

Safety Data Sheet(SDS)

Last revised date : 20-01-2023

1. Identification

1) Product identifier : PC/ABS LP-1011

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
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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%)
2,2-Bis(4-hydroxyphenyl)propane	Poly[oxycarbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene]	24936-68-3	>=53 ~ <=63
polymer with 1,3-butadiene and ethenylbenzene	ABS Resin	9003-56-9	>=28 ~ <=38
기타첨가제			>=4 ~ <=14
Dicopper hydroxide phosphate	Dicopper hydroxide phosphate, Copper hydroxide phosphate (Cu ₂ (OH)(PO ₄)), Copper hydroxide phosphate	12158-74-6	>=1 ~ <=10

○ remarks

화평법('화학물질 등록 및 평가 등에 관한 법률') 등록 면제 : 24936-68-3, 면제 확인 번호(제07-1611-021938호)

4. First-aid measures

1) Following eye contact

- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Seek immediate medical assistance.

2) Following skin contact

- For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.
- For minor skin contact, avoid spreading material on unaffected skin.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Remove and isolate contaminated clothing and shoes.
- Seek immediate medical assistance.

3) Following inhalation

- Administer oxygen if breathing is difficult.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Keep victim warm and quiet.
- Move to fresh air.

4) Following ingestion

- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Seek immediate medical assistance.

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

- May be harmful if swallowed

6) Advice to physician

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. Fire-Fighting measures

1) Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media
 - Use dry sand or earth to smother fire.
 - Dry chemical.
 - CO₂.
 - Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
 - Water spray.
- Unsuitable extinguishing media
 - Direct water.

2) Special hazards arising from the substance or mixture

- Pyrolytic product
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Risk of fire and explosion
 - Containers may explode when heated.
 - Some may burn but none ignite readily.
- Other
 - May cause toxic effects if inhaled.

3) Special protective equipment for firefighters

- Substance may be transported in a molten form.
- Dike fire-control water for later disposal; do not scatter the material.
- Evacuate area and fight fire from a safe distance.
- Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.
- Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Move containers from fire area if you can do it without risk.
- Rescuers should put on appropriate protective gear.

6. Accident release measures

- 1) Personal precautions, protective equipment and emergency procedures
 - Clean up spills immediately, observing precautions in Protective Equipment section.
 - Cover with plastic sheet to prevent spreading.
 - Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
 - ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
 - Please note that materials and conditions to be avoided.
 - Stop leak if you can do it without risk.
- 2) Environmental precautions
 - Prevent entry into waterways, sewers, basements or confined areas.
- 3) Methods and materials for containment and cleaning up
 - Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
 - Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
 - Absorb the liquid and scrub the area with detergent and water.

7. Handling and storage

- 1) Precautions for safe handling
 - Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
 - Handling refer to engineering control/personal protection section.
 - Please note that materials and conditions to be avoided.
- 2) Conditions for safe storage (including any incompatibilities)
 - Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.

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	Soild (pellet)	
Color	Depends on customer needs	
Odor	Odorless	
Odor threshold	Not applicable	
pH	Not applicable	
Melting point/freezing point	No data available	
Initial boiling point and boiling range(°C)	Not applicable	
Flash point(°C)	449°C	
Evaporation rate	Not applicable	
Flammability(solid, gas)	No data available	
Upper/lower flammability or explosive limits	No data available	
Vapour pressure	Not applicable	
Solubility(ies)	Insolubility	
Vapour density	Not applicable	
Relative density	No data available	
n-octanol/water partition coefficient	Not applicable	
Auto ignition temperature	≥ 400°C	
Decomposition temperature	No data available	
Viscosity(mm ² /s, 40°C)	Not applicable	
Molecular weight(mass)	20,000 ~ 40,000	
Specific gravity	1.15~1.50	

10. Stability and reactivity

1) Chemical stability and Possibility of hazardous reactions

- Containers may explode when heated.
- Fire may produce irritating, corrosive and/or toxic gases.

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Some may burn but none ignite readily.
- 2) Conditions to avoid
- Ignition source(heat, spark, flame, etc.).
- 3) Incompatible materials
- Combustibles, reducing material.
- 4) Hazardous decomposition products
- Corrosive/toxic fume.
 - Irritating, corrosive and/or toxic gas.

11. Toxicological information

1) Information on the likely routes of exposure

- No data available

2) Health hazard information

- Acute toxicity
 - Acute toxicity(Oral) PRODUCT : Category 5(ATEmix = 3078.885mg/kg)
 - Dicopper hydroxide phosphate
 - : LD50 2000 mg / kg ~ 300 mg / kg experimental species: Mouse (female, OECD Guideline 423, GLP)
 - Acute toxicity(Dermal) PRODUCT : Not classified
 - Dicopper hydroxide phosphate
 - : LD50> 2000 mg / kg kinds of experiments: Mouse (no deaths, OECD 402, GLP)
 - 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
 - Dicopper hydroxide phosphate
 - : LC50> 5.09 mg / ℓ 4 hr experiment Species: Rat (OECD Guideline 436, GLP)
- Skin corrosion/irritation PRODUCT : Not classified
 - Dicopper hydroxide phosphate
 - : Rabbit Skin corrosion / irritation No (OECD Guideline 404, GLP)
- Serious eye damage/eye irritation PRODUCT : Not classified
 - Dicopper hydroxide phosphate
 - : Rabbit, Not Serious eye damage / irritation symptoms (OECD Guideline 405, GLP)
- Respiratory sensitization PRODUCT : Not classified

- No data available
- Skin sensitization PRODUCT : Not classified
 - Dicopper hydroxide phosphate
 - : Guinea pigs (male / female), no skin sensitization (OECD Guideline 406, GLP)
- Carcinogenicity PRODUCT : Not classified
 - No data available
- Germ cell mutagenicity PRODUCT : Not classified
 - Dicopper hydroxide phosphate
 - : Regardless of the in vitro gene using my mammalian cell culture mutagenicity tests results returned by the microorganisms voice (OECD Guideline 476, GLP) in vitro, regardless of the metabolic activation system whether mutation test results of metabolic activation system or without voice (OECD Guideline 471 , GLP) mammalian red blood cells in vivo micronucleus test mutagenicity result in the absence of metabolic activation system voice (EU Method B.12, GLP) (ECHA) in vivo unscheduled DNA synthesis using the mammalian liver (UDS) test result in the absence of metabolic activation system sound (OECD Guideline 486, GLP)
- Reproductive toxicity PRODUCT : Not classified
 - Dicopper hydroxide phosphate
 - : Rats (male / female) reproductive toxicity experiments using the results maternal is the cancer spleen weight loss, the fetus is male / female spleen weight decrease (NOAEL = 1000ppm) (OECD Guideline 416, GLP) developmental toxicity tests using rabbits (female) results No symptoms (NOAEL = 6 mg / kg bw / day) (OECD Guideline 414, GLP)
- Specific target organ toxicity single exposure PRODUCT : Not classified
 - No data available
- Specific target organ toxicity repeated exposure PRODUCT : Not classified
 - Dicopper hydroxide phosphate
 - : Rats (male / female) repeating oral toxicity test (90d) weight loss using, liver damage, red blood cell levels increase, or nateu happened renal tubular damage effects are not commutative specific to rat significant toxicological (NOAEL = 1000ppm) (EU Method B .26, GLP)
- Aspiration hazard PRODUCT : Not classified
 - No data available

12. Ecological information

1) Ecotoxicity

- Fish
 - polymer with 1,3-butadiene and ethenylbenzene
 - : LC50 11.5 mg / ℓ 96 hr Pimephales promelas
 - Dicopper hydroxide phosphate
 - : LC50 0.39 mg / ℓ 96 hr Pimephales promelas

- Crustaceans
 - Dicopper hydroxide phosphate
 - : LC50 0.03 mg / ℓ 48 hr Daphnia magna (index type)
 - Aquatic algae
 - Dicopper hydroxide phosphate
 - : ErC50 0.035 mg / ℓ 72 hr Scenedesmus subspicatus (Pseudokirchnerella subcapitata, OECD TG 201, index type)
- 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 : 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)
 - 2,2-Bis(4-hydroxyphenyl)propane polycarbonate : Present [21562]
 - polymer with 1,3-butadiene and ethenylbenzene : Present [03641]
 - Dicopper hydroxide phosphate : Present [20818]

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)
 - Dicopper hydroxide phosphate : 235-285-2

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
 - polymer with 1,3-butadiene and ethenylbenzene : (6)-176
 - Dicopper hydroxide phosphate : (1)-299

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
 - polymer with 1,3-butadiene and ethenylbenzene : 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
 - polymer with 1,3-butadiene and ethenylbenzene : Present
 - Dicopper hydroxide phosphate : Present

Vietnam National Chemicals Inventory (NCI)

- Inventory - Vietnam - National Chemicals Inventory (NCI) (DRAFT)
 - 2,2-Bis(4-hydroxyphenyl)propane polycarbonate : Present 15829
 - polymer with 1,3-butadiene and ethenylbenzene : Present 12125

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 : 20-01-2023

3) Revision date

- Revised date count : 2-1
- Last revised date : 20-01-2023