# Safety Data Sheet(SDS)

Last revised date : 12-07-2024

## 1. Identification

1) Product identifier : PPA/GF HM-4500G

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 |

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%) |
|---|---|---|---|
| Glass, oxide | Glass, oxide, chemicals | 65997-17-3 | >=45 ~ <=55 |
| Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] | Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] | 32131-17-2 | >=45 ~ <=55 |

## 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 available | |
| Initial boiling point and boiling range(℃) | Not applicable | |
| Flash point(℃) | 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) | Insolubility | |
| Vapour density | Not applicable | |
| Relative density | Not available | |
| n-octanol/water partition coefficient | Not applicable | |
| Auto ignition temperature | Not available | |
| Decomposition temperature | Over 400℃ | |
| Viscosity(㎟/s, 40℃) | Not applicable | |
| Molecular weight(mass) | Not available | |
| Density | Not available | |
| SAPT | Not available | |
| Specific gravity | 1.4~1.6 | |

## 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
  - 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
  - Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl]
    : LC50 7.26 ㎎/ℓ 4 hr Experimental species: Rat

○ Skin corrosion/irritation PRODUCT : Not classified
  - Glass, oxide
    : Edema score: 0/0, fully recovered, no irritation, Rabbit, OECD TG 404
  - Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl]
    : Causes severe skin irritation (may cause burns)

○ Serious eye damage/eye irritation PRODUCT : Not classified

- Glass, oxide
  : No irritation, Human
- Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl]
  : Suspected eye irritation based on skin irritation

○ 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
- Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl]
  : Inhalation causes irritation of respiratory tract.

○ Aspiration hazard PRODUCT : Not classified
- No data available

## 12. Ecological information

1) Ecotoxicity

- Fish
  - Glass, oxide
    : LC50 >1000 ㎎/ℓ 96 hr Danio rerio, (OECD TG 203, semi-static test ie all test media were changed every 24 hours, fresh water, GLP)
- Crustaceans
  - Glass, oxide
    : NOEC ≥1000 ㎎/ℓ 3 day Daphnia magna, (OECD TG 202 , semi-static, fresh water, GLP)
- Aquatic algae
  - Glass, oxide
    : NOEC ≥1000 ㎎/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

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 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 Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

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

- Glass, oxide : Present [04789]

- Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] : Present [21400]

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[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] : (7)-357, (7)-382

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[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] : 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[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] : Present

U.S. Toxic Substances Control Act

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

- Glass, oxide : Present (ACTIVE)

- Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] : Present [XU] (ACTIVE)

Vietnam National Chemicals Inventory (NCI)

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

- Glass, oxide : Present 21278

- Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl] : Present 17523

## 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 : 12-07-2024

3) Revision date

○ Revised date count : 2-1

○ Last revised date : 12-07-2024

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