

Safety Data Sheet(SDS)

Last revised date : 2022-07-25

1. Identification

1) Product identifier : Flame Retardant PC/GF HN-3104F

2) Recommended use of the chemical and restrictions on use

Recommended use of the chemical

48. Others(Synthetic Resin Plastics)

Restrictions on use

Use for recommended use only

3) Details of the supplier of the safety data sheet

Supplier

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 Materials)	+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%)
Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene]	Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene]	24936-68-3	>=85 ~ <=95
Glass, oxide	Glass, oxide, chemicals	65997-17-3	>=5 ~ <=15

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
 - Contains no substances with occupational exposure limit values.
- 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	solid	
Color	Depends on customer needs	
Odor	odourless	
Odor threshold	Not applicable	
pH	Not applicable	
Melting point/freezing point	Not applicable	
Initial boiling point and boiling range(°C)	Not applicable	
Flash point(°C)	Not available	
Evaporation rate	Not applicable	
Flammability(solid, gas)	Not available	
Upper/lower flammability or explosive limits	Not applicable	
Vapour pressure	Not applicable	
Solubility(ies)	Not available	
Vapour density	Not applicable	
Relative density	Not available	
n-octanol/water partition coefficient	Not applicable	
Auto ignition temperature	Not available	
Decomposition temperature	Over 400°C	
Viscosity(mm ² /s, 40°C)	Not applicable	
Molecular weight(mass)	Not available	
density	Not available	
SAPT	Not available	

Specific gravity	1.20 - 1.40	
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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
 - No data available
 - Acute toxicity(Dermal) PRODUCT : Not classified
 - No data available
 - 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
 - No data available

- Serious eye damage/eye irritation PRODUCT : Not classified
 - No data available
- Respiratory sensitization PRODUCT : Not classified
 - No data available
- Skin sensitization PRODUCT : Not classified
 - No data available
- Carcinogenicity PRODUCT : Not classified
 - No data available
- Germ cell mutagenicity PRODUCT : Not classified
 - No data available
- Reproductive toxicity PRODUCT : Not classified
 - No data available
- Specific target organ toxicity single exposure PRODUCT : Not classified
 - No data available
- Specific target organ toxicity repeated exposure PRODUCT : Not classified
 - No data available
- Aspiration hazard PRODUCT : Not classified
 - No data available

12. Ecological information

1) Ecotoxicity

● Fish

- Glass, oxide

: LC50 > 1000 mg / l 96 hr, (OECD TG 203, ring Formula test i.e. all test media were changed every 24 hours, fresh water, GLP)

● Crustaceans

- Glass, oxide

: NOEC ≥ 1000 mg / l 3 day Daphnia magna, (OECD TG 202, ring formulas, fresh water, GLP)

● Aquatic algae

- Glass, oxide

: NOEC ≥ 1000 mg / l 3 day, (OECD TG 201, ring formulas, GLP)

2) Persistence and degradability

No data available

3) Bioaccumulative potential

No data available

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. : No data available

2) Proper shipping name : No data available

3) Hazard class : No data available

4) Packing group : No data available

5) Marine pollutant : No data available

6) Special precautions for user related to transport or transportation measures :

Emergency measures in case of fire : No data available

Emergency measures in the effluent : No data available

- ADR

- Tunnel restriction code : No data available

- IMDG

- Marine pollutant : No data available

- Air transport(IATA)

- UN No. : No data available
- Proper shipping name : No data available
- Class or division : No data available
- Packing group : No data available

15. Regulatory information

Australia Industrial Chemicals Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

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

- Glass, oxide : Present [04789]

- Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] : Present [21562]

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)

- Glass, oxide : 266-046-0

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

● Inventory - Japan - Existing and New Chemical Substances (ENCS)

- Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] : (7)-738

New Zealand Environmental Protection Authority, Inventory of Chemicals

● Inventory - New Zealand - Inventory of Chemicals (NZIoC)

- Glass, oxide : May be used as a single component chemical under an appropriate group standard

- Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] : May be used as a single component chemical under an appropriate group standard

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

● Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI)

- Glass, oxide : Present

- Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] : Present

Vietnam National Chemicals Inventory (NCI)

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

- Glass, oxide : Present 21278

- Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] : Present 15829

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 : 2017-05-26

3) Revision date

- Revised date count : 2-2
- Last revised date : 2022-07-25

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
OECD SIDS : Organization for Economic Co-operation and Development Screening Information Dataset