Safety Data Sheet(SDS)

Last revised date : 27-11-2023

1. Identification

1) Product identifier : EVERMOIN Solid Surface

2) Recommended use of the chemical and restrictions on use

○ Recommended use of the chemical

Construction materials, Others(Kitchen top, counter top, interior wall, ect.)

○ Restrictions on use

Use for recommended use only
Do not use it for weapons manufacturing and related purposes.
Do not use with strong acid or base chemicals.

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 :

Advanced Materials	+82-031-596-3114	Advanced Materials	+82-31-596-3114

Emergency phone number

Yeosu Plant (Advanced Materials)	+82-61-688-2100	null	null
null	null	null	null

Fax number : +82-31-596-3179

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

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%)
Aluminium hydroxide	aluminium hydroxide	21645-51-2	>=55 ~ <=65
2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate	2-Propenoic acid, 2-methyl -, methyl ester, polymer w ith methyl 2-propenoate	9011-87-4	>=32 ~ <=42
Zinc oxide	zinc oxide	1314-13-2	>=2 ~ <=3
Confidential for Component	Confidential for Component		>=1 ~ <=2

4. First-aid measures

1) Following eye contact
- Call a physician immediately.

2) Following skin contact
- Get medical aid immediately.
- 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

5) 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

- Hazardous decomposition products due to incomplete com-bustion

○ 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.
- Handling refer to engineering control/personal protection section.
- When fabricating such as thermoforming, cutting and sanding, wear a proper protective gears.

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	solid	
Color	Various	
Odor	none	
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)	Not soluble in water	

Vapour density	No data available	
Relative density	1.6~1.8(Water=1)	
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	1.6~1.8	

10. Stability and reactivity

1) Chemical stability and Possibility of hazardous reactions
- No decomposition if stored and applied as directed.
- Some may burn but none ignite readily.
- Stable at normal ambient temperature and pressure.
- When cutting by saw or router, friction heat reach up to 300℃ temperature. Methyl methacrylate monomer may be released. Dust may be flashed under ignition temp.

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

- Aluminium hydroxide
  : LD50 >2000 mg/kg Species: Rat, (Route of administration: gavage, female, OECD TG 423, GLP)
- Zinc oxide
  : LD50 >5000 mg/kg Species: Rat, (Route of administration: gavage, female/male, OECD TG 401)

- 2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate
  : LD50 >15000 mg/kg Test Species : Mouse

● 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 ㎎/㎥ 4 hr 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
- Aluminium hydroxide
  : LC50 7.6 ㎎/ℓ 1 hr Species : Rat, (male, OECD TG 403)

○ Skin corrosion/irritation PRODUCT : Not classified
- Aluminium hydroxide
  : Edema score: 0/4, no irritation, Rabbit, OECD TG 404
- Zinc oxide
  : No irritation, Rabbit

○ Serious eye damage/eye irritation PRODUCT : Not classified
- Aluminium hydroxide
  : No irritation, Rabbit, corneal opacity (0), iris (0), conjunctival hyperemia (0.2), conjunctival edema (0), completely reversible within 48 hours, OECD TG 405, no hypersensitivity, Mouse, in vivo, male
- Zinc oxide
  : No irritation, Rabbit, fully reversible within 72 hours, EU Method B.5

○ Respiratory sensitization PRODUCT : Not classified
- No data available

○ Skin sensitization PRODUCT : Not classified
- Aluminium hydroxide
  : No sensitization, Guinea pig, GLP, male, Guinea pig maximization test (GMPT): Dose level: 50 and 75%, Response: 0/10, OECD TG 406
- Zinc oxide
  : No sensitization, Guinea pig, GLP, female, Guinea pig maximization test (GMPT): Dose level: 0.02, Response: 0/10, OECD TG 406

○ Carcinogenicity PRODUCT : Not classified
- No data available

○ Germ cell mutagenicity PRODUCT : Not classified
- Aluminium hydroxide
  : in vitro - chromosomal aberration test using mammalian cells: positive (lymphocytes:, no metabolic activation system), OECD TG 473

- Zinc oxide

: In vitro - Bacterial reverse mutation test: negative (S. typhimurium TA1535, TA1537, TA98, TA100, regardless of metabolic activation system), OECD TG 471

○ Reproductive toxicity PRODUCT : Not classified

- Aluminium hydroxide

: Useful information on the prenatal, developmental, and neurotoxic effects of chronic postpartum exposure in rats to high doses of aluminum (30 mg Al/kg bw/day, 100 mg Al/kg bw/day, 300 mg Al/kg bw/day) It is difficult to distinguish between developmental toxicity and direct toxicity after weaning because the F1 generation was administered for the entire period after weaning. , effects of Na-citrate observed in female pups, urinary tract lesions observed at higher doses, more frequently in males Results No evidence of effects on memory, learning, critical effect, consistent results for forelimb and hindlimb grip strength was observed, supported by less consistent observations on defecation, voiding, and necropsy urinary tract lesions, body weight, and albumin/globulin ratio observed in the 100 mg Al/kg bw/day group. Administration of FOB characteristics in neonates and adolescent offspring No relevant difference was observed, repeated dose toxicity of aluminum LOAEL = 1000 mg Al/kg bw/day, because effects were observed in both the Al-citrate high-dose group and the NA-citrate group, based on the results of sexual maturation in this study Therefore, an Al-based LOAEL/NOAEL cannot be proposed. The weight difference in weaning horses compared to the control group occurred in the high-dose Al-citrate group and the sodium citrate group, and is considered to be dosing-related, but the role of Al is unclear; Relative differences between Al-citrate and Na-citrate groups may be related to differences in liquid consumption, rat, equivalent or similar to Guideline: OECD TG 426 and OECD TG 452, GLP

- Zinc oxide

: Under the test conditions, maturation, mating, pregnancy and early lactation were seen in adults and at 30 and 15 mg/kg/d, and effects were seen at 7.5 mg/kg/d, although this was considered practically insignificant. NOAEL = 7.5 mg/kg/d, equivalent or similar to Guideline: Under the test conditions of OECD TG 416, zinc sulfate up to 88 mg/kg (approximately 35.2 mg or 19.9 mg Zn2 + / kg bw, for anhydrides and hydrates) There were no side effects in adult hamsters and fetuses when administered., hamster

○ Specific target organ toxicity single exposure PRODUCT : Not classified

- Aluminium hydroxide

: Oral: There were no clinical signs of related poisoning after treatment or during the 14-day observation period. Soft stools were present in all subjects only on the day of administration. No similar clinical signs after the first day of observation period / No effect of pathological treatment (rat / female / OECD TG 423 / GLP) Inhalation: Observed clinical symptoms were consistent with dyspnea. Surviving animals were described as exhibiting "slight" toxic effects and good recovery by the end of the 14-day observation period. More discoloration was observed on the lung surface of treated animals compared to control animals. A "slight" increase in the number of lung lesions in test animals was also reported but no individual data or additional details were provided. The dead animals were found to have white gels in their organs and stomach. Their latitudes are filled with gas and enlarged. Liver and kidney did not differ between treated and control animals on visual examination (rat/male/equivalent or similar to Guideline: OECD TG 403).

- Zinc oxide

: Oral: No signs of toxic side effects (rat/male/female/equivalent or similar guideline: OECD TG 401) Dermal: Slight signs of general discomfort common in skin toxicity studies, overall health is good throughout the study / No abnormalities found (Rats / Males / Females / OECD TG 402 / GLP) Inhalation: Dirty hairs appeared on the head, but no adverse effects were observed. (Rats / Males / Females / equivalent or similar to Guideline: OECD TG 403)

○ Specific target organ toxicity repeated exposure PRODUCT : Not classified

- Aluminium hydroxide

: Oral (Chronic): As a result of oral exposure in rats, the LOAEL for aluminum toxicity was specified (lethal effect, for forelimb and hindlimb grip strength) of 1075 mg AlCitrate/kg bw/day (100 mg Al/kg bw/day). fairly consistent results observed), Rat, OECD TG 426 and OECD TG 452, GLP inhalation (short repetition): study results were broad and provide clear evidence for an inflammatory response in positive control (quartz-treated) animals, Rat

- Zinc oxide

: Oral (subchronic): NOAEL=31.52 mg/kg-bw/day (approx. 13.26 mg Zn2+/kg-bw/day), Rat, OECD TG 408, GLP Dermal (short-time repeat): Results from dermal exposure in rats , based on a decrease in collagen content, the LOAEL for systemic toxicity was the lowest tested dose of 75 mg/kg bw/day, but this effect was reversible for 14 days, Rat, OECD TG 410 inhalation (subchronic) : Under experimental conditions, NOAEL is estimated to be 1.5 mg/m3, Rat, OECD TG 413, GLP

○ Aspiration hazard PRODUCT : Not classified

- No data available

12. Ecological information

1) Ecotoxicity

- Fish
  - Aluminium hydroxide
    : NOEC >50 mg/ℓ 96 hr Ictalurus punctatus, (flow-through, freshwater, GLP)
  - Zinc oxide
    : LC50 315 μg/ℓ 96 hr Thymallus arcticus, (ASTM, static formula, fresh water)
- Crustaceans
  - Aluminium hydroxide
    : NOEC >22.6 mg/ℓ 96 hr Acronuria sp., (static formula, fresh water)
  - Zinc oxide
    : LC50 1220 μg/ℓ 48 hr Daphnia magna, (US EPA/600/4-85/013, static formula, fresh water, GLP)
- Aquatic algae
  - Aluminium hydroxide
    : EC10 0.153 mg/ℓ 72 hr Pseudokirchneriella subcapitata, (OECD TG 201 , semi-static, fresh water)
  - Zinc oxide
    : EC10 350 μg/ℓ 48 hr Chlorella sp., (still water, fresh water)

2) Persistence and degradability

- Biodegradation
  - Zinc oxide
    : 100 (%) 40 hr

3) Bioaccumulative potential

- Bioconcentration factor(BCF)
  - Zinc oxide
    : 0.002 BCF , (a dimensionless number)

4) Mobility in soil

No data available

5) Other adverse effects

No data available

13. Disposal considerations

1) Disposal methods

- Every commercial waste producer shall either treat wastes generated from his/her place of business by him/herself or commission the treatment of such wastes to a person who has license for a waste treatment business under Article 26(3), a person who recycles of such wastes under Article 44(2), a person who has installed and operates a waste disposal facility under Article 4 or 5, a person who has completed the registration of a business of discharging wastes into the sea under Article 18 of the Marine Environment Management Act.

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. : 3077

2) Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

3) Hazard class : 9

4) Packing group : III

5) Marine pollutant : Not applicable

6) Special precautions for user related to transport or transportation measures :

Emergency measures in case of fire : F-A

Emergency measures in the effluent : S-F

- ADR

· Tunnel restriction code : E

- IMDG

· Marine pollutant : Not applicable

- Air transport(IATA)

· UN No. : 3077

· Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

· Class or division : 9

· Packing group : III

15. Regulatory information

Australia Industrial Chemicals Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

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

- Aluminium hydroxide : Present [27684]

- Zinc oxide : Present [37649]

- 2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate : Present [17463]

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)

- Aluminium hydroxide : 244-492-7

- 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)

- Aluminium hydroxide : (1)-17

- Zinc oxide : (1)-561

- 2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate : (6)-553

New Zealand Environmental Protection Authority, Inventory of Chemicals

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

- Aluminium hydroxide : May be used as a single component chemical under an appropriate group standard

- Zinc oxide : HSNO Approval: HSR003104

- 2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate : 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

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

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

- Aluminium hydroxide : Present

- Zinc oxide : Present

- 2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate : Present

U.S. Toxic Substances Control Act

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

- Aluminium hydroxide : Present (ACTIVE)

- Zinc oxide : Present (ACTIVE)

- 2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate : Present [XU] (ACTIVE)

Vietnam National Chemicals Inventory (NCI)

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

- Aluminium hydroxide : Present 15325

- Zinc oxide : Present 06676

- 2-Methyl-2-propenoic acid methyl ester polymer with methyl 2-propenoate : Present 12252

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 : 19-10-2023

3) Revision date

- Revised date count : 2-2

- Last revised date : 27-11-2023

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