

Safety Data Sheet(SDS)

Print Date : 27-08-2025

Last revised date : 25-08-2025

1. Identification

1) Product identifier : PC/GF HF-3200H

2) Relevant identified uses of the substance or mixture and uses advised against

○ Relevant identified uses

Others(Synthetic Resin Plastics)

○ Restrictions on use

Use for recommended use only

Do not use it for weapons manufacturing and related purposes.

3) Supplier information

○ 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
-----------------	----------------	--------------------	-----------------

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%)
2,2-Bis(4-hydroxyphenyl) propane polycarbonate	Poly[oxycarbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene]	24936-68-3	$\geq 70 \sim \leq 80$
Glass, oxide	Glass, oxide, chemicals	65997-17-3	$\geq 15 \sim \leq 25$
Additives			$\geq 0.1 \sim \leq 3$

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	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	
Vapour density	No data available	
Relative density	No data available	
n-octanol/water partition coefficient	No data available	

Auto ignition temperature	No data available	
Decomposition temperature	400 °C over	
Viscosity(mm²/s, 40°C)	No data available	
Molecular weight(mass)	No data available	
Specific gravity	1.2- 1.5	

10. Stability and hazardous 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) Delayed and immediate effects and also chronic effects from short and long term exposure

○ Acute toxicity

● Acute toxicity(Oral) PRODUCT : Not classified

- Glass, oxide

: LD50 >2000 mg/kg Species: Rat, (Route of administration: gavage, female/male, OECD TG 423, GLP)

● 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
 - Glass, oxide
 - : Edema score: 0/0, fully recovered, no irritation, Rabbit, OECD TG 404
- Serious eye damage/eye irritation PRODUCT : Not classified
 - Glass, oxide
 - : No irritation, Human
- Respiratory sensitization PRODUCT : Not classified
 - No data available
- Skin sensitization PRODUCT : Not classified
 - Glass, oxide
 - : no irritability
- Carcinogenicity PRODUCT : Not classified
 - No data available
- Germ cell mutagenicity PRODUCT : Not classified
 - Glass, oxide
 - : in vitro - Genotoxicity: positive (Chinese hamster Ovary (CHO))
- 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
 - Glass, oxide
 - : Inhalation (subchronic): Rats were exposed to inhalation of E-glass microfiber (code 104E) fibers for 7 hours per day for an actual exposure of 1, 3, 8 or 14 days for up to 1 hour. 3 weeks. After sacrifice of the lungs, BAL fluid was examined for total cell number, fraction of granulocytes and total concentration of protein. This analysis showed that the total cell number, granulocyte fraction, and total protein concentration progressively increased with increasing cumulative repeated exposure duration. The data show the induction of an inflammatory response even after only 7 hours of exposure one day. Furthermore, we investigated the analysis of the number of proliferating cells per mm bronchial duct using BrdU DNA labeling, which significantly increased the number of proliferating cells in the lungs of animals exposed to E-glass microfibers (statistically at $p < 0.05$ compared to untreated). Note that). controls). It also indicates an inflammatory response in the lung parenchyma. In conclusion, the study data indicate that inhalation of E-glass microfibers can induce an inflammatory response in the lungs of rats after a single exposure or repeated exposures from 3 to 14 days. Rats were exposed to inhalation of E-glass microfiber (code 104E) fibers for 7 hours per day for actual exposure for up to 1, 3, 8 or 14 days. 3 weeks. After sacrificing the lungs, BAL fluid was examined for total cell number, granulocyte fraction and total concentration of protein. This analysis showed a progressive increase in total cell number, granulocyte fraction and total protein concentration as the cumulative repeated

exposure period increased. This result indicates the induction of an inflammatory response even after 1 day of exposure for 7 hours. In addition, as a result of analyzing the number of proliferating cells per mm bronchial tube using the BrdU DNA label, the number of proliferating cells was significantly increased in the lungs of animals exposed to E-glass microfibers (statistically significant at $p < 0.05$). appear). It is known to indicate an inflammatory response in the lung parenchyma. In conclusion, the study data indicate that inhalation of E-glass microfibers can induce an inflammatory response in the lungs of rats after single or repeated exposure for 3 to 14 days. Inhalation exposure at a concentration of 650 ppm resulted in brain and thymic lesions of the deceased animals. The cause of death occurred because these degenerative lesions were not observed in rats (males) exposed to 650 ppm for 14 weeks. However, half of the survivors in the 650 ppm group had glial gliosis or malaria in the brain's vestibular nucleus and constricted body. Central nervous system lesions were accompanied by neurobehavioral abnormalities. Each rat exposed to 2,4-pentanedione displaying abnormalities during the modified Irwin screening trial was subsequently found to have brain damage. In general, the opposite of this statement was true. The exception was two men exposed to 650 ppm who had a normal response in the presence of brain malaria during the Irwin test. In addition, several females exposed to 650 ppm showed acute degeneration of the nuclear and vestibular matrix, but died before performing the Irwin test. As electron microscopy results were negative in the sciatic nerve preparation, the neurotoxic effect of 2,4-pentanedione appears to be central rather than peripheral. The explanation for the difference in mortality between men and women (30% versus 100% for men and women in the 650 ppm exposure group, respectively) is not known. Differences between sexes may be related to brain thiamine, folate, and/or pyridoxine concentrations. Because the proposed mechanism of 2,4-pentanedione toxicity is the inactivation of the B vitamin or its coenzyme. The concentration-response profile for repeated exposure to 2,4-pentanedione is very distinct....

- Aspiration hazard PRODUCT : Not classified
 - No data available

12. Ecological information

1) Ecotoxicity

- Fish PRODUCT : Not classified
 - Glass, oxide
 - : LC50 >1000 mg/l 96 hr Danio rerio, (OECD TG 203, semi-static test ie all test media were changed every 24 hours, fresh water, GLP)
- Crustaceans PRODUCT : Not classified
 - Glass, oxide
 - : NOEC $\geq$ 1000 mg/l 3 day Daphnia magna, (OECD TG 202, semi-static, fresh water, GLP)
- Aquatic algae PRODUCT : Not classified
 - Glass, oxide
 - : NOEC $\geq$ 1000 mg/l 3 day Pseudokirchneriella subcapitata, (OECD TG 201, semi-static formula, GLP)

2) Persistence and degradability

No data available

3) Bioaccumulative potential

No data available

4) Mobility in soil PRODUCT : Not classified

No data available

5) Other adverse effects PRODUCT : Not classified

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 of 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 : Not applicable

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 : Not applicable

- Air transport(IATA)

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

- Maritime transport in bulk according to IMO instruments :

Not applicable

15. Regulatory information

Australia Industrial Chemicals Notification and Assessment Act

- Inventory - Australia - Inventory of Industrial Chemicals (AIIC)
- 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present
- Glass, oxide : Present

China Inventory of Existing Chemical Substances (IECSC)

- Inventory - China - Inventory of Existing Chemical Substances (IECSC)
- 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present [21562]
- Glass, oxide : Present [04789]

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)
- 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : (7)-738

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

U.S. Toxic Substances Control Act

- Inventory - United States - Section 8(b) Inventory (TSCA)
- Glass, oxide : Present (ACTIVE)

Vietnam National Chemicals Inventory (NCI)

- Inventory - Vietnam - National Chemicals Inventory (NCI) (DRAFT)
- 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present 15829
- Glass, oxide : Present 21278

Note

- Not applicable

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 : 2-2
- Last revised date : 25-08-2025

GHS/EN