

Safety Data Sheet

IDENTIFICATION

PRODUCT NAME : PhamaMOP®

COMPANY : Foamtec International Co., Ltd.

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Material 1 : **Flexible Polyurethane foam**

1.1 HAZARD IDENTIFICATION

ROUTES OF ENTRY : Inhalation - Foam dust

HEALTH HAZARDS : Coares dust can cause mechanical irritation of lungs and eyes.
Airbone 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 IDENTIFICATION

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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Safety Data Sheet

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, Carbondioxide

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.

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 1 : Flexible Polyurethane Foam

1.7 EXPOSURE CONTROLS AND 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.

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 1 : Flexible Polyurethane Foam

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 16CER 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 (29CER 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 (EC) : 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.

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

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

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

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Safety Data Sheet

Material 2 : Polyester

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.

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 2 : Polyester

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.

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 2 : Polyester

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

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 3 : Polyurethane film laminate

3.1 HAZARD IDENTIFICATION

CLASSIFICATION : This product is not classified according to the Globally Harmonized System (GHS).

OSHA/JCS STATUS : This material is classified as NON-hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

CLASSIFICATION ACCORDING TO DIRECTIVE 67/548/EEC OR DIRECTIVE 1999/45/EC : Void

INFORMATION CONCERNING PARTICULAR HAZARDS FOR HUMAN AND ENVIRONMENT

: No hazards to be particularly mentioned.

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

EMERGENCY OVERVIEW

: During handling and use, product can cause static discharge. In the presence of flammable materials a fire and/or explosion may occur. Molten material may cause thermal eye burns. Molten material may cause thermal skin burns. Processing vapors may cause respiratory tract irritation.

No known significant effects or critical hazards.

GENERAL INFORMATION

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

3.2 COMPOSITION/ INGREDIENTS ON INGREDIENTS

MATERIAL USES : Thermoplastic polyester

PHYSICAL STATE : solid (film)

DESCRIPTION : Copolyester

HAZARDOUS INGREDIENTS : This material has no known health hazards.

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 3 : Polyurethane film laminate

3.3 FIRST AID MEASURES

- EYE CONTACT** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- SKIN CONTACT** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse.
For contact with molten product, do not remove contaminated clothing. Flush skin immediately with cold water or submerge with cold water if possible. Pack with ice. DO NOT attempt to peel polymer from skin. Seek medical attention immediately.
- INHALATION** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by a trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
- INGESTION** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Get medical attention if symptoms occur.
- NOTES TO PHYSICIAN** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

3.4 FIRE - FIGHTING MEASURES

- FLASH POINT** : Not applicable
- HAZARDOUS THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE THE FOLLOWING MATERIALS**
- DECOMPOSITION PRODUCTS** : Carbon monoxide
- EXTINGUISHING MEDIA**
- SUITABLE**
- SMALL FIRE** : Use dry chemical powder.
- LARGE FIRE** : Use water spray, fog or alcohol resistant foam. Do not use water jet.
- NON SUITABLE** : None known.
- SPECIAL PROTECTIVE EQUIPMENT FOR FIRE - FIGHTERS**
- : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus,(SCBA) with a full face-piece operated in positive pressure mode.

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 3 : Polyurethane film laminate

SPECIAL REMARKS ON FIRE HAZARDS : During a fire, irritating and highly toxic gases may be generated during combustion or decomposition. Winding or unwinding rolls can cause a build-up of static electricity which can be sufficient to cause fires and/or explosions in the presence of flammable materials. Equipment should provide a means of dissipating any charges that may develop.

3.5 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Lab coat. Impervious gloves. Safety glasses with side shields.

ENVIRONMENTAL PRECAUTIONS : Collect product for recovery or disposal. Notify applicable government authority if release is reportable or could adversely affect the environment.

METHODS OF CLEANING UP : If emergency personnel are unavailable, carefully scoop up spilled materials and use a non-sparking or explosion-proof means to transfer material to an appropriate container for disposal by incineration.

3.6 HANDLING AND STORAGE

HANDLING : Use normal good industrial hygiene and housekeeping practices. Take precautionary measures against static discharges.

STORAGE : Store in a cool, dry, well-ventilated area. Keep away from heat, sparks and flames.

3.7 EXPOSURE CONTROLS AND PERSONAL PROTECTION

PERSONAL PROTECTION

RESPIRATORY : In case of inadequate ventilation wear respiratory protection. Respiratory selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

HAND : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

EYE : Safety glasses with side shields

SKIN : Lab Coat

ENVIRONMENTAL EXPOSURE CONTROL

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Doc.No. WCC-SDS-025/00

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Safety Data Sheet

Material 3 : Polyurethane film laminate

3.8 PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES APPEARANCE

FORM : Solid (Film)
COLOR : Whitish
ODOR : Nearly Odorless

CHANGE IN CONDITION

MELTING POINT : 110-130°C (230-268°F)
BOLING POINT : Undetermined
FLASH POINT : Not applicable
FLAMMABLE LIMTS : Not applicable
AUTO - IGNITION TEMPERATURE : Not applicable
DANGER OF EXPLOSTION : Product does not present an explosion hazard
DENSITY AT 20°C (68°F) : >1 g/cm³ (>8.345 lbs/gal)
SOLUBILITY IN / MISCIBILITY IN WATER : Insoluble

3.9 STABILITY AND REACTIVITY

REACTIVITY CHEMICAL STABILITY

THERMAL DECOMPOSITION / CONDITIONS TO BE AVOIDED : No decomposition if used according to specifications.
POSSIBILITY OF HAZARDOUS REACTION : No dangerouse reactions known.
HAZARDOUS DECOMPOSITION PRODUCT : No dangerouse reactions known.

3.10 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS ACUTE TOXICITY

PRIMARY IRRITANT EFFECT

ON THE SKIN : No irritant effect
ON THE EYE : No irritant effect
SENSITIZATION : No sensitizing effects known.

ADDITIONAL TOXICOLOGICAL INFORMATION

: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 3 : Polyurethane film laminate

3.11 ECOLOGICAL INFORMATION

TOXICITY ACQUATIC TOXICITY : No further relevant information available

ADDITIONAL ECOLOGICAL INFORMATION

GENERAL NOTES : Generally not hazardous for water

RESULTS OF PBT AND vPvB ASSESSMENT

PBT : Not applicable

vPvB : Not applicable

3.12 DISPOSAL CONSIDERATIONS

WATER DISPOSAL : This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

3.13 TRANSPORT INFORMATION

NOT APPLICABLE

3.14 REGULATORY INFORMATION

NOT APPLICABLE

3.15 OTHER INFORMATION

NOT APPLICABLE

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 4 : Mesh

4.1 HAZARD IDENTIFICATION

NOT APPLICABLE

4.2 COMPOSITION, INGREDIENTS OR INGREDIENTS

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

4.3 HAZARD IDENTIFICATION

NOT APPLICABLE

4.4 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.

4.5 ACCIDENTAL RELEASE MEASURES

NOT APPLICABLE

4.6 HANDLING AND STORAGE

NOT APPLICABLE

4.7 EXPOSURE CONTROLS AND PERSONAL PROTECTION

NOT APPLICABLE

Doc.No. WCC-SDS-025/01

Issued Date : 07-Mar-18

Effectived Date : 07-Mar-18

Safety Data Sheet

Material 4 : Mesh

4.8 PHYSICAL AND CHEMICAL PROPERTIES

NOT APPLICABLE

4.9 STABILITY AND REACTIVITY

NOT APPLICABLE

4.10 TOXICOLOGICAL INFORMATION

NOT APPLICABLE

4.11 ECOLOGICAL INFORMATION

NOT APPLICABLE

4.12 DISPOSAL CONSIDERATIONS

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

4.13 TRANSPORT INFORMATION

NOT APPLICABLE

4.14 REGULATORY INFORMATION

NOT APPLICABLE

4.15 OTHER INFORMATION

NOT APPLICABLE

Doc.No. : <u>WCC-SDS-025/01</u>	Issued Date : <u>07-Mar-18</u>	Effectived Date : <u>07-Mar-18</u>
Issued By : <u>Sirinan H.</u> (Engineer)	Checked By : <u>[Signature]</u> (Engineering Manager)	Approved By : <u>[Signature]</u> (Sr.Mgr. / GM.)