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LG Chem

Last revised date : 2022-07-19

Safety Data Sheet(SDS)

1. Identification of the substance/mixture and of the company/undertaking

1) Product identifier : HDPE ME2500S2N PELLET HALF-FINISHED

2) Relevant identified uses of the substance or mixture and uses advised against

○ Relevant identified uses

48.Others (Raw Material of Polyethylene Product Goods)

○ Uses advised against

3) Supplier information

○ Company name [Manufacture]

Company : LG Chem, Ltd.
Address : 58, Yeosusandan 4-ro, Yeosu-si, Jeollanam-do, Republic of Korea

Emergency number : +82-061-689-3470

2. HAZARD IDENTIFICATION

1) Hazard classification

Not applicable

2) Allocation label elements

Hazard pictograms

Signal word

- NONE

Hazard statements

No data available

Precautionary statements

Not applicable

3) Other hazards

○ Product NFPA Level

Health	Flamm abliity	Reactivity
2	1	0

(※ 0 = Insufficient , 1 = Slightly , 2 = ordinary , 3 = Highness , 4 = Very high)

3. Composition/Information on ingredients

Components	Common name	CAS No.	PCT(wt%)
Polyethylene	Polyethylene	9002-88-4	99.51
Trade secret substances5			0.2
Trade secret substances6			0.11
Trade secret substances7			0.08
Trade secret substances8			0.1

4. FIRST AID MEASURES

1) Following eye contact

- Get medical aid immediately.
- In case of contact with material, immediately flush eyes with running water for at least 15 minutes.

2) Following skin contact

- Get medical aid immediately.
- In case of contact with material, immediately flush skin with running water for at least 15 minutes.
- Launder contaminated clothing and shoes before re-use.
- Remove and isolate contaminated clothing and shoes.

3) Following inhalation

- Administer oxygen if breathing is difficult.
- Give artificial respiration if victim is not breathing.
- Move to fresh air.
- Seek immediate medial assistance.

4) Following ingestion

- Get medical aid immediately.

- If unconscious but breathing, never give anything by mouth.

5) Advice to physician

- Do not apply drugs of the adrenaline ephedrine group.
- 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

- Large fire: Water spray/fog, regular foam (Suitable extinguishing media).
- Small fire: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO2 (Suitable extinguishing media).

○ Unsuitable extinguishing media

- High-pressure water (Unsuitable extinguishing media).

2) Special hazards arising from the substance or mixture

○ Pyrolytic product

- No data available

○ Risk of fire and explosion

- Containers may explode when heated.
- Fire may produce irritating and/or toxic gases.
- May ignited from heat, friction or contamination.
- Some may burn but none ignite readily.

○ 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.
- 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.
- Runoff may cause pollution.
- Substance may be transported hot.

6. ACCIDENTAL RELEASE MEASURES

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1) Health considerations and protective equipment
- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Please note that materials and conditions to be avoided.
- Prevent dust cloud.
- Stop leak if you can do it without risk.
- Ventilate the contaminated area.

2) Environmental precautions
- Prevent entry into waterways, sewers, basements or confined areas.

3) For cleaning up
- Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.
- Small Spill: Flush area with flooding quantities of water.
- 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.
- Caution: Dangerous fire hazard when exposed to heat, or flame, sparks.
- Handling refer to engineering control/personal protection section.
- Please note that materials and conditions to be avoided.
- Use adequate machine for prevention when package handling.
- Wash ... thoroughly after handling.
- Wear an appropriate Personal protection. (See Exposure Controls/Personal Protection section.)

2) Conditions for safe storage (including any incompatibilities)
- Choose a place that can be protected from strong oxidizers and acid.
- Drum Handling: Must work at safe place., Loading more than 3 stack is prohibited.
- Store containers: AVOID the place where can be damage and contamination.
- Store in a cool/low-temperature, well-ventilated {dry} place {away from heat and ignition sources}

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

1) Chemical exposure limits, Biological exposure standard

Components	Occupational exposure limits	ACGIH	Biological standard
Polyethylene	TWA : Not applicable STEL : Not applicable	TWA : Not applicable STEL : Not applicable	Not applicable
Trade secret substances5	TWA : Not applicable STEL : Not applicable	TWA : Not applicable STEL : Not applicable	Not applicable
Trade secret substances6	TWA : Not applicable STEL : Not applicable	TWA : Not applicable STEL : Not applicable	Not applicable
Trade secret substances7	TWA : Not applicable STEL : Not applicable	TWA : Not applicable STEL : Not applicable	Not applicable

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Components	Occupational exposure limits	ACGIH	Biological standard
Trade secret substances8	TWA : Not applicable STEL : Not applicable	TWA : Not applicable STEL : Not applicable	Not applicable

2) Appropriate engineering controls

- Make sure you have the right exhaust and ventilation in the workplace.
- Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

3) Personal protection equipment

○ Respiratory protection

- If there is a direct contact or exposure, wear a certified appropriate respiratory protection.

○ Eye protection

- Provide emergency showers and eyewash.
- Wear an appropriate security diameter.

○ Hand protection

- Wear safety gloves for chemicals.

○ Body protection

- Wear a protective gloves/protective clothes/security diameter/security surface/earplugs.
- Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid(Pellets)
Physical state	Solid
Colour	White
Odour	Oderless
Odour threshold	Not available
pH	No data available
Melting point/freezing point	50-150℃
Initial boiling point and boiling range	No data available
Flash point	400℃
Evaporation rate	Not available
Flammability(solid, gas)	>400℃(Ingition temperature)
Upper/lower flammability or explosive limits	30 g / m3 (lower explosive concentration with an average particle size of 61.6)
Vapour pressure	Not available
Solubility(ies)	Insoluble

Vapour density	Not available
Relative density	0.9 -1.0
n-octanol/water partition coefficient	Insoluble
Auto ignition temperature	>300℃
Decomposition temperature	>250℃
Viscosity	No data available
Molecular weight(mass)	10,000 ~ 1,000,000

10. STABILITY AND REACTIVITY

1) Stability and hazardous reactivity
- Containers may explode when heated.
- Fire may produce irritating and/or toxic gases.
- May cause toxic effects if inhaled.
- Some may burn but none ignite readily.
- Stable under normal temperatures and pressures.

2) Conditions to avoid
- Ignition source(heat, spark, flame, etc.).

3) Incompatible materials
- Combustibles.
- Irritating and/or toxic gas.

4) Hazardous decomposition products

No data available

11. TOXICOLOGICAL INFORMATION

1) Exposure route information

○ Inhalation
- Not applicable

○ Skin Contact
- Not applicable

○ Eye Contact
- Not applicable

○ Ingestion
- Not applicable

2) Health hazard information

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○ Acute toxicity

- Acute toxicity(Oral) PRODUCT : Not classified

  - Polyethylene : LD50> 8000 ㎎ / ㎏ experimental species: Rat, Source: RTECS

  - Trade secret substances5 : LD50> 10000 ㎎ / ㎏ experimental species: Rat

  - Trade secret substances6 : LD50> 6000 ㎎ / ㎏ experimental species: Rat, Source: OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)

  - Trade secret substances7 : No data available

  - Trade secret substances8 : LD50> 5000 ㎎ / ㎏ experimental species: Rat, Source: IUCLID

- Acute toxicity(Dermal) PRODUCT : Not classified

  - Polyethylene : No data available

  - Trade secret substances5 : No data available

  - Trade secret substances6 : LD50> 2000 ㎎ / ㎏ experimental species: Rat (GLPdata), Source: OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)

  - Trade secret substances7 : LD50> 3160 ㎎ / ㎏ experimental species: Rabbit, Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

  - Trade secret substances8 : No data available

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

  - Polyethylene : No data available

  - Trade secret substances5 : No data available

  - Trade secret substances6 : No data available

  - Trade secret substances7 : No data available

  - Trade secret substances8 : No data available

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

  - Polyethylene : No data available

  - Trade secret substances5 : No data available

  - Trade secret substances6 : No data available

  - Trade secret substances7 : No data available

  - Trade secret substances8 : No data available

- Acute toxicity(Inhalation:Dust/mist) PRODUCT : Not classified(ATEmix = 75.872mg/L)

  - Polyethylene : LC50 75.5 ㎎ / ℓ 30 min experimental species: Rat, Source: RTECS

  - Trade secret substances5 : No data available

  - Trade secret substances6 : No data available

  - Trade secret substances7 : No data available

  - Trade secret substances8 : No data available

○ Skin corrosion/irritation PRODUCT : Not classified

  - Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : - Reported that rabbit skin irritation, Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

- Trade secret substances7 : No data available

- Trade secret substances8 : If irritation Rabbit, Source: THOMSON

○ Serious eye damage/eye irritation PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : - High corrosion reaction to rabbit eye, Source: SIDS

- Trade secret substances7 : Unstimulated (found only in the mild early conjunctival tissue), Source: ECHA Registered substances

- Trade secret substances8 : If irritation Rabbit, Source: IUCLID

○ Respiratory sensitization PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : No data available

- Trade secret substances7 : No data available

- Trade secret substances8 : No data available

○ Skin sensitization PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : - Reported that guinea pig skin sensitization, Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

- Trade secret substances7 : No data available

- Trade secret substances8 : No data available

○ Carcinogenicity PRODUCT : Not classified

- Polyethylene : 2.44 (IARC), Source: IARC

- Trade secret substances5 : A4 Stearates (ACGHI), Source: ACGHI

- Trade secret substances6 : No data available

- Trade secret substances7 : No data available

- Trade secret substances8 : No data available

○ Germ cell mutagenicity PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : - speech in a limited test for bacterial gene mutation induction. - clastogenicity in vivo bone marrow testing for (in both the hamster and in the micronucleus test medium analysis) also negative. - Voice from the dominant lethal test in mice. - The results also

suggest that the substance is not any possibility of mutation., Source: OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)

- Trade secret substances7 : No data available

- Trade secret substances8 : In vitro / audio, Source: IUCLID

○ Reproductive toxicity PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : 292.6 mg / kg bw / day in rats at concentrations experimental results for three of the second generation did not have any adverse effects on reproductive parameters. In 1030 mg / kg bw / day the concentration was decreased birth index of F0 generation. At high concentrations, such as 1,030 mg / kg bw / day reduces the weight of the fetal F2 generation. NOAEL for reproduction evaluation is 292.6 mg / kg bw / day., Source: OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)

- Trade secret substances7 : Rats 3month, 2500mg / kg bw, Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

- Trade secret substances8 : No data available

○ Specific target organ toxicity single exposure PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : No data available

- Trade secret substances7 : No data available

- Trade secret substances8 : No data available

○ Specific target organ toxicity repeated exposure PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : - rats, 13 weeks, NOAEL> 147mg / kg- women only absolutely increasing the weight of the kidneys, increased kidney weight was equal to the importance of toxicology. It was not supported by the histopathological changes., Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

- Trade secret substances7 : No data available

- Trade secret substances8 : No data available

○ Aspiration hazard PRODUCT : Not classified

- Polyethylene : No data available

- Trade secret substances5 : No data available

- Trade secret substances6 : No data available

- Trade secret substances7 : No data available

- Trade secret substances8 : No data available

12. ECOLOGICAL INFORMATION

1) Aquatic toxicity

- Fish>PRODUCT : Not classified

  - Polyethylene : No data available
  - Trade secret substances5 : LC50 0.00000000113 ㎎ / ℓ 96 hr, Source: ECOSAR
  - Trade secret substances6 : LC50> 100 ㎎ / ℓ 96 hr Brachydanio rerio, Source: ECHA 등록자료
  - Trade secret substances7 : LC50> 100 ㎎ / ℓ 96 hr, Source: IUCLID
  - Trade secret substances8 : LC50 0.00111 ㎎ / ℓ 14 day, Source: ECOSAR

- Crustacea>PRODUCT : Not classified

  - Polyethylene : No data available
  - Trade secret substances5 : LC50 0.00000000284 ㎎ / ℓ 48 hr Other (Daphinid), Source: ECOSAR
  - Trade secret substances6 : No data available
  - Trade secret substances7 : EC50> 86 ㎎ / ℓ 24 hr, Source: IUCLID
  - Trade secret substances8 : No data available

- Aquatic algae>PRODUCT : Not classified

  - Polyethylene : No data available
  - Trade secret substances5 : EC50 0.00000000362 ㎎ / ℓ 96 hr other (Green algae), Source: ECOSAR
  - Trade secret substances6 : EC50> 75.2 ㎎ / ℓ 72 hr Desmodesmus subspicatus, Source: ECHA 등록자료
  - Trade secret substances7 : EC50> 100 ㎎ / ℓ 72 hr, Source: IUCLID
  - Trade secret substances8 : No data available

2) Persistence and degradation

- n-octanol water partition coefficient>PRODUCT : Not classified

  - Polyethylene : No data available
  - Trade secret substances5 : 14.34 log Kow ((estimated))
  - Trade secret substances6 : (> 6, calculated), Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)
  - Trade secret substances7 : 22.7 log Kow (25 ℃, calculated), Source: ECHA Registered substances
  - Trade secret substances8 : 5.3 log Kow (estimate), Source: ChemIDplus

- Degradation>PRODUCT : Not classified

  - Polyethylene : No data available
  - Trade secret substances5 : No data available
  - Trade secret substances6 : No data available
  - Trade secret substances7 : No data available
  - Trade secret substances8 : No data available

- Biodegradation>PRODUCT : Not classified

  - Polyethylene : No data available
  - Trade secret substances5 : No data available
  - Trade secret substances6 : 6 (%) 28 day, Source: IUCLID
  - Trade secret substances7 : No data available
  - Trade secret substances8 : 28 (%) 28 day, Source: Modified sturm test, GLP, IUCLID

3) Bioaccumulative potential>PRODUCT : Not classified

- Polyethylene : No data available
- Trade secret substances5 : 3.162, Source: QSAR
- Trade secret substances6 : 4.66, Source: IUCLID
- Trade secret substances7 : 3.162, Source: Quantitative Structure Activity Relation(QSAR)
- Trade secret substances8 : No data available

4) Mobility in soil>PRODUCT : Not classified

- Polyethylene : No data available
- Trade secret substances5 : No data available
- Trade secret substances6 : No data available
- Trade secret substances7 : No data available
- Trade secret substances8 : No data available

5) Other adverse effects>PRODUCT : Not classified

- Polyethylene : No data available
- Trade secret substances5 : No data available
- Trade secret substances6 : No data available
- Trade secret substances7 : No data available
- Trade secret substances8 : 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)

- Discuss it according to waste regulation.
- Do not allow spill material to enter sewers, storn water drains, soil, etc.
- Empty containers may explode and residues can be ignited when pressured, cut, weld, heated.
- Empty containers may rupture when pressured.
- Empty containers recycled under environmental laws.
- Use a certified waste disposal company.
- Wear an appropriate Personal protection. (See Exposure Controls/Personal Protection section.)

14. TRANSPORT INFORMATION

1) UN No. : Not applicable

2) Proper shipping name : Not applicable

3) Class or division : Not applicable

4) Packing group : Not applicable

5) Marine pollutant : Not applicable

6) Special safety response for transportation or transportation measure :

Emergency measures in case of fire : Not applicable

Emergency measures in the effluent : Not applicable

- ADR

· Tunnel restriction code : Not applicable

- IMDG

· Marine pollutant : Not applicable

- Air transport(IATA)

· UN No. : Not applicable

· Proper shipping name : Not applicable

· Class or division : Not applicable

· Packing group : Not applicable

15. REGULATORY INFORMATION

● Global Inventory - USA. Toxic Substances Control Act (TSCA) Chemical Substances Inventory (12 April 2018)

- Polyethylene

- Trade secret substances5

- Trade secret substances6

- Trade secret substances7

- Trade secret substances8

● ETC regulation - EPCRA (SARA Title III) Section 302 Extremely Hazardous Substance (EHS) (40 CFR 355, Appendix A)

Not applicable

● ETC regulation - OSHA Hazard Communication Standard: On One of the Floor Lists of the OSHA HCS (29 CFR 1910.1200)

Not applicable

● ETC regulation - EPCRA (SARA Title III) Section 313 Toxic Chemical Release Inventory (TRI) Reporting for RY 2013 (as amended Sep. 30, 2014)

Not applicable

● ETC regulation - CERCLA Hazardous Substances [other than radionuclides] (40 CFR 302.4) (as amended by 75 FR 78918, Dec. 17, 2010)

Not applicable

- ETC regulation - RCRA Appendix VII: Hazardous Wastes (40 CFR 261, App. VII, Basis for Listing Hazardous Waste)

Not applicable

- ETC regulation - CERCLA. Radionuclides and their Reportable Quantities (40 CFR 302.4, App. B)

Not applicable

- ETC regulation - RCRA D List of Characteristic Hazardous Wastes (40 CFR 261.21-24)

Not applicable

- ETC regulation - RCRA F List of Hazardous Wastes from Non-Specific Sources (40 CFR 261.31(a)) (as amended by 73 FR 31756, June 4, 2008)

Not applicable

- ETC regulation - RCRA K List of Hazardous Wastes from Specific Sources (40 CFR 261.32)

Not applicable

- ETC regulation - RCRA P List of Hazardous Wastes (40 CFR 261.33(e) and 40 CFR 302 [CERCLA])

Not applicable

- ETC regulation - RCRA U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA], as amended 75 FR 78918, Dec 17, 2010

Not applicable

- ETC regulation - DOT Hazardous Materials Table Listings (49 CFR 172.101, as amended through October 31, 2013)

Not applicable

- ETC regulation - EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Respo

Not applicable

16. OTHER INFORMATION

1) Reference

- ChemIDplus
- ECHA Registered substances
- ECHA 등록자료
- ECOSAR
- EPA
- IUCLID
- International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

- Modified sturm test, GLP, IUCLID
- OECD Screening Information Data Set(http://cs3-hq.oecd.org/scripts/hpv/)
- OSHA
- QSAR
- Quantitative Structure Activity Relation(QSAR)
- RTECS
- SIDS
- THOMSON

2) Print date : 2022-07-19

3) Revision date

○ Revised date count : 0

○ Last revised date : 2022-07-19

○ Last revised history :

4) Other