Safety Data Sheet(SDS)

Last revised date : 19-01-2023

1. Identification

1) Product identifier : ABS VB-0200

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%)
2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene	ABS Resin	9003-56-9	>=60 ~ <=70
Zinc oxide	-	1314-13-2	>=2.5 ~ <=10
Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl)	POLYETHYLENE TEREPHTHALATE	25038-59-9	>=5 ~ <=15
Glass, oxide, silver phosphate	Silver phosphate glass	308069-39-8	>=0.1 ~ <=2

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
Zinc oxide	2 mg/m3 TWA (respirable particulate matter) 10 mg/m3 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(℃)	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	≥ 400℃	
Viscosity(㎟/s, 40℃)	No data available	
Molecular weight(mass)	50,000 - 250,000 (Active)	
Specific gravity	1.00 ~ 1.10	

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

  - Zinc oxide

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

  - Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl)

    : LD50> 3200 ㎎ / ㎏ experimental species: Rat

- Acute toxicity(Dermal) PRODUCT : Not classified
  - Zinc oxide
    : LD50> 2000 ㎎ / ㎏ experimental species: Rat, (female / male, OECD TG 402, GLP)
  - Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl)
    : LD50> 1000 ㎎ / ㎏ experimental species: Guinea pig
- Acute toxicity(Inhalation:Gases) PRODUCT : Not classified
  - Zinc oxide
    : LC50> 5700 ㎎ / ㎥ 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 ㎎ / ㎥ 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 ㎍ / ℓ 96 hr Thymallus arcticus , (ASTM, exponential expression, fresh water)
  - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene
    : LC50 11.5 ㎎ / ℓ 96 hr Pimephales promelas
- Crustaceans
  - Zinc oxide
    : LC50 1220 ㎍ / ℓ 48 Hr Daphnia Magna, (US EPA / 600 / 4-85 / 013, Exponential, freshwater, GLP)
- Aquatic algae
  - Zinc oxide
    : EC10 350 ㎍ / 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
  - Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl)
    : (Not applicable)

- 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)

- Glass, oxide, silver phosphate : Present (MEE Announcement No. 67 of 2020; Index No. 008)

- Zinc oxide : Present [37649]

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present [03641]

- Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) : Present [21310]

92/32/EEC

- Inventory - European Union - European List of Notified Chemical Substances (ELINCS)

- Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) : EC No. 425-750-1

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)

- Zinc oxide : (1)-561

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : (6)-176

- Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) : (7)-1022, (7)-1037, (7)-1122

New Zealand Environmental Protection Authority, Inventory of Chemicals

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

- Glass, oxide, silver phosphate : 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

- Zinc oxide : HSNO Approval: HSR003104

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : May be used as a single component chemical under an appropriate group standard

- Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) : 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, silver phosphate : Present

- Zinc oxide : Present

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present

- Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) : Present

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

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

- Zinc oxide : Present 06676

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present 12125

- Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) : Present 15903

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