

Safety Data Sheet(SDS)

Last revised date : 19-01-2023

1. Identification

1) Product identifier : PP ABF-6220

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

- Hazardous to the aquatic environment, long-term (chronic) Chronic 2

2) Allocation label elements

Hazard pictograms



Signal word

- NONE

Hazard statements

H411 Toxic to aquatic life with long lasting effects

Precautionary statements

- Prevention

P273 Avoid release to the environment.

- Response

P391 Collect spillage.

- Disposal

P501 Dispose of contents/container to ...

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%) |
|------------------------------|--------------------------------|-----------|------------------------|
| Ethylene propylene copolymer | 1-Propene, polymer with ethene | 9010-79-1 | $\geq 95 \sim \leq 99$ |
| Zinc oxide | zinc oxide | 1314-13-2 | $\geq 2.5 \sim \leq 5$ |

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

- 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.
- Give artificial respiration if victim is not breathing.
- Move to fresh air.

4) Following ingestion

- Seek immediate medical assistance.
- 5) Delayed and immediate effects and also chronic effects from short and long term exposure
- No data available
- 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
 - Dry chemical.
 - Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
 - Regular foam.
 - CO2.
 - Water spray.
 - Use dry sand or earth to smother fire.
 - Unsuitable extinguishing media
 - High-pressure water.
- 2) Special hazards arising from the substance or mixture
- Pyrolytic product
 - No data available
 - Risk of fire and explosion
 - Some may burn but none ignite readily.
 - Containers may explode when heated.
 - Other
 - May cause toxic effects if inhaled.
- 3) Special protective equipment for firefighters
- 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: 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.
 - Substance may be transported hot.

6. Accident release measures

- 1) Personal precautions, protective equipment and emergency procedures
- Clean up spills immediately, observing precautions in Protective Equipment section.
 - Do not touch or walk through spilled material.
 - Please note that materials and conditions to be avoided.

- Prevent dust cloud.
 - Stop leak if you can do it without risk.
- 2) Environmental precautions
- Keep out of waterways.
 - Prevent entry into waterways, sewers, basements or confined areas.
- 3) Methods and materials for containment and cleaning up
- 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.
 - Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.
 - Large Spill: Dike far ahead of liquid spill for later disposal.
 - Small Spill: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
 - With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

7. Handling and storage

- 1) Precautions for safe handling
- CAUTION: High temperature.
 - 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)
- 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 |
|------------|--|-------------------------|
| Zinc oxide | 2 mg/m ³ TWA (respirable particulate matter) 10 mg/m ³ STEL (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 | 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 | 330 °C | |
| Decomposition temperature | No data available | |
| Viscosity(mm²/s, 40°C) | No data available | |
| Molecular weight(mass) | No data available | |
| Specific gravity | 0.9 - 1.0 | |

10. Stability and reactivity

1) Chemical stability and Possibility of hazardous reactions

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

- Some may burn but none ignite readily.

2) Conditions to avoid

- Heat, contamination.

3) Incompatible materials

- Combustible material

4) Hazardous decomposition products

- Irritating 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 : Not classified

- Zinc oxide

: LD50> 5000 mg / kg experimental species: Rat, (the route of administration: gavage, male / female male, OECD TG 401)

- Acute toxicity(Dermal) PRODUCT : Not classified

- Zinc oxide

: LD50> 2000 mg / kg experimental species: Rat, (female / male, OECD TG 402, GLP)

- Acute toxicity(Inhalation:Gases) PRODUCT : Not classified

- Zinc oxide

: LC50> 5700 mg / m³ 4 hr experimental species: Rat, (female / male, OECD TG 403)

- 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

- Zinc oxide

: Not irritant, Rabbit

○ Serious eye damage/eye irritation PRODUCT : Not classified

- Zinc oxide

: Not irritant, Rabbit, 72-hour fully reversible, EU Method B.5

○ Respiratory sensitization PRODUCT : Not classified

- No data available

○ Skin sensitization PRODUCT : Not classified

- Zinc oxide

: Sensitization No, Guinea pig, GLP, female, guinea pig maximization test (GMPT): dose levels: 0.02, reaction: 0/10, OECD TG 406

○ Carcinogenicity PRODUCT : Not classified

- No data available

○ Germ cell mutagenicity PRODUCT : Not classified

- Zinc oxide

: in vitro - reverse mutation test using bacteria: Negative (S. typhimurium TA1535, TA1537, TA98, TA100, irrespective of metabolic activation system), OECD TG 471

○ Reproductive toxicity PRODUCT : Not classified

- Zinc oxide

: May be regarded, under the test conditions, maturity, mating, pregnancy and early lactation showed in adults, and 30, 15 mg / kg / d, effects which, natjiman appear in the 7.5 mg / kg / d that is not substantially important. NOAEL = 7.5 mg / kg / d, equivalent or similar to Guideline: OECD TG 416, under the test conditions, of up to 88 mg / kg of zinc sulfate (about 35.2 mg or 19.9 mg Zn²⁺ / kg bw, for the anhydrous and monohydrate) of when administered adult hamsters and fetal no negative side effects., hamster

○ Specific target organ toxicity single exposure PRODUCT : Not classified

- Zinc oxide

: Oral: toxic side effects without signs (rat / male / female / equivalent or similar guidelines: OECD TG 401)

dermal: general discomfort some signs commonly found in dermal toxicity studies, the overall health status is also good throughout the entire study / over is not found (rat / male / female / OECD TG 402 / GLP)

inhalation: nateu dirty hair appears on the head or side effects were observed (rat / male / female / equivalent or similar to Guideline :. OECD TG 403)

○ Specific target organ toxicity repeated exposure PRODUCT : Not classified

- Zinc oxide

: Orally (sub-chronic): NOAEL = 31.52 mg / kg-bw / day (. Approx 13.26 mg Zn²⁺ / kg-bw / day), Rat, OECD TG 408, GLP transdermal (short repeated): After a percutaneous exposure through the rat, on the basis of the decrease of collagen content, LOAEL for systemic toxicity natjiman show the lowest test dose of 75 mg / kg bw / day, these effects are reversible been a period of 14 days, Rat, OECD TG 410 suction (sub-chronic): under the experimental conditions, NOAEL was 1.5 mg / m³ to be evaluated, Rat, OECD TG 413, GLP

○ Aspiration hazard PRODUCT : Not classified

- No data available

12. Ecological information

1) Ecotoxicity

● Fish

- Zinc oxide

: LC50 315 µg / ℓ 96 hr Thymallus arcticus , (ASTM, exponential expression, fresh water)

- Crustaceans
 - Zinc oxide
 - : LC50 1220 µg / ℓ 48 Hr Daphnia Magna, (US EPA / 600 / 4-85 / 013, Exponential, freshwater, GLP)
- Aquatic algae
 - Zinc oxide
 - : EC10 350 µg / ℓ 48 hr Chlorella sp. , (Exponential manner, fresh water)

2) Persistence and degradability

- Degradability
 - No data available
- Biodegradation
 - Zinc oxide
 - : 100 (%) 40 hr

3) Bioaccumulative potential

- n-octanol water partition coefficient
 - No data available
- Bioconcentration factor(BCF)
 - Zinc oxide
 - : 0.002 BCF,

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

- remarks:

Zinc Oxide의 용출시험(OECD TG 120, Solution/Extraction Behaviour of Polymers in Water) 결과, Zinc Oxide는 미검출 되었습니다. 수생환경 유해성 분류(2번 항목) 및 Zinc Oxide의 환경에 미치는 영향(12번 항목)은 사용자에게 정보제공 차원으로 작성한 사항이며, 해당 제품은 수생환경에 유해하지 않다고 판단하여 운송에 위험한 물질로 분류하지 않았습니다.(14번 항목)

15. Regulatory information

Australia Industrial Chemicals Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

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

- Ethylene propylene copolymer : Present [38118]

- Zinc oxide : Present [37649]

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)

- Zinc oxide : 215-222-5

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

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

- Ethylene propylene copolymer : (6)-10

- Zinc oxide : (1)-561

New Zealand Environmental Protection Authority, Inventory of Chemicals

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

- Ethylene propylene copolymer : May be used as a single component chemical under an appropriate group standard

- Zinc oxide : HSNO Approval: HSR003104

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

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

- Ethylene propylene copolymer : Present

- Zinc oxide : Present

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

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

- Ethylene propylene copolymer : Present 12229

- Zinc oxide : Present 06676

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