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SAFETY DATA SHEET

Print date: 31-Oct-2018 *Revision Number: 3* *Revision date: 29-Oct-2018*

1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

Trademark:	SABIC® EPS
Product Name:	652
Product Description:	Expandable polystyrene [CASRN 9003-53-6]
Product Type:	Commercial Product
Recommended use:	May be used to produce molded or extruded articles or as a component of other industrial products.
Company:	Saudi Basic Industries Corporation P.O. Box 5101 Riyadh 11422 Saudi Arabia
Manufacturer:	SABIC P.O. Box 5101 Riyadh 11422 Saudi Arabia
Emergency Telephone Number:	KSA +966 (01) 225-8000
E-mail:	sds.info@sabic.com
Website Address:	**www.sabic.com**

2. HAZARDS IDENTIFICATION

The additives in this product (if any) are bound in a thermoplastic resin matrix. In accordance with GHS for the classification of the product, the hazard potential may be assessed with respect to the physico-chemical form and/or bioavailability of the individual components in the thermoplastic resin.

Where GHS classifications are shown below, these are based on the individual components in the thermoplastic resin matrix. Under the typical use conditions for the resin, these hazardous components are unlikely to contribute to workplace exposure. Please read the entire safety data sheet and/or consult an EHS professional for a complete understanding.

Classification

OSHA Regulatory Status
This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS-Labeling

Emergency Overview

Not classified

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance: Beads **Physical State:** Solid **Odor:** Hydrocarbon-like

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Not applicable

Other hazards that do not result in classification:

SABIC Emergency Overview

- DANGER! Extremely flammable vapor
- Spherical beads with slight hydrocarbon odor
- Releases pentane which may cause irritation and narcosis, and is highly flammable.
- Spilled material may create slipping hazard
- In use, may form flammable/explosive vapor-air mixtures.
- Molten plastic can cause severe thermal burns
- Can burn in a fire creating dense, toxic smoke
- Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever. See below for additional effects.
- Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Other Information: Cool skin rapidly with cold water after contact with molten material. Heating can release hazardous gases. Hazardous fumes can also occur in post-processing operations.

Processing Issues: Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds, and other surfaces can cause irritation and injury to skin.

Aggravated Medical Conditions: MEDICAL RESTRICTIONS: There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Type Mixture

HAZARDOUS COMPONENTS:

Chemical Name	CAS Number	Weight %	Classification (67/548/EEC):	GHS Classification (EC) No. 1272/2008 [CLP]:
Pentane	109-66-0	5-10	F+;R12 N;R51-53 R66 R67 Xn;R65	Flam. Liq. 2 (H225) Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 2 (H411)

The non-hazardous components and exact percentage (concentration) of the composition have been withheld as a trade secret.

This product consists primarily of high molecular weight polymers which are not expected to be hazardous. The ingredients in this product are present within the polymer matrix and are not expected to be hazardous.

4. FIRST AID MEASURES

If Inhalation: Move to fresh air in case of accidental inhalation of pentane vapors, or fumes from overheating or combustion. If symptoms persist, call a physician.

On skin contact: Immediately cool the skin by rinsing with cold water after contact with hot material. Wash off immediately with soap and plenty of water. Consult a physician.

On contact with eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist.

On ingestion: No hazards which require special first aid measures. Seek medical attention if symptoms develop.

Precautions: Processing vapors inhalation may be irritating to the respiratory tract. If symptoms are experienced remove victim from the source of contamination or move victim to fresh air and obtain medical advice.
Cool molten product on skin with plenty of water. Do not remove solidified product. Do not peel polymer from the skin.

5. FIRE-FIGHTING MEASURES

Autoignition Temperature: 260°C (500°F), based on pentane

Explosive Limits

upper: Not determined
lower: Not determined

Explosive Properties: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with strong oxidizers may cause fire or explosion. Sensitive to static discharge.

Suitable Extinguishing Media: Use dry chemical, CO2, water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.).

Unsuitable Extinguishing Media for Safety Reasons: Do not use a solid water stream as it may scatter and spread fire.

Hazards from Combustion Products: Fire will produce dense black smoke containing hazardous combustion products, carbon oxides, hydrocarbon fragments.

Special Protective Equipment for Firefighters: In the event of fire, wear self-contained breathing apparatus (EU: NEN-EN137). Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.

Specific Hazards: Take precautionary measures against vapor release and/or static discharges. Explosive vapor could form. During processing, dust may form explosive mixture in air. Thermal decomposition can lead to release of irritating gases and vapors.

6. ACCIDENTAL RELEASE MEASURES

Clean up: Ventilate area of leak or spill. Remove all sources of ignition. Use non-sparking tools and equipment. Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.

Personal Precautions: See section 8. If spilled, take caution, as material can cause surfaces to become very slippery.

Environmental Precautions: Do not flush into surface water or sanitary sewer system. Material should not be released into the environment.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Storage: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat sources and sources of ignition. Keep away from direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits: No components with information, unless noted below

Chemical Name	US OSHA PEL (8 Hr)	ACGIH	Canada - Alberta (8 Hr)	Mexico OEL Data	SABIC Recommend (8 Hr)*
Pentane 109-66-0	FRL_STEL: 2250 mg/m^3 , 750 ppm ; FRL_TWA: 1800 mg/m^3 , 600 ppm ; TL_PEL: 2950 mg/m^3 , 1000 ppm	TWA: 600 ppm ; Crit Eff: Peripheral neuropathy	OEL_8 hr: 1770 mg/m^3 , 600 ppm	LMPE-PPT: 600 ppm , 1800 mg/m^3 ; LMPE-CT: 760 ppm , 2250 mg/m^3	No Information

** SABIC Recommended Exposure Limits have been established for certain chemicals.*

Engineering Measures to Reduce Exposure: In the case of hazardous fumes, wear self-contained breathing apparatus. Wear face-shield and protective suit for abnormal processing problems. Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation at machinery.

Hand Protection: Protective gloves should be worn, (EU: NEN-EN 374), When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molton resin

Eye Protection: Safety glasses with side-shields. (EU: NEN-EN 165-166).

Respiratory Protection: In the case of hazardous fumes, wear self contained breathing apparatus. In case of insufficient ventilation wear suitable respiratory equipment. (EU: NEN-EN149).

Body Protection: Long sleeved clothing (EU: NEN-EN 340-369-465)

Hygiene Measures: When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance:	Beads
Color:	White
Odor:	Hydrocarbon-like
Melting point/range:	> 130 °C
Boiling point/range:	Decomposition starting from 300°C (592°F)
Autoignition Temperature:	260°C (500°F) based on pentane
Flash Point:	-49.0°C (-56.2°F) based on pentane
Vapor Pressure:	Negligible
Density:	1.05 g/cm³
Water Solubility:	Insoluble
Evaporation Rate:	Negligible
Explosive Limits	
upper:	Not determined
lower:	Not determined
VOC content (%):	5 - 10%

10. STABILITY AND REACTIVITY

Stability: Stable under ambient conditions. Hazardous polymerization does not occur.

Conditions to Avoid: Avoid temperatures above 250°C. Heating can result in the formation of gaseous decomposition products, some of which may be hazardous. Do not exceed melt temperature recommendations in product literature. Purgings of hot material should be collected in small, flat, thin shapes and quenched with water to allow for rapid cooling. Do not allow product to remain in barrel at elevated temperatures for extended periods of time.

Hazardous Decomposition Products: Process vapors under recommended processing conditions may include trace levels of hydrocarbons, carbon oxides, aldehydes, styrene.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50/oral/rat:	>5000 mg/kg
LD50/dermal/rabbit:	>2000 mg/kg
Inhalation:	Pellet inhalation unlikely due to physical form. Product may release pentane which may cause irritation and narcosis.
Eye Contact:	Resin particles, like other inert materials, are mechanically irritating to eyes. Pentane vapors may cause irritation.
Skin Contact:	Not a hazard with pellets during normal industrial use.
Ingestion:	Pellet ingestion unlikely due to physical form.
Chronic Toxicity:	No information available.
Subchronic Toxicity:	No information available
Primary Irritation:	Substance does not generally irritate and is only mildly irritating to the skin.
Remarks:	The toxicological data has been taken from products of similar composition.
Special Studies:	No Information

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects:	Ecological damages are not known or expected under normal use. Small particles can have an effect on water and soil organisms.
Other information:	none.

13. DISPOSAL CONSIDERATIONS

Waste Disposal:	Recycling is encouraged. Landfill or incinerate in accordance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification.

14. TRANSPORT INFORMATION

Transport Classification: Regulated

DOT

UN Number:	UN 2211
Proper shipping name:	Polymeric beads, expandable
Packing group:	III
Hazard class:	9
Hazard Class:	9 Miscellaneous Dangerous Substances

ADR/RID/ADN

Regulated. Consult latest edition of regulation.

UN Number:	UN 2211
Proper shipping name:	Polymeric Beads, Expandable
Packing group:	III
ADR - Hazards Class:	9 Miscellaneous Dangerous Substances
Hazard class:	9
Tunnel Code:	(E)

IMDG

Regulated. Consult latest edition of regulation.

UN Number:	UN 2211
Proper shipping name:	Polymeric Beads, Expandable
Packing group:	III
Hazard class:	9

ICAO

IATA-DGR

Regulated. Consult latest edition of regulation.

UN Number:	UN 2211
Proper shipping name:	Polymeric Beads, Expandable
Packing group:	III
Hazard class:	9

MEXICO

CANADA/TDG

15. REGULATORY INFORMATION

Further regulatory information can be requested via your local sales office.

International Inventories:

TSCA (USA):	Listed
DSL (Canada):	Listed
EINECS/ELINCS (Europe):	Listed
ENCS (Japan):	Listed
IECSC (China):	Listed
KECL (Korea):	Listed
PICCS (Philippines):	Listed
AICS (Australia):	Listed
NZIoC (New Zealand):	Listed
REACH Information:	For this product's REACH related information, please contact sds.info@sabic.com

Other Inventory Information:
A "Listed" entry above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components. A "Not listed" entry above indicates one or more components is restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SVHC (REACH Regulation (EC) No 1907/2006 and 453/2010, as amended):
This product does not intentionally contain SVHC chemicals except as noted below. Incidental amounts of impurities, if present, would be below the threshold limit of 0.1% by weight.

HMIS Rating
Health: 1
Flammability: 3
Reactivity: 0

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects

SDS Scope:
USA: Conforms to 29 CFR 1910.1200 (2012 OSHA Hazard Communication Standard)
This document is also applicable in other countries and regions.

Prepared by: Product Stewardship & Toxicology

DISCLAIMER: The information contained in the Safety Data Sheet is at the date of its issuance to the best of our knowledge correct according to the data available to us. The information is meant as a guideline for safe use, handling, disposal, storage and transport of products and does not imply any warranty (not implied nor explicitly) or specification. The Supplier shall to the extent permitted by law not be liable for any error or incorrectness in the information contained in this Safety Data Sheet. The information relates exclusively to the specified products, which may not be suitable for combination with other materials or use in processes other than those specifically described here.

End of Safety Data Sheet