

# Safety Data Sheet(SDS)

Last revised date : 05-02-2024

## 1. Identification

1) Product identifier : PC/ABS\_FR NH-1000T

2) Recommended use of the chemical and restrictions on use

○ Recommended use of the chemical

Others(Synthetic Resin Plastics)

○ Restrictions on use

Use for recommended use only

Do not use it for weapons manufacturing and related purposes.

3) Details of the supplier of the safety data sheet

○ Seller

Company name : Lotte Chemical Corporation

Address : 05551 Lotte World Tower, 300, Olympic-ro, Songpa-gu, Seoul, 05551 Rep. of KOREA

Telephone number :

Basic Chemicals	+82-2-829-4114	Advanced Materials	+82-31-596-3114
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Emergency phone number

Yeosu Plant	+82-61-688-2100	Ulsan Plant	+82-52-278-3500
Daesan Plant	+82-41-689-5900	Yeosu Plant(Advanced)	+82-61-689-1100

Fax number : +82-2-834-6070

## 2. Hazards identification

1) Hazard classification

- Not applicable

2) Allocation label elements

Hazard pictograms

- Not applicable

Signal word

- NONE

Hazard statements

- Not applicable

## Precautionary statements

- Not applicable

### 3) Other hazards:

According to experience and information provided, this product does not affect harmful effects when using and handling it as a regulation.

## 3. Composition/Information on ingredients

Chemical name	Common name	CAS No.	Content(wt%)
2,2-Bis(4-hydroxyphenyl) propane polycarbonate	Poly[oxycarbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene]	24936-68-3	>=60 ~ <=70
2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene	ABS Resin	9003-56-9	>=20 ~ <=30
Triphenyl phosphate	triphenyl phosphate	115-86-6	>=1 ~ <=11

## 4. First-aid measures

### 1) Following eye contact

- Call a physician immediately.

### 2) Following skin contact

- Get medical attention if irritation develops and persists.  
- Remove contaminated clothing and shoes.

### 3) Following inhalation

- If symptoms persist, call a physician.  
- Move to fresh air.

### 4) Following ingestion

- If accidentally swallowed obtain immediate medical attention.

### 5) Delayed and immediate effects and also chronic effects from short and long term exposure

No data available

### 6) Advice to physician

- In the case of accident or if you feel unwell, seek medical advice immediately.

## 5. Fire-Fighting measures

- 1) Suitable (and unsuitable) extinguishing media
  - Suitable extinguishing media
    - Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
  - Unsuitable extinguishing media
    - Do not use a solid water stream as it may scatter and spread fire.
- 2) Special hazards arising from the substance or mixture
  - Pyrolytic product
    - No data available
  - Risk of fire and explosion
    - Heating or fire can release toxic gas.
  - Other
    - May cause toxic effects if inhaled.
- 3) Special protective equipment for firefighters
  - In the event of fire, wear self-contained breathing apparatus.

## 6. Accident release measures

- 1) Personal precautions, protective equipment and emergency procedures
  - Avoid dust formation.
- 2) Environmental precautions
  - Try to prevent the material from entering drains or water courses.
- 3) Methods and materials for containment and cleaning up
  - Keep in suitable, closed containers for disposal.
  - Pick up and arrange disposal without creating dust.

## 7. Handling and storage

- 1) Precautions for safe handling
  - For personal protection see section 8.
  - Smoking, eating and drinking should be prohibited in the application area.
- 2) Conditions for safe storage (including any incompatibilities)
  - Please note that materials and conditions to be avoided.
  - Store in a dry place. Store in a closed container.

## 8. Exposure controls & personal protection

### 1) Chemical exposure limits, Biological exposure standard

Components	ACGIH regulations	Biological limit values
Triphenyl phosphate	3 mg/m <sup>3</sup> TWA	No data available

### 2) Appropriate engineering controls

- Ensure adequate ventilation and exhaust ventilation at the workplace.

### 3) Personal protective equipment

- Respiratory protection
  - If you have a direct contact or exposed to the material, wear the appropriate form of respiratory protection certified.
- Eye protection
  - If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
- Hand protection
  - Wear chemical safety gloves.
- Skin protection
  - Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

## 9. Physical and chemical information

Property name	Values	Source
Appearance		
Physical state	Soild	
Color	Depends on customer needs	
Odor	Odorless	
Odor threshold	No data available	
pH	No data available	
Melting point/freezing point	No data available	
Initial boiling point and boiling range(°C)	No data available	
Flash point(°C)	No data available	
Evaporation rate	No data available	
Flammability(solid, gas)	No data available	
Upper/lower flammability or explosive limits	No data available	
Vapour pressure	No data available	
Solubility(ies)	insolubility (water)	
Vapour density	No data available	

Relative density	No data available	
n-octanol/water partition coefficient	No data available	
Auto ignition temperature	400°C over	
Decomposition temperature	400°C over	
Viscosity(mm <sup>2</sup> /s, 40°C)	No data available	
Molecular weight(mass)	No data available	
Specific gravity	1.1 ~ 1.3	

## 10. Stability and reactivity

### 1) Chemical stability and Possibility of hazardous reactions

- No decomposition if stored and applied as directed.
- Stable at normal ambient temperature and pressure.

### 2) Conditions to avoid

- Follow precautionary advice and avoid incompatible materials and conditions

### 3) Incompatible materials

- Combustible material

### 4) Hazardous decomposition products

- This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regula

## 11. Toxicological information

### 1) Information on the likely routes of exposure

- No data available

### 2) Health hazard information

#### ○ Acute toxicity

- Acute toxicity(Oral) PRODUCT : Not classified(ATEmix = 4445.168mg/kg)

- Triphenyl phosphate  
: LD50 3800 mg / kg experimental species: Rat

- Acute toxicity(Dermal) PRODUCT : Not classified

- Triphenyl phosphate  
: LD50> 7900 mg / kg experimental species: Rabbit

- Acute toxicity(Inhalation:Gases) PRODUCT : Not classified

- No data available

- Acute toxicity(Inhalation:Vapours) PRODUCT : Not classified
  - No data available
- Acute toxicity(Inhalation:Dust/mist) PRODUCT : Not classified
  - No data available
- Skin corrosion/irritation PRODUCT : Not classified
  - Triphenyl phosphate
    - : Skin corrosion / irritation test with a rabbit, non-irritating (OECD TG 404, GLP)
- Serious eye damage/eye irritation PRODUCT : Not classified
  - Triphenyl phosphate
    - : Serious eye damage / irritation test with rabbits, unstimulated (conjunctival index = 0.3) (OECD TG 405, GLP)
- Respiratory sensitization PRODUCT : Not classified
  - No data available
- Skin sensitization PRODUCT : Not classified
  - Triphenyl phosphate
    - : Skin sensitization test using guinea pig, the non-sensitization (OECD TG 406, GLP)
- Carcinogenicity PRODUCT : Not classified
  - Triphenyl phosphate
    - : A4 (ACGIH)
- Germ cell mutagenicity PRODUCT : Not classified
  - Triphenyl phosphate
    - : Return using an in vitro microbial mutagenesis test result does not cause mutagenic
- Reproductive toxicity PRODUCT : Not classified
  - Triphenyl phosphate
    - : Targeting the rat first-generation reproduction toxicity test results, the highest concentration of no negative impact with respect to reproduction to the mother and the fetus was observed to (NOEL P = 690 mg / kg bw / day (actual dose received)) (OECD TG 415) inhalation intended for rabbit fetal developmental toxicity test (OECD TG 414, GLP), hayeoteum the pyeyeop member generating high in 200mg / kg concentration group (NOAEC (maternal toxicity)> = 200 mg / kg bw / day (actual dose received ), NOAEC (developmental toxicity)> = 200 mg / kg bw / day (actual dose received))
- Specific target organ toxicity single exposure PRODUCT : Not classified
  - No data available
- Specific target organ toxicity repeated exposure PRODUCT : Not classified
  - Triphenyl phosphate
    - : 90-day repeated administration rodent targeting rat oral toxicity test results, 7500ppm (583 mg / kg bw / day (male), 632 mg / kg bw / day (female)), weight increase and the red brown color of the liver between the concentration group of the discoloration was observed (NOAEL (number) = 105 mg / kg bw / day, NOAEL (female) = 117 mg / kg bw / day (OECD TG 408, GLP) intended for rabbit 21/28 day dermal toxicity test , the

special effect is not observed (EPA OPPTS 870.3200). NOAEL = 1000 mg / kg bw / day

- Aspiration hazard PRODUCT : Not classified
  - No data available

## 12. Ecological information

### 1) Ecotoxicity

- Fish
  - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene
    - : LC50 11.5 mg / ℓ 96 hr *Pimephales promelas*
  - Triphenyl phosphate
    - : LC50 0.4 mg / ℓ 96 hr *Oncorhynchus mykiss* (EPA 660 / 3-75-009)
- Crustaceans
  - Triphenyl phosphate
    - : LC50 0.18 mg / ℓ 96 hr *Mysidopsis bahia* (EPA 660 / 3-75-009)
- Aquatic algae
  - Triphenyl phosphate
    - : NOEL 0.25 mg / ℓ 72 hr *Selenastrum capricornutum* (NOEC: 0.25 mg / L)

### 2) Persistence and degradability

- Degradability
  - No data available
- Biodegradation
  - Triphenyl phosphate
    - : 94% ~ 83% 28 day (OECD Guideline 301 C)

### 3) Bioaccumulative potential

- n-octanol water partition coefficient
  - Triphenyl phosphate
    - : 4.59 log Kow
- Bioconcentration factor(BCF)
  - Triphenyl phosphate
    - : 144

### 4) Mobility in soil

No data available

### 5) Other adverse effects

No data available

## 13. Disposal considerations

- 1) Disposal methods
  - Empty containers should be taken to an approved waste handling site for recycling or disposal.
- 2) Precautions (including disposal of contaminated container or package)
  - Dispose of in accordance with local regulations.
  - Send to a licensed waste management company.

## 14. Transport information

- 1) UN No. : Not applicable
- 2) Proper shipping name : Not applicable
- 3) Hazard class : Not applicable
- 4) Packing group : Not applicable
- 5) Marine pollutant : No
- 6) Special precautions for user related to transport or transportation measures :
  - Emergency measures in case of fire : Not applicable
  - Emergency measures in the effluent : Not applicable

### - ADR

- Tunnel restriction code : Not applicable

### - IMDG

- Marine pollutant : No

### - Air transport(IATA)

- UN No. : Not applicable
- Proper shipping name : Not applicable
- Class or division : Not applicable
- Packing group : Not applicable

### - remarks:

As a result of the dissolution test (OECD TG 120, Solution/Extraction Behavior of Polymers in water) of 4,4'-(1-Methylethylidene)bis[2,6-dibromophenol] ("TBBA"), TBBA was not detected, and TBBA Water solubility is very low, 0.148 ~ 2.34 mg/L. Accordingly, it was confirmed that the product is not harmful to the water environment. Therefore, the aquatic environment hazard classification (refer to item 2) and the toxicity information for TBBA (refer to item 12) were prepared to provide information to users, and the product is not classified as a hazardous material for transportation.



## 15. Regulatory information

### Australia Industrial Chemicals Act

- Not applicable

### China Inventory of Existing Chemical Substances (IECSC)

- Inventory - China - Inventory of Existing Chemical Substances (IECSC)
  - 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present [21562]
  - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present [03641]
  - Triphenyl phosphate : Present [22535]

### 92/32/EEC

- Not applicable

European Union Official Journal of the European Communities 15 June 1990 - Annex Based on Article 13 of Directive 67/548/EEC Amended by Directive 79/831/EEC

- Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)
  - Triphenyl phosphate : 204-112-2

### Japan Law Concerning the Examination and Regulations of Manufacture, etc. of Chemical Substances

- Inventory - Japan - Existing and New Chemical Substances (ENCS)
  - 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : (7)-738
  - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : (6)-176
  - Triphenyl phosphate : (3)-2522, (3)-3363

### New Zealand Environmental Protection Authority, Inventory of Chemicals

- Inventory - New Zealand - Inventory of Chemicals (NZIoC)
  - 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : May be used as a single component chemical under an appropriate group standard
  - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : May be used as a single component chemical under an appropriate group standard
  - Triphenyl phosphate : HSNO Approval: HSR003099

### Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

### Taiwan Chemical Substance Inventory

- Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI)
  - 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present

- Triphenyl phosphate : Present

#### U.S. Toxic Substances Control Act

- Inventory - United States - Section 8(b) Inventory (TSCA)

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present [XU] (ACTIVE)

- Triphenyl phosphate : Present [TP] (ACTIVE)

#### Vietnam National Chemicals Inventory (NCI)

- Inventory - Vietnam - National Chemicals Inventory (NCI) (DRAFT)

- 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present 15829

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present 12125

- Triphenyl phosphate : Present 02237

## 16. Other information

### 1) Reference

NCIS, KOSHA, Montreal Protocol, ECHA, OECD SIDS, EU IUCLID, HSDB(PubChem), NITE, NTP, ACGIH, IARC, NIOSH, ChemIDplus, EPA, EPI Suite, INCHEM

### 2) Issue date : 26-12-2022

### 3) Revision date

- Revised date count : 2-3

- Last revised date : 05-02-2024

### 4) Other

ACGIH : American Conference of Governmental Industrial Hygienists

ADR : Agreement Concerning the International Carriage of Dangerous Goods by Road

ATE : The Acute Toxicity Estimate

ECHA : European Chemicals Agency

EPA : United States Environmental Protection Agency

EPI Suite : The Estimation Programs Interface for Windows

EU IUCLID : International Uniform Chemical Information Database

HSDB : Hazardous Substances Data Bank

IARC : International Agency for Research on Cancer

IATA : International Air Transport Association

IMDG : International Maritime Dangerous Goods Codes

INCHEM : Internationally Peer Reviewed Chemical Safety Information

M-Factor : The Multiplication Factor

NIOSH : National Institute of Occupational Safety and Health

NITE : National Institute of Technology and Evaluation(JAPAN)

NTP : National Toxicology Program

SCL : Specific Concentration Limit

