Safety Data Sheet(SDS)

Last revised date : 19-01-2023

1. Identification

1) Product identifier : PA/PPE CA-7009

2) Recommended use of the chemical and restrictions on use

○ Recommended use of the chemical

Others(Synthetic Resin Plastics)

○ Restrictions on use

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%)
Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl]	-	32131-17-2	>=50 ~ <=60
2,6-Dimethylphenol homopolymer	-	25134-01-4	>=30 ~ <=40
Additive			>=5 ~ <=15
Graphite	-	7782-42-5	>=0.1 ~ <=1

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
Graphite	2 mg/m3 TWA (all forms except graphite fibers, respirable particulate matter)	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	≥ 300℃	
Initial boiling point and boiling range(℃)	No data available	
Flash point(℃)	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	No data available	
Viscosity(㎟/s, 40℃)	No data available	
Molecular weight(mass)	No data available	
Specific gravity	1.0 ~ 1.2	

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
  - Graphite
    : LD50> 2000 ㎎ / ㎏ experimental species: Rat (. No deaths OECD Guideline 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

- Graphite

: LC50> 2000 ㎎ / ℓ 4 hr experiment Species: Rat (OECD Guideline 403, GLP)

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

: LC50 7.26 ㎎ / ℓ 4 hr experiment Species: Rat

○ Skin corrosion/irritation PRODUCT : Not classified

- Graphite

: No skin corrosion / irritation test using rabbits found irritating. (OECD Guideline 404, GLP)

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

: Causes severe skin irritation (which may cause burns)

○ Serious eye damage/eye irritation PRODUCT : Not classified

- Graphite

: Not found serious eye damage / irritation test using rabbits irritation. Fully recovered. (Corneal index: 0.33, conjunctival index: 0.33 to 1, conjunctival index: 0.33-1.33, OECD Guideline 405, GLP)

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

: The search eye irritation irritation of the skin on the basis of suspicion

○ Respiratory sensitization PRODUCT : Not classified

- No data available

○ Skin sensitization PRODUCT : Not classified

- Graphite

: No mouse skin sensitization Sensitization test results is found with (cancer). (OECD Guideline 429, GLP)

○ Carcinogenicity PRODUCT : Not classified

- No data available

○ Germ cell mutagenicity PRODUCT : Not classified

- Graphite

: Further in vitro mammalian gene mutation test negative, regardless of the presence or absence of metabolic activation system. (OECD TG 476, GLP) Voice, regardless of the return using the in vitro microbial mutagenesis test the presence or absence of metabolic activation system. (OECD TG 471, GLP) voice regardless of the existence of the system in vitro mammalian chromosome aberration test results of metabolic activation. (OECD TG 473, GLP)

○ Reproductive toxicity PRODUCT : Not classified

- Graphite

: No rat reproductive toxicity test Toxicity was observed using the (male / female). Testis, the epididymis size reduction, NOAEL = 813 mg / kg bw / day (male), 930 mg / kg bw / day (female-during gestation) (OECD Guideline 422, GLP) developmental toxicity / teratogenicity test results toxicity using rats this It is not observed. NOAEL maternal toxicity> 930 - <1 159 mg / kg bw / day, NOAEL developmental toxicity = 930 mg / kg bw / dayOECD 422, GLP)

○ Specific target organ toxicity single exposure PRODUCT : Not classified

- Graphite
  : Acute oral toxicity test results and weight gain, decreased body temperature, acute inhalation toxicity test results females
- Poly[imino(1,6-dioxo-1,6-hexanediyl)imino-1,6-hexanediyl]
  : When inhaled causes irritation of the airway

○ Specific target organ toxicity repeated exposure PRODUCT : Not classified
- Graphite
  : Chronic inhalation toxicity test results affect the lungs, causing the graphite pneumoconiosis. Rats (male / female) to do the chronic oral toxicity test Toxicity was observed using. Testis, the epididymis size reduction, NOAEL = 813 mg / kg bw / day (male), 930 mg / kg bw / day (female-during gestation), chronic inhalation using (OECD TG 422, GLP) rats (male / female) effect on respiratory toxicity test. Liver weight increased, infiltration and interstitial fibrosis increase of interstitial monocytes in the lung, NOAE = 8 mg / m³ air (OECD TG 412, GLP) (target organs: lungs)

○ Aspiration hazard PRODUCT : Not classified
- No data available

12. Ecological information

1) Ecotoxicity

- Fish
  - Graphite
    : LC50 100 ㎎ / ℓ 96 hr Other (Danio rerio, OECD Guideline 203, GLP)
- Crustaceans
  - Graphite
    : EC50 100 ㎎ / ℓ 48 hr Daphnia magna (OECD Guideline 202, GLP)
- Aquatic algae
  - Graphite
    : ErC50 100 ㎎ / ℓ 72 hr Other (Pseudokirchnerella subcapitata, OECD Guideline 201, GLP)

2) Persistence and degradability

No data available

3) Bioaccumulative potential

- n-octanol water partition coefficient
  - 2,6-Dimethylphenol homopolymer
    : (Not applicable)
- Bioconcentration factor(BCF)

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 : 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

15. Regulatory information

Australia Industrial Chemicals Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

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

  - 2,6-Dimethylphenol homopolymer : Present [21772]

  - Graphite : Present [31192]

- 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)

- Graphite : 231-955-3

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

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

- 2,6-Dimethylphenol homopolymer : (7)-1241, (4)-57, (3)-521

- 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)

- 2,6-Dimethylphenol homopolymer : May be used as a component in a product covered by a group standard but it is not approved for use as a chemical in its own right

- Graphite : 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)

- 2,6-Dimethylphenol homopolymer : Present

- Graphite : Present

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

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

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

- 2,6-Dimethylphenol homopolymer : Present 15995

- Graphite : Present 11575

- 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 : 19-01-2023

3) Revision date

○ Revised date count : 2-1

○ Last revised date : 19-01-2023