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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Trade name : Hifax TKS 672P 2066

CAS Number: : Mixture

Chemical name : Compounded polyolefin

Synonyms : Polyolefin, Compounded polymer

Identified uses : Manufacture of plastic articles by injection molding, extrusion

or other conversion process.

Prohibited uses : FDA Class III medical devices; European class III medical

devices; Health Canada class IV Medical Devices;

Company Telephone

Tel: +66-38- 954954

product.safety@lyb.com

Product Safety

Applications involving permanent implantation into the body;

+852-2585-0120

Life-sustaining medical applications

Company Address

Basell Advanced Polyolefins (Thailand) Co.

Ltd.

64/17 Moo 4 Eastern Seaboard Industrial

Estate

Tambol Pluakdaeng, Amphur Pluakdaeng,

Rayong 21140

Thailand

E-mail address : product.safety@lyb.com

Responsible/issuing person

2. HAZARDS IDENTIFICATION

GHS-Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

GHS-Labeling

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

Other hazards

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

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

Components

| Chemical name | CAS-No. | Weight % |
|--------------------------------------------|---------|----------------|
| Proprietary blend of polyolefinic polymers | Mixture | 90.0 - 100.0 % |

Contains: Additives and stabilizers

4. FIRST AID MEASURES

General advice : Take proper precautions to ensure your own health and safety

before attempting rescue and providing first aid.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get

medical attention.

In case of excessive inhalation of fumes that may be generated during heating of this material, move the person to fresh air.

Obtain medical attention.

Keep person warm, if necessary give Cardio-Pulmonary

Resuscitation (CPR)

In case of skin contact : If molten material contacts the skin, immediately flush with

large amounts of water to cool the affected tissue and polymer. Do not attempt to peel polymer from skin as this will remove the

skin.

Obtain immediate emergency medical attention if burn is deep

or extensive.

In case of eye contact : Flush eyes thoroughly with water for several minutes and seek

medical attention if discomfort persists.

: In case of eye contact with molten polymer:

Continuously flush eye(s) with cool running water for at least 15

minutes.

Beyond flushing, DO NOT attempt to remove the material

adherent to the eye(s).

Immediately seek medical attention.

If swallowed : Adverse health effects due to ingestion are not anticipated.

Notes to physician

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Symptoms : Inhalation of process fumes and vapors may cause soreness in

the nose and throat and coughing.

Hazards : Dust contact with the eyes can lead to mechanical irritation.

Molten polymer may cause thermal burns.

Treatment : Treatment of overexposure should be directed at the control of

symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : SMALL FIRE:

Use dry chemical, CO2, or water spray.

: LARGE FIRES:

Use water spray hose nozzles from a safe location.

Unsuitable extinguishing

media

Specific hazards during fire

fighting

: None known.

: Keep away from heat and sources of ignition.

In case of fire hazardous decomposition products may be

produced such as:

Carbon monoxide, carbon dioxide and unburned hydrocarbons

(smoke).

Special protective equipment

for fire-fighters

: Wear approved positive pressure self-contained breathing

apparatus and firefighter protective clothing.

Further information : Combustible particulate solid, will decompose under fire

conditions.

Calorific Value: 8000 - 11000 kcal/kg

Fight fire from safe distance with hose lines or monitor nozzles. Heat from fire may melt, decompose polymer, and generate

flammable vapors.

Move containers from fire area if it can be done without risk. Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container.

Always stay away from tanks engulfed in fire.

Do not attempt to get on top of storage containers involved in

fire.

Cool storage containers with large volumes of water even after

fire is out.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Equip responders with proper protection.

Creates dangerous slipping hazard on any hard smooth

surface.

Equip emergency responders with proper personal protective

equipment (PPE)
Avoid generating dust.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces

with compressed air).

Potential combustible dust hazard.

Polymer particles create slipping hazard on hard smooth

surfaces.

Environmental precautions : Do not flush into surface water or sanitary sewer system.

Methods for containment / Methods for cleaning up

: On land, sweep/shovel into suitable disposal containers or vacuum using equipment which avoids ignition risk.

On water, material is insoluble; collect and contain as any

solid.

All recovered material should be packaged, labeled,

transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good

engineering practices. Reclaim where possible.

7. Handling and storage

Precautions for safe handling

Advice on safe handling : Material is in a pellet form.

If converted to small particles during further processing, handling, or by other means, may form combustible dust

concentrations in air.

Avoid dust accumulation in enclosed space.

Use dust collection systems designed per NFPA 654 to avoid

dust accumulation.

Avoid generating dust; fine dust suspended in air and in the presence of an ignition source is a potential dust explosion

hazard.

Static discharge (spark), or other ignition sources, in high dust

environments may ignite the dust and result in a dust

explosion

Electrostatic charge may build during conveying or handling.

Equipment handling polymer should be conductive and

grounded (earthed) and bonded.

Metal containers involved in the transfer of this material

should be grounded and bonded.

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All electrical equipment should conform to applicable electric codes and regulatory requirements for areas handling combustible dusts.

After handling, always wash hands thoroughly with soap and water

When bringing the material to processing temperatures vapors may develop may condense in the exhaust ventilation. See section 10.

Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Store in a dry location.

Use good housekeeping practices during storage, transferring and handling. Process enclosures and adequate ventilation should be used to avoid excessive dust accumulation. Store away from excessive heat and away from strong

oxidizing agents.

Keep container closed to prevent contamination.

Take measures to prevent the build up of electrostatic charge.

Specific end use(s)

: See Section 1.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Ingredients with workplace control parameters

Occupational Exposure Limits

| Components | CAS-No. | Type | Limit Value | Basis | Additional |
|---------------------|---------|------|-------------|---------------|-------------|
| | | | | Revision Date | Information |
| Materials that can | | TWA | 10 mg/m3 | US (ACGIH) | |
| be formed when | | | inhalable | 2005 | |
| handling this | | | | | |
| product: Non- | | | | | |
| specified (inert or | | | | | |
| nuisance) dust | | | | | |

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| Materials that can be formed when handling this product: Non- specified (inert or | TWA | 3 mg/m3 respirable | US (ACGIH) 2005 | |
|-----------------------------------------------------------------------------------------------|-----|-----------------------|--------------------|--|
| nuisance) dust | | | | |

Consult local authorities for acceptable exposure limits.

Exposure controls

Engineering measures

Follow the recommendations in NFPA 654 (as amended and adopted) for equipment used to handle this product.

Engineering controls, i.e. enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used. Equipment and vessels handling combustible dust from this material should be designed to either prevent dust explosions (inerting) or safely vent dust explosions per NFPA 654 Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is

no leakage from the equipment).

Personal protective equipment

Respiratory protection : Use process enclosures, local exhaust ventilation, or other

engineering controls to keep airborne levels below

recommended exposure limits.

When workers are facing concentrations above the exposure

limit they must use appropriate certified respirators. Use appropriate respiratory protection where atmosphere

exceeds recommended limits.

Where workers could be exposed to dust concentrations above the exposure limit they must use appropriate certified

respirators.

Hand protection : Wear gloves that provide thermal protection where there is a

potential for contact with heated material.

Eye and face protection : Dust service goggles should be worn to prevent mechanical

injury or other irritation to eyes due to airborne particles which

may result from handling this product.

Skin and body protection : Wear suitable protective clothing.

Hygiene measures : Selection of appropriate personal protective equipment should

be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered

during use.

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Use good personal hygiene practices.

Wash hands before eating, drinking, smoking, or using toilet

facilities.

Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Pellets.
Color : black

Odor : Slight.

Odor Threshold : No value available.

Flash point : No Data Available.

Lower explosion limit : The minimum explosive concentration (MEC) for polymer dust

varies according to particle size distribution.

Upper explosion limit : Not applicable.

Flammability (solid, gas) : Polymer will burn but does not easily ignite.

Oxidizing properties : Not considered an oxidizing agent.

Autoignition temperature : > 300 °C

Decomposition temperature : not determined

Melting point/range : 50 - 170 °C

Boiling point/boiling range : Not applicable.

Vapor pressure : Not applicable.

Density : 0.91 g/cm3

at 23 °C

Water solubility : Insoluble.

Partition coefficient: n- : No

octanol/water

: No Data Available.

Viscosity, dynamic : Not applicable.

Relative vapor density : Not applicable.

Evaporation rate : Not applicable.

Explosive properties : No Data Available.

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Other Information : No additional information available.

10. STABILITY AND REACTIVITY

Reactivity : No known reactivity hazards.

Chemical stability : Stable under normal conditions.

Hazardous reactions : Will not occur.

Conditions to avoid : Avoid contact with strong oxidizers, excessive heat, sparks or

open flame.

Materials to avoid : Material may be softened by some hydrocarbons.

Hazardous decomposition

products

Thermal decomposition : Carbon monoxide, olefinic and paraffinic compounds, trace

amounts of organic acids, ketones, aldehydes and alcohols

: Not expected to decompose under normal conditions.

may be formed.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity : Not classified

Acute inhalation toxicity : Not classified

Acute dermal toxicity : Not classified

Skin corrosion/irritation : Not a skin irritant.

Serious eye damage/eye

irritation

: Not an eye irritant.

Mechanical irritation is possible.

Respiratory or skin

sensitization

: Not classified

Chronic toxicity

Carcinogenicity : Not classified

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Germ cell mutagenicity : Not classified

Reproductive toxicity

Effects on fertility /

Effects on or via lactation

Effects on Development

Target Organ Systemic **Toxicant - Single exposure**

Target Organ Systemic

Toxicant - Repeated exposure

: Not classified

: Not classified

: The substance or mixture is not classified as specific target

organ toxicant, single exposure.

: The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Aspiration hazard : Not applicable.

12. Ecological information

Ecotoxicology Assessment

Short-term (acute) aquatic

hazard

Long-term (chronic) aquatic hazard

: Not classified

: Not classified

Persistence and degradability

Biodegradability : Not expected to be biodegradable.

Bioaccumulative potential

Bioaccumulation : This material is not expected to bioaccumulate.

Mobility in soil

Mobility : no data available

Other adverse effects

Environmental fate and

pathways

: This material is not volatile and insoluble in water.

Other information

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Additional ecological

information

: Ecotoxicity is expected to be minimal based on the low water

solubility of polymers.

No data available on this product. However, birds, fish and other wildlife may eat pellets which may obstruct their

intestinal tracts.

13. Disposal considerations

Waste treatment methods

Product : All recovered material should be packaged, labeled,

transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good

engineering practices. Reclaim where possible.

Recycle if possible.

14. TRANSPORT INFORMATION

Not regulated for transport

15. REGULATORY INFORMATION

Other international regulations

Global Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

*Additional Explanatory Status Statements follow the table, as necessary.

| Country/Region | Inventory | Status Description |
|--------------------------|-----------|--------------------------------|
| Australia | AICS | Compliant |
| Canada | DSL | Compliant |
| China | IECSC | Compliant |
| Europe | REACH | See REACH Compliance Statement |
| Japan | ENCS | Compliant |
| Korea | KECI | Compliant |
| New Zealand | NZIoC | Compliant |
| Philippines | PICCS | Not Compliant |
| United States of America | TSCA | Compliant |
| Taiwan | TCSCA | Not Determined |

REACh status

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If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, we confirm that all substances in this preparation have been registered under REACh, in accordance with the deadlines set forth in REACh. (Regulation (EU) No. 1907/2006)

Contact product.safety@lyb.com for additional global inventory information.

16. OTHER INFORMATION

Material safety datasheet sections which have been updated:

Revised Section(s): 15 16

Disclaimer

Information in this document is accurate to the best of our knowledge at the date of publication. The document is designed to provide users general information for safe handling, use, processing, storage, transportation, disposal and release and does not constitute any warranty or quality specification, either express or implied, including any warranty of merchantability or fitness for any particular purpose. Users shall determine whether the product is suitable for their use and can be used safely and legally.

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Numerical Data Presentation

The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

Language Translations

The information presented in this document has been translated from English by a vendor LyondellBasell believes to be reliable. LyondellBasell and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no liability or other responsibility for any errors that may have occurred. Please refer to our web site (www.lyondellbasell.com) for the original document written in English.

End of Material Safety Data Sheet

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