINATED PACKAGING : Container packaging may exhibit hazards.

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5.13 TRANSPORT INFORMATION

DOT : Not Regulated
 IMDG : Not Regulated
 IATA : Not Regulated
 TRANSPORT IN BULK ACCORDING : Not Regulated

Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size and / or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. Review classification requirements before shipping materials at elevated temperatures.

5.14 REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA SECTION 12(b) EXPORT NOTIFICATION (40 CFR 707, SUBPT. D) FEDERAL REGULATIONS :
 None present or none present in regulated quantities.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) :

HAZARD CATEGORIES : None known

SARA 302 EXTREMELY HAZARDOUS SUBSTANCE
 None present or none present in regulated quantities.

SARA 304 EMERGENCY RELEASE NOTIFICATION
 None present or none present in regulated quantities.

SARA 311/312 HAZARDOUS CHEMICAL
 None present or none present in regulated quantities.

SARA 313 (TRI REPORTING)
 None present or none present in regulated quantities.

US STATE REGULATIONS

U.S. CALIFORNIA PROPOSITION 65 : No ingredient regulated by CA Prop 65 present.

INVENTORY STATUS

AUSTRALIA (AICS) : All components are in compliance with chemical notification requirements in Australia.

CANADA (DSL/NDSL) : All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.

CHINA (IECSC) : All components of this product are listed on the Inventory of Existing Chemical Substances in China.

EUROPEAN UNION (REACH) : To obtain information on the REACH compliance status of this product, please contact us at MSDS@adhesivefilms.com.

JAPAN (ENCS) : All components are in compliance with the Chemical Substances Control Law of Japan.

KOREA (ECL) : This product requires notification before sale in Korea.

NEW ZEALAND (NZIoC) : All components are in compliance with chemical notification requirements in New Zealand.

PHILIPPINES (PICCS) : All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A.6969)

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- SWITZERLAND (SWISS)** : All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.
- TAIWAN (TCSCA)** : All components of this product are listed on the Taiwan inventory.
- UNITED STATES (TSCA)** : All components of this material are on the US TSCA Inventory.

5.15 OTHER INFORMATION

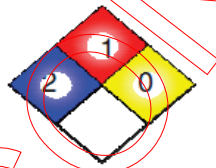
HMIS HAZARD ID

Health	1
Flammability	1
Physical Hazards	0

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe;

RNP - Rating not possible; *Chronic health effect.

NFPA HAZARD ID



Flammability

Health

Reactivity

Special Hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible.

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SOURCE OF INFORMATION : Raw material supplier for chemical data, internal company data and other publically available resources.

FUTHER INFORMATION : Contact supplier (see Section 1).

DISCLAIMER : As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.

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Material 6 : Mesh

6.1 HAZARD IDENTIFICATION

NOT APPLICABLE

6.2 COMPOSITION, INGREDIENTS OR INGREDIENTS

Style 1971-60-100% Polyester-Medium-60"-Natural

6.3 HAZARD IDENTIFICATION

NOT APPLICABLE

6.4 FIRE - FIGHTING MEASURES

: Fabrics can be combustible. Use water, carbon dioxide or dry chemical to extinguish fires. Use normal firefighting procedures, including positive pressure self contained breathing apparatus and full firefighting protection clothing.

6.5 ACCIDENTAL RELEASE MEASURES

NOT APPLICABLE

6.6 HANDLING AND STORAGE

NOT APPLICABLE

6.7 EXPOSURE CONTROLS AND PERSONAL PROTECTION

NOT APPLICABLE

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Material 6 : Mesh

6.8 PHYSICAL AND CHEMICAL PROPERTIES

NOT APPLICABLE

6.9 STABILITY AND REACTIVITY

NOT APPLICABLE

6.10 TOXICOLOGICAL INFORMATION

NOT APPLICABLE

6.11 ECOLOGICAL INFORMATION

NOT APPLICABLE

6.12 DISPOSAL CONSIDERATIONS

: Landfill disposal of waste fabric may be made in accordance with local governmental regulations.

6.13 TRANSPORT INFORMATION

NOT APPLICABLE

6.14 REGULATORY INFORMATION

NOT APPLICABLE

6.15 OTHER INFORMATION

NOT APPLICABLE

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Issued By : <u>Siripomk.</u> (Engineer)	Checked By : <u>[Signature]</u> (Engineering Manager)	Approved By : <u>[Signature]</u> (Sr.Mgr. / GM.)