

1. IDENTIFICATION

| | | |
|-----------------------------|---|--|
| Trademark | : | NORYL™ resin |
| Product name | : | PX9406-111 |
| Product description | : | Polyphenylene ether / Polystyrene Blend |
| Appearance | : | pellets |
| Chemical nature | : | Mixture |
| Recommended use | : | May be used to produce molded or extruded articles or as a component of other industrial products. Manufacture of plastics products, including compounding and conversion |
| Restrictions on use | : | For industrial use only. |
| Supplier | : | SABIC Innovative Plastics (China) Ltd.or SABIC Innovative Plastics International Trading Shanghai Ltd. 2550 Xiupu Road, Pudong New Area, Shanghai 201319, China |
| Emergency SABIC Telephone # | : | China: +86 532 83889090, +86 20 84980148 |
| Emergency Transportation # | : | CHEMTREC, U.S. : (800) 424-9300 International: +1 (703) 527-3887 |
| E-mail address | : | sds.info@sabic.com |
| Website | : | http://www.sabic.com |

2. HAZARDS IDENTIFICATION**GHS Remark**

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. UN GHS says, that even if adverse effects are seen in animal studies or in-vitro tests, no classification is needed if the mechanism or mode of action is not relevant to humans. The European CLP Regulation also mentions, that no classification is indicated if the mechanism is not relevant to humans. 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.

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Not a hazardous substance or mixture.

Other hazards which do not result in classification

SABIC Emergency Overview

Pellets with slight or no odor

Spilled material may create slipping hazard.

Can burn in a fire creating dense, toxic smoke

Molten plastic can cause severe thermal burns

Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever.

Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Other information

OSHA, IARC and/or NTP have listed carbon, titanium dioxide, crystalline silica (quartz), respirable glass and certain heavy metals, present in some colorants and fillers, as carcinogens. If these materials are present in this product at significant quantities, they are shown in Section 2/3. These materials are essentially bound to the plastic matrix and are unlikely to contribute to workplace exposure under recommended processing conditions.

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 Condition

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

Substance / Mixture : Mixture

Hazardous components

| Chemical Name | CAS-No. | Concentration |
|---------------------|-----------|------------------|
| Triphenyl Phosphate | 115-86-6 | >= 5 - < 10 % |
| White Mineral Oil | 8042-47-5 | >= 0.1 - < 0.3 % |

Components which are considered potential hazards to health or the environment, if present above minimum concentrations, are listed above. Any concentration shown as a range is to protect confidentiality and/or is due to batch variation. Any non-hazardous components are being withheld as a trade secret. This product consists primarily of high molecular weight polymers which are not expected to be hazardous. Furthermore, any additives in this product are present within the polymer matrix and are not expected to be hazardous under recommended use conditions. Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

General advice : Thermal decomposition can lead to release of irritating gases and vapours. Move the victim to fresh air. Obtain medical attention.

| | |
|-------------------------|--|
| If inhaled | : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician. |
| In case of skin contact | : After contact with skin, wash immediately with plenty of cold water. Wash off immediately with soap and plenty of water. Consult a physician. If skin irritation persists, call a physician. |
| In case of eye contact | : Immediately flush eye(s) with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a specialist. |
| If swallowed | : Negligible or unlikely exposure pathways If accidentally swallowed obtain immediate medical attention. |
| Notes to physician | : No information available. |

5. FIREFIGHTING MEASURES

| | |
|---|--|
| 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 | : Do not use a solid water stream as it may scatter and spread fire. |
| Specific hazards during firefighting | : Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Material is not sensitive to mechanical impact. |
| Hazardous combustion products | : Fire will produce dense black smoke containing hazardous combustion products, carbon oxides, hydrocarbon fragments. If present, certain hazardous additives can also liberate halogenated hydrocarbons. |
| Specific extinguishing methods | : Take precautionary measures against static discharges. During processing, dust may form explosive mixture in air. Thermal decomposition can lead to release of irritating gases and vapours. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary. Stay upwind/ keep distance from source. |
| Explosive properties | : Not applicable |

6. ACCIDENTAL RELEASE MEASURES

| | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | : Take precautionary measures against static discharges. |
|---|--|

- Environmental precautions : Do not flush into surface water or sanitary sewer system. Should not be released into the environment.
- Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.

7. HANDLING AND STORAGE

Handling

- Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed. Open containers only in well-ventilated area.

- Avoidance of contact : No special restrictions on storage with other products.

Storage

- Conditions for safe storage : Keep tightly closed in a dry and cool place. Keep away from heat and sources of ignition. Residual monomer vapors can accumulate in the headspace of closed containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Reference |
|---|-----------|-------------------------------|--|-----------|
| Triphenyl Phosphate | 115-86-6 | TWA | 3 mg/m ³ | ACGIH |
| Further information: Cholinesterase inhibition | | | | |
| White Mineral Oil | 8042-47-5 | TWA (Inhalable fraction) | 5 mg/m ³ | ACGIH |
| Further information: Upper Respiratory Tract irritation, Not classifiable as a human carcinogen | | | | |

- Engineering measures** : Handle in accordance with good industrial hygiene and safety practice. Provide appropriate exhaust ventilation at machinery. Processing fume condensate may be a fire hazard and toxic; remove periodically from exhaust hoods, ductwork, and other surfaces using appropriate personal protection.

Personal protective equipment

- Respiratory protection : Use adequate ventilation and/or engineering controls in high temperature processing to prevent exposure to vapours. If dust or powder are produced from secondary operations such as sawing or grinding, use a respirator approved for protection from dust.

| | |
|--------------------------|---|
| Eye/face protection | : Safety glasses with side-shields Chemical resistant goggles must be worn. |
| Skin and body protection | : Long sleeved clothing |
| Hand protection | |
| Material | : Wear protective gloves. |
| Protective measures | : Wear suitable protective equipment. |
| Hygiene measures | : Do not eat, drink or smoke when using this product. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|--|
| Appearance | : pellets |
| Physical state | : solid |
| Colour | : natural |
| Odour | : none or slight |
| Odour Threshold | : No information available. |
| pH | : No data available |
| Melting point/range | : This product does not exhibit a sharp melting point but softens gradually over a wide range of temperatures. |
| Boiling point/boiling range | : not determined |
| Flash point | : Not applicable |
| Flammability | : No information available. |
| Upper explosion limit | : not determined |
| Lower explosion limit | : not determined |
| Vapour pressure | : negligible |
| Relative vapour density | : not determined |
| Relative density | : >1 (water = 1) |
| Density | : not determined |
| Water solubility | : insoluble |
| Solubility in other solvents | : not determined |
| Partition coefficient: n-octanol/water | : No information available. |
| Auto-ignition temperature | : 490 °C estimated |
| Decomposition temperature | : not determined |
| Viscosity, dynamic | : Not applicable |
| Viscosity, kinematic | : Not applicable |

10. STABILITY AND REACTIVITY

| | |
|------------------------------------|--|
| Reactivity | : Stable under recommended storage conditions. |
| Chemical stability | : Stable at normal ambient temperature and pressure. Hazardous polymerisation does not occur. |
| Possibility of hazardous reactions | : No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | : To avoid thermal decomposition, do not overheat. Heating can release hazardous gases. 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.

Incompatible materials : No special restrictions on storage with other products.

Hazardous decomposition products : Process vapors under recommended processing conditions may include trace levels of ,Hydrocarbons, alkylphenols, aldehydes, alcohols, aliphatic amines, dimethylcyclohexanone, trimethylanisole, dihydrobenzofuran, If present, certain hazardous additives can also liberate triarylphosphate esters.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity
Remarks: >5000 mg/kg (estimated)

Acute dermal toxicity
Remarks: >2000 mg/kg (estimated)

STOT - repeated exposure

Components:

115-86-6:

| Components | Exposure routes | Target Organs | Assessment |
|---------------------|-----------------|--|------------|
| Triphenyl Phosphate | | Blood, Nervous system, Peripheral nervous system | |

8042-47-5:

| Components | Exposure routes | Target Organs | Assessment |
|-------------------|-----------------|--------------------------------------|------------|
| White Mineral Oil | | Eyes, Lungs, Respiratory Tract, Skin | |

Experience with human exposure

Product:

Inhalation : Remarks: Inhalation unlikely due to physical form. Processing fumes evolved at recommended conditions may contain trace amounts of hazardous chemicals. Extreme processing conditions or temperatures may result in higher levels. 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 duct work, molds, and other surfaces can cause irritation and injury to skin.

- Skin contact : Remarks: Not a hazard during normal industrial use. If present, some additives (like glass fiber or flame retardants) may cause skin irritation in susceptible persons.
- Eye contact : Remarks: Resin particles, like other inert materials, are mechanically irritating to eyes.
- Ingestion : Remarks: Ingestion unlikely due to physical form.

Further information

Product:

Special Studies: The toxicological data has been taken from products of similar composition.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

115-86-6:

Toxicity to fish

| Components | Value type | Value | Species | Exposure time |
|---------------------|------------|-----------|-------------------------------------|---------------|
| Triphenyl Phosphate | LC50 | 0.36 mg/l | Oncorhynchus mykiss (rainbow trout) | 96 h |

Toxicity to daphnia and other aquatic invertebrates

| Components | Value type | Value | Species | Exposure time |
|---------------------|------------|-----------|----------------------------|---------------|
| Triphenyl Phosphate | EC50 | 1 mg/l | Daphnia magna (Water flea) | 48 h |
| Triphenyl Phosphate | EC50 | 0.36 mg/l | Chironomus sp. (midge) | 48 h |

Toxicity to algae

| Components | Value type | Value | Species | Exposure time |
|---------------------|------------|--------|---|---------------|
| Triphenyl Phosphate | EC50 | 2 mg/l | Pseudokirchneriella subcapitata (green algae) | 96 h |

M-Factor (Acute aquatic toxicity) 1

Toxicity to fish (Chronic toxicity)

| Components | Value type | Value | Species | Exposure time |
|---------------------|------------|------------|-------------------------------------|---------------|
| Triphenyl Phosphate | EC10 | 0.037 mg/l | Oncorhynchus mykiss (rainbow trout) | 30 d |

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

| Components | Value type | Value | Species | Exposure time |
|---------------------|------------|------------|----------------------------|---------------|
| Triphenyl Phosphate | NOEC | 0.254 mg/l | Daphnia magna (Water flea) | 21 d |

M-Factor (Chronic aquatic toxicity) 1

Ecotoxicology Assessment

Acute aquatic toxicity Very toxic to aquatic life.

Chronic aquatic toxicity Toxic to aquatic life with long lasting effects.

Persistence and degradability

Components:

115-86-6:

Biodegradability

| Components | Test Type | Biodegradation | Result | Exposure time | Concentration | Inoculum |
|---------------------|-----------|----------------|-----------------------|---------------|---------------|------------------|
| Triphenyl Phosphate | aerobic | 83 - 94 % | Readily biodegradable | 28 d | 100 mg/l | activated sludge |

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information

Do not flush into surface water or sanitary sewer system. Ecological injuries are not known or expected under normal use.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods/Disposal considerations

Waste from residues : Where possible recycling is preferred to disposal or incineration. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Contaminated packaging : Where possible recycling is preferred to disposal or incineration. Can be landfilled or incinerated, when in compliance with local regulations.

14. TRANSPORT INFORMATION

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

UNRTDG

Not regulated as a dangerous good

National Regulations

GB 6944/12268

Not regulated as a dangerous good

15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:

| | |
|------------------------|---|
| REACH (European Union) | : For further information, please contact: Manufacturer, importer, supplier |
| CH INV (Switzerland) | : The formulation contains substances listed on the Swiss Inventory Not in compliance with the inventory |
| TSCA (USA) | : On TSCA Inventory |
| DSL (Canada) | : All components of this product are on the Canadian DSL |
| AICS (Australia) | : On the inventory, or in compliance with the inventory |
| NZIoC (New Zealand) | : On the inventory, or in compliance with the inventory |
| ENCS (Japan) | : On the inventory, or in compliance with the inventory |
| ISHL (Japan) | : For further information, please contact: Manufacturer, importer, supplier |
| KECI (Korea) | : On the inventory, or in compliance with the inventory |
| PICCS (Philippines) | : On the inventory, or in compliance with the inventory |
| IECSC (China) | : On the inventory, or in compliance with the inventory |
| TCSI (Taiwan) | : For further information, please contact: Manufacturer, importer, supplier |
| EHSNR (Malaysia) | : For further information, please contact: Manufacturer, importer, supplier |
| CICR (Turkey) | : For further information, please contact: Manufacturer, importer, supplier |

Other applicable national regulatory information

Not applicable

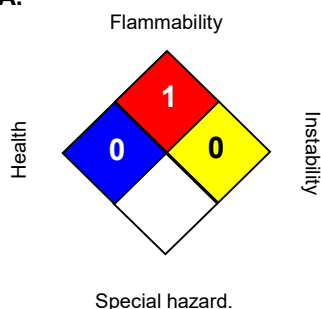
16. OTHER INFORMATION

Further information

Registered trademark : SABIC and brands marked with TM are trademarks of SABIC or its subsidiaries or affiliates.

Prepared by : Product Stewardship

NFPA:



HMIS III:

| | |
|------------------------|----------|
| HEALTH | 0 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Disclaimer

This Safety Data Sheet (SDS) information is provided based on the hazard communication regulations for the region or country in which the purchaser is located and for the use of the persons required to receive this information under those regulations. The information is neither designed nor recommended for any other use or for use by any other person, including for compliance with other laws. This SDS is valid and applicable only to this product as initially sold by us. This SDS is not valid unless it has been obtained directly from Saudi Basic Industries Corporation or any of its affiliates, or posted or viewed on a SABIC website. Modification of this SDS, unless specifically authorized by us, is strictly prohibited. This SDS is based on information that is believed to be reliable at the date of its issuance, but may be subject to change as new information becomes available. Because it is not possible to anticipate all conditions of use, each purchaser and user of this product is responsible for making its own determination as to: (i) the safe and proper handling of this product in its own particular use of this material; and (ii) the suitability of this product for the user's particular use. **THE INFORMATION SET FORTH HEREIN DOES NOT CONSTITUTE OR CREATE ANY REPRESENTATION OR WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND DOES NOT ALTER OUR STANDARD CONDITIONS OF SALE.**

NFPA/HMIS disclaimer

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety., Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk., Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

CN / EN

End of Safety Data Sheet