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

### 1.1 Product identifiers

| | |
|---|---|
| Chemical Name | TRIS (NONYLPHENYL) PHOSPHITE |
| CAS NO. | 26523-78-4 |

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

1. AO TNPP is a versatile phosphite stabilizer which is useful in a large number of polymers such as polyethylene, polypropylene, polystyrene, HDPE, LLDPE, SBR, ABS, PVC etc.
2. AO TNPP is also a suitable stabilizer for elastomers such as SBR, NBR.
3. AO TNPP is a high purity, cost effective stabilizer that improves color and processing stability.

**Details of the supplier of the safety data sheet**

**COMPANY**

POLYMER ADD (THAILAND) CO., LTD.
106, Chalaremprakiat, Lor 9, Soi 22, Yak 5,Nongbon, Prawet,Bangkok
Bangkok - 10250
Thailand
Telephone : 0804531391
Email - contact@polymeradd.co.th

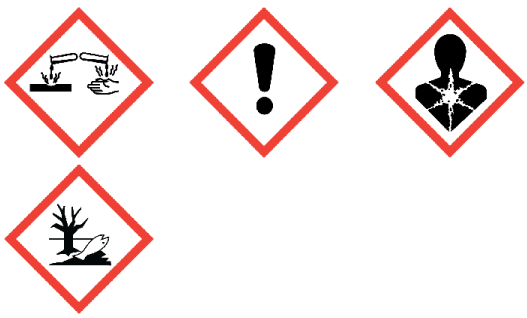
## 2 HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

| | |
|---|---|
| Human Health | Skin irritation (Category 2), H315<br>Serious eye damage (Category 1), H318<br>Skin sensitization (Category 1), H317<br>Reproductive toxicity (Category 2), H361fd |
| Environment | Short-term (acute) aquatic hazard (Category 1), H400<br>Long-term (chronic) aquatic hazard (Category 1), H410 |

### 2.2 Labelling according Regulation (EC) No 1272/2008 [CLP]

**Pictogram**



**Signal word** Danger

| | |
|---|---|
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction. |

| | | |
|---|---|---|
| | H318 | Causes serious eye damage. |
| | H361fd S | uspected of damaging fertility. Suspected of damaging the unborn child. |
| | H410 | Very toxic to aquatic life with long lasting effects. |
| | P201 | Obtain special instructions before use |
| | P273 | Avoid release to the environment. |
| | P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| | P302 + P352 I | IF ON SKIN: Wash with plenty of water. |
| | P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lense |
| | P308 + P313 | IF exposed or concerned: Get medical advice/ attention |
| | **According to European Directive 67/548/EEC as amended** | none |
| 2.3 | Other hazards | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

| | |
|---|---|
| **Component** | |
| **Chemical Name** | Nonylphenol |
| **CAS NO** | 25154-52-3 |
| **EC Number** | 246-672-0 |
| **Molecular Formula** | C15H24O |
| **Molecular Weight** | 220.35 |
| **Concentration** | < 5% |
| **Component** | |
| **Chemical Name** | Phenol |
| **CAS NO** | 108-95-2 |
| **EC Number** | 203-632-7 |
| **Molecular Formula** | C6H5OH |
| **Molecular Weight** | 94.11 |
| **Concentration** | < 0.1% |
| **Component** | |

| | |
|---|---|
| **Chemical Name** | Di(nonylphenyl)phenylphosphite |
| **CAS NO** | 25417-08-7 |
| **EC Number** | |
| **Molecular Formula** | C36H50O3P |
| **Molecular Weight** | 561.76 |
| **Concentration** | 0.05% |

## 4 FIRST AID MEASURES

### 4.1 Description of first aid measures

**General advice**

Show this material safety data sheet to the doctor in attendance.

| | |
|---|---|
| **If inhaled** | After inhalation: fresh air. Call in physician. |
| **In case of skin contact** | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician |
| **In case of eye contact** | After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses. |
| **If swallowed** | After swallowing: immediately make victim drink water (two glasses at most). Consult a physician |

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5 FIREFIGHTING MEASURES

### 5.1 Extinguishing media

| | |
|---|---|
| **Suitable extinguishing media** | Foam Carbon dioxide (CO2) Dry powder |

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides
Oxides of phosphorus
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

| | | |
|---|---|---|
| 5.3 | **Advice for firefighters** | Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. |
| 5.4 | **Further information** | Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water |

## 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols.
Avoid substance contact.
Ensure adequate ventilation.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains

### 6.3 Methods and materials for containment and cleaning up

Cover drains.
Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up carefully with liquid-absorbent material (e.g. Chemizorb®).
Dispose of properly.
Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

## 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

For precautions see section 2.2.

### 7.2 Information about protection against explosions and fires

No data available

### 7.3 Conditions for safe storage including any incompatibilities

Tightly closed

### 7.4 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 **Control parameters**

**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Body Protection**

protective clothing

**Respiratory protection**

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system

**Control of environmental exposure**

Do not let product enter drains.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| a)Appearance | Colorless to light yellow viscous liquid |
| b)Odour | phenol-like |
| c)Odour Threshold | No data available |
| pH | No data available |
| e)Melting point/freezing point | 6°C |
| f)Initial boiling point and boiling range | 322°C |
| g)Flash point | 207°C |
| h)Evaporation rate | No data available |
| i)Flammability (solid or gas) | No data available |
| j)Upper/lower flammability or explosive limits | No data available |
| k)Vapour pressure | 0.058 Pa at 25°C |
| l)Vapour density | No data available |
| m)Relative density | 0.98 g/cm3 at 20°C |
| n)Water solubility | Upper value: <0.05 mg.L-1 at 20°C |

| | | |
|---|---|---|
| | o)Partition coefficient: n-octanol/water | log Pow: 14 at 25 °C |
| | p)Autoignition temperature | No data available |
| | q)Decomposition temperature | No data available |
| | r)Viscosity | 6000 cps at 25°C |
| | s)Explosive properties | No data available |
| | t)Oxidizing properties | No oxidising properties |
| 9.2 | **Other safety information** | |
| | Bulk Density | No data available |

## 10 STABILITY AND REACTIVITY

| | | |
|---|---|---|
| 10.1 | Reactivity | Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash |
| 10.2 | Chemical stability | The product is chemically stable under standard ambient conditions (room temperature) . |
| 10.3 | Possibility of hazardous reactions | No data available |
| 10.4 | Conditions to avoid | Strong heating. |
| 10.5 | Incompatible materials | Oxidizing agents, Strong reducing agents, Organic materials, acidsStrong acids and strong bases, Water |
| 10.6 | Hazardous decomposition products | In the event of fire: see section 5 |

## 11 TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute oral toxicity** | Rat- 19.5 +/- 3.3 gram/kg bw |
| **Acute Inhalation toxicity** | No data |
| **Acute dermal toxicity** | Rat- > 2000 mg/kg bw |
| **Skin corrosion/irritation** | Rabbit- A dose of 0.5 ml liquid test substance (TNPP purity: 99.3%) |
| **Serious eye damage/eye irritation** | Rat - Single instillation, unrinsed (TNPP purity: 99.3%) |
| **Respiratory or skin sensitization** | No data |
| **Germ cell mutagenicity** | Not evaluated in this dossier |
| **Carcinogenicity** | Not evaluated in this dossier |
| **Specific target organ toxicity - repeated exposure** | oral - rat - NOAEL = 1% TNPP in the diet ( about 1000 mg/kg bw) |

| | |
|---|---|
| **Inhalation** | No data |
| **Skin** | Guinea pig - Maximisation Test OECD 406 (TNPP purity > 94%) Induction with 5% TNPP intradermal and 10% topical. Challenge with 1% TNPP |

## 12 ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | 1. Species: Oncorhynchus mykiss LC50 (96 hours) > 100 mg/L Method: OECD GL 203 (TNPP purity: 99.8%) 2. Species: Brachydanio rerio LC50 (96 hours) = < 10 mg/L LC50 (48 hours) = 16 mg/L Method: Dir. 84/449/EEC C.1 (TNPP purity > 94% 3.Species: Leuciscus idus LC50 (48 hours) = 7.1 mg/L Method: DIN 38412-L15 |
| Toxicity to daphnia and other aquatic invertebrates | Species: Daphnia magna NP (estimated) EC50 (48 hours) = 0.009 mg/L Method: OECD GL 202 (Test substance: Hydrolyzed solution of tris-nonylphenyl phosphite (TNPP; CAS n° 26523-78-4; from Dover Chemical Corporation): Purity of initial TNPP, 99.8% (stock solution)). |
| Toxicity to Algae/Aquatic plants | 1. Species: Selenastrum capricornutum NOEC (72 hours) 100 mg/L (growth rate) Method: OECD GL 201 2. Species: Scenedesmus subspicatus NOEC (72 hours) 100 mg/L (biomass) Method: Dir. 87/302/EEC, part C., p. 89 (Purity of TNPP > 94%) |
| Toxicity to microorganisms | species: Lumbriculus variegatus Reproduction and biomass: LOEC(28 days) = 63 mg a.i./kg NOEC (28 days) < 63 mg a.i./kg Estimated NOECs: EC10(reproduction) = 44 mg a.i./kg EC10(biomass) = 25 mg a.i./kg Method: OECD GL 225 |

### 12.2 Persistence and degradability

**Biodegradation**

No data

### 12.3 Bio accumulative potential

A calculated BCF of 3.162 L/kg has been obtained using EpiWin. Using EUSES v2.1 calculation, a bioconcentration factor of 479 L/kg could be calculated for fish taking into account a log Kow >10 (the worst case for BCF obtained when using the parabolic equation giving the BCF for fish based on the Kow, (E.C., 2003)

| | | |
|---|---|---|
| 12.4 | Mobility in soil | A calculated BCF of 3.162 L/kg has been obtained using EpiWin. Using EUSES v2.1 calculation, a bioconcentration factor of 479 L/kg could be calculated for fish taking into account a log Kow >10 (the worst case for BCF obtained when using the parabolic equation giving the BCF for fish based on the Ko |
| 12.5 | Results of PBT and vPvB assessment | This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |
| 12.6 | Other adverse effects | |

## 13 DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

## 14 TRANSPORT INFORMATION

### 14.1 UN number

| ADR/RID | IMDG | IATA |
|---|---|---|
| 3082 | 3082 | 3082 |

### 14.2 UN proper shipping name

| ADR/RID | IMDG | IATA |
|---|---|---|
| ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris(monononylphenyl)phosphite, 4-Nonylphenol, branched) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris(monononylphenyl)phosphite, 4-Nonylphenol, branched) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris(monononylphenyl)phosphite, 4-Nonylphenol, branched) |

### 14.3 Transport hazard class(es)

| ADR/RID | IMDG | IATA |
|---|---|---|
| 9 | 9 | 9 |

### 14.4 Packaging group

| ADR/RID | IMDG | IATA |
|---|---|---|
| III | III | III |

### 14.5 Environmental hazards

| ADR/RID | IMDG Marine pollutant | IATA |
|---|---|---|
| yes | yes | yes |

14.6 Special precautions for user

## 15 REGULATORY INFORMATION

### 15.1 Safety health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## 16 OTHER INFORMATION

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Very toxic to aquatic life with long lasting effect |
| H361fd | May cause an allergic skin reaction. |
| H400 | Causes serious eye damage. |
| H410 | Suspected of damaging fertility. Suspected of damaging the unborn child. |

| | |
|---|---|
| Month of Creation | March, 2023 |
| Month of Revision | March, 2027 |