+135-3858-6433 (GuangDong)
+188-1699-6168 (ShangHai)
+852-6957-5415 (HongKong)

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Last revised date : 2021 - 07 - 28

Safety Data Sheet(SDS)

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

1) Product identifier : LDPE(FB3050)

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

○ Relevant identified uses

48.Others/Coating, Injection Molding, Film, Wire Coating, Packaging

○ Uses advised against

Do not use other purposes.

3) Supplier information

○ Manufacturer

Company : LG Chem, Ltd.
Address : 55, Yeosusandan 2 - ro, Yeosu - si, Jeollanam - do, Republic of Korea

Emergency number : +82)061 - 680 - 1321

○ Seller

Company : LG Chem, Ltd.
Address : 55, Yeosusandan 2 - ro, Yeosu - si, Jeollanam - do, Republic of Korea

Emergency number : +82)061 - 680 - 1321

2. HAZARD IDENTIFICATION

1) Hazard classification

- Skin corrosion/irritation Category 3
- Specific target organ toxicity single exposure Category 3(Respiratory tract irritation)

2) Allocation label elements

Hazard pictograms

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Signal word

- WARNING

Hazard statements

H316 Causes mild skin irritation
H335 May cause respiratory irritation

Precautionary statements

- Prevention

P233 Keep container tightly closed.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a wellventilated area.

- Response

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P313 If skin irritation occurs: Get medical advice/attention.

- Storage

P403+P233 Store in a wellventilated place. Keep container tightly closed.
P405 Store locked up.

- Disposal

P501 Dispose of contents/container to …

3) Other hazardsNo data available

○ Product NFPA Level : Health, Flamm abliity, Reactivity = 0

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

Chemical Name	Health	Flamm abliity	Reactivity
Polyethylene	1	1	0
Trade Secret	2	1	0
Trade Secret	1	1	0
Trade Secret	2	0	0

3. Composition/Information on ingredients

Components	Common name	CAS No.	PCT(wt%)
Polyethylene	Polyethylene	9002 - 88 - 4	99
Trade Secret			0.12
Trade Secret			0.24
Trade Secret			0.64

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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 medial 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 medial assistance.

3) Following inhalation
- Administer oxygen if breathing is difficult.
- Give artificial respiration if victim is not breathing.
- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Keep victim warm and quiet.
- Move to fresh air.

4) Following ingestion
- Seek immediate medial assistance.

5) 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
- CO_2.
- Dry chemical.
- Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
- Use dry sand or earth to smother fire.
- Water spray.

○ Unsuitable extinguishing media
- Direct water.

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: 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.
- Substance may be transported in a molten form.

6. ACCIDENTAL RELEASE MEASURES

1) Health considerations and protective equipment
- 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) For 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
- Avoid breathing vapors from heated material.
- Avoid prolonged or repeated contact with skin.
- Do not enter storage area unless adequately ventilated.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Handling refer to engineering control/personal protection section.
- Loosen closure cautiously before opening.
- Please note that materials and conditions to be avoided.
- Use care in handling/storage.
- Use only in a well - ventilated area.

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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 AND PERSONAL PROTECTION

1) Chemical exposure limits, Biological exposure standard

Components	Occupational exposure	ACGIH	Biological standard
Polyethylene	Not applicable	Not applicable	Not applicable
Trade Secret	Not applicable	Not applicable	Not applicable
Trade Secret	Not applicable	Not applicable	Not applicable
Trade Secret	Not applicable	Not applicable	Not applicable

2) Appropriate engineering controls

- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

3) Personal protection equipment

○ Respiratory protection

- If high frequency of use or exposure, wear air respirator.
- Wear breathing protection, which needs a confirmation from the Korea Occupational Safety and Health Agency.

○ Eye protection

- Wear suitable protective goggles and face shields.

○ Hand protection

- Wear suitable protective gloves.

○ Body protection

- Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid(Pellets)
Physical state	solid
Colour	White or Milky White

Odour	Odorless
Odour threshold	No data available
pH	No data available
Melting point/freezing point	100~125℃
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	0.910~0.925
n - octanol/water partition coefficient	No data available
Auto ignition temperature	349℃
Decomposition temperature	No data available
Viscosity	No data available
Molecular weight(mass)	(- CH2 - CH2 -)1,100~3,500 / 31,000 - 100,000g/mol

10. STABILITY AND REACTIVITY

1) Stability and hazardous reactivity
   - 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.
   - During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
   - Irritating, corrosive and/or toxic gas.

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11. TOXICOLOGICAL INFORMATION

1) Exposure route information

○ Inhalation

- Vapors/mist can be exposed through the respiratory tract, eyes and skin.

○ Skin Contact

- Following skin contact: No data

○ Eye Contact

- After eye contact: No data

○ Ingestion

- After ingestion: No data

2) Health hazard information

○ Acute toxicity

● Acute toxicity(Oral) PRODUCT : Not classified

- Polyethylene : LD50> 8000 ㎎ / ㎏ experimental species: Rat, Source: RTECS
- Trade Secret : LD50> 6000 ㎎ / ㎏ experimental species: Rat (OECD TG 401, GLP), Source: ECHA
- Trade Secret : LD50> 5000 ㎎ / ㎏ experimental species: Rat, Source: IUCLID
- Trade Secret : LD50 6450 ㎎ / ㎏ experimental species: Rat, Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

● Acute toxicity(Dermal) PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : LD50> 2000 ㎎ / ㎏ experimental species: Rabbit (no deaths, OECD TG 402, GLP), Source: ECHA
- Trade Secret : No data available
- Trade Secret : No data available

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

- Polyethylene : No data available
- Trade Secret : No data available
- Trade Secret : No data available
- Trade Secret : No data available

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

- Polyethylene : No data available
- Trade Secret : No data available
- Trade Secret : No data available
- Trade Secret : No data available

● Acute toxicity(Inhalation:Dust/mist) PRODUCT : Not classified

- Polyethylene : LC50 75.5 ㎎ / ℓ 30 min experimental species: Rat, Source: RTECS
- Trade Secret : LC50> 2 ㎎ / ℓ 4 hr experiment Species: Rat ((LC50≤0.05 ㎎ / L 4hr mouse)), Source: National Institute for Occupational Safety and Health GLP toxicity studies, 2017
- Trade Secret : No data available
- Trade Secret : No data available

○ Skin corrosion/irritation PRODUCT : Category 3

- Polyethylene : No data available
- Trade Secret : Using the skin corrosion / irritation test Rabbit, it represents a very slight irritation (all stimulation index 0.3 to 0.7 / 8), Source: ECHA
- Trade Secret : If irritation Rabbit, Source: THOMSON
- Trade Secret : Rabbit - Draize tes normal irritation, irritation visible to anyone, Source: International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)

○ Serious eye damage/eye irritation PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : Serious eye damage / irritation test with a rabbit, completely Restored after and 72 hours showed a very weak conjunctival irritation (conjunctival index = 0.5 / 3, corneal index = 0/2, the iris index = 0/2, chemosis index = 0.1 / 4) (ECHA), Source: ECHA
- Trade Secret : If irritation Rabbit, Source: IUCLID
- Trade Secret : Extreme stimulation of the Rabbit - Draize tes, visible to anyone with slight irritation, Source: International Uniform ChemicaL Information Database(IUCLID)

○ Respiratory sensitization PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : No data available
- Trade Secret : No data available
- Trade Secret : No data available

○ Skin sensitization PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : Patch test results for people, positive (11/11454), and irritant and a suspected hypersensitivity reaction BHT (51/11454) have been derived substances are being judged as a non - irritable, Source: ECHA
- Trade Secret : No data available
- Trade Secret : No data available

○ Carcinogenicity PRODUCT : Not classified

- Polyethylene : 3 (IARC), Source: IARC
- Trade Secret : 3 (IARC)
A4 (ACGHI), Source: IARC, ACGHI
- Trade Secret : No data available

- Trade Secret : No data available

○ Germ cell mutagenicity PRODUCT : Not classified

- Polyethylene : No data available

- Trade Secret : Reverse mutation test using microorganisms in vitro results (OECD TG 471) Ambassador, if not the active system disorders chromosome using a positive and mammalian cell culture test (OECD TG 473, GLP), gene mutation tests with mammalian cell cultures (OECD TG 476) results presence or absence of metabolic activation system Unsheduled DNA Synthesis (UDS) test (OECD TG 486, GLP) micronucleus test using mouse bone marrow cells using the voice vivo mammalian stem cells, regardless of the (OECD 474, GLP) results voice, Source:

- Trade Secret : In vitro / audio, Source: IUCLID

- Trade Secret : Voice, regardless of In vitro Salmonella typhimurium Ames test based upon the presence or absence of metabolic activation, Source: National Library of Medicine/Chemical Carcinogenesis Research Information System(NLM/CCRIS)(http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CCRIS)

○ Reproductive toxicity PRODUCT : Not classified

- Polyethylene : No data available

- Trade Secret : Subject to the second-generation carcinogenicity test the rats, 500mg / kg concentration group decreased body weight gain in male rats, the liver weight gain, birth weight and weight growth of the high-concentration group was significantly reduced development also been delayed (NOAEL P = 500mg / kg bw / day) (GLP), Source: ECHA

- Trade Secret : No data available

- Trade Secret : No data available

○ Specific target organ toxicity single exposure PRODUCT : Category 3(Respiratory tract irritation)

- Polyethylene : If breathing dust causes inflammation of the lungs in laboratory animals (rats)., Source: Kochetkova, 1971

- Trade Secret : Women search stomach cramps, fatigue, nausea, fatigue, mental disorders and loss of consciousness in the short term are reported in rats, RD50 (4h) = 21.1ppm (equivalent RD50 (4h) = 0.19 mg / L)

- Trade Secret : No data available

- Trade Secret : It causes irritation if inhaled

○ Specific target organ toxicity repeated exposure PRODUCT : Not classified

- Polyethylene : No data available

- Trade Secret : 2G carcinogenicity tests using rats, being this enzyme increases between the F1 generation, weight gain, liver tumor, hyperthyroidism, hepatic hypertrophy, etc. observed (NOAEL F1, number = 25 mg / kg bw / day (nominal)) (GLP) mice, rats, hamsters administered repeatedly targeted dermal toxicity test results and liver damage are being observed, Source:

- Trade Secret : No data available

- Trade Secret : By exposure causes the blood system disorders, gastrointestinal disorders, hoheu over mongye

○ Aspiration hazard PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : No data available
- Trade Secret : No data available
- Trade Secret : No data available

12. ECOLOGICAL INFORMATION

1) Aquatic toxicity

● Fish>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : LC50> 0.57 ㎎ / ℓ 96 hr Other (Danio rerio, ring formulas, EU Method C.1, GLP), Source: EHCA
- Trade Secret : LC50 0.00111 ㎎ / ℓ 14 day (), Source: ECOSAR
- Trade Secret : LC50> 56000 ㎎ / ℓ 96 hr, Source: ECOTOX

● Crustacea>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : EC50 0.48 ㎎ / ℓ 48 hr Daphnia magna (index expression, OECD TG 202, GLP), Source: ECHA
- Trade Secret : No data available
- Trade Secret : No data available

● Aquatic algae>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : EC50> 0.4 ㎎ / ℓ 72 hr Scenedesmus subspicatus (index expression, EU Method C.3, GLP), Source: ECHA
- Trade Secret : No data available
- Trade Secret : EC50 22000 ㎎ / ℓ 96 hr, Source: Ecological Structure Activity Relationships(ECOSAR)

2) Persistence and degradation

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

- Polyethylene : No data available
- Trade Secret : 5.03 log Kow (QSAR), Source: ECHA
- Trade Secret : 5.3 log Kow (estimate), Source: ChemIDplus
- Trade Secret : No data available

● Degradation>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : No data available
- Trade Secret : No data available
- Trade Secret : No data available

● Biodegradation>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : 4.5% 28 day (OECD Guideline 301 C), Source: ECHA

- Trade Secret : 28 (%) 28 day (), Source: Modified sturm test, GLP, IUCLID
- Trade Secret : No data available

3) Bioaccumulative potential>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : 465 (L / kg), Source: ECHA
- Trade Secret : No data available
- Trade Secret : 3.162, Source: Quantitative Structure Activity Relation(QSAR)

4) Mobility in soil>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : No data available
- Trade Secret : No data available
- Trade Secret : 4.971, Source: Quantitative Structure Activity Relation(QSAR)

5) Other adverse effects>PRODUCT : Not classified

- Polyethylene : No data available
- Trade Secret : Fish: Oryzias latipes: NOEC, 42d, = 0.053 mg / L flow - through, OECD TG 210, GLP, shellfish: Daphnia magna: NOEC, 21d, = 0.023 mg / L ring formulas, OECD TG 202, GLP, algae: NOEC , 72h, = 1 mg / L index equation, OECD TG 201, GLP, Source: ECHA
- Trade Secret : No data available
- Trade Secret : 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)

- Do not allow spill material to enter sewers, storn water drains, soil, etc.

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

● Hazardous Chemicals Act - 위험성 화물 China. List of Dangerous Goods

Not established

● Hazardous Chemicals Act - 기존 화학물질 China. Inventory of Existing Chemical Substances (IECSC)

- Polyethylene

- Trade Secret

● Other regulations - China. National Catalogue of Hazardous Waste (Joint Decree of Ministry of Environmental Protection and Natl. Development & Refor

Not established

● Other regulations - China. SAWS GHS classification list (mandatory) (SAWS No. 2015 - 80, August 19, 2015)

Not established

16. OTHER INFORMATION

1) Reference

- ChemIDplus
- China National Standard(GB30000)
- ECHA
- ECOSAR
- ECOTOX
- EHCA
- Ecological Structure Activity Relationships(ECOSAR)

- IUCLID
- International Uniform ChemicaL Information Database(IUCLID)
- International Uniform ChemicaL Information Database(IUCLID)(http://ecb.jrc.it/esis)
- Kochetkova, 1971
- Modified sturm test, GLP, IUCLID
- National Institute for Occupational Safety and Health GLP toxicity studies, 2017
- National Library of Medicine/Chemical Carcinogenesis Research Information System(NLM/CCRIS)(http://toxnet.nlm.nih.gov/cgi - bin/sis/htmlgen?CCRIS)
- Quantitative Structure Activity Relation(QSAR)
- RTECS
- THOMSON

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3) Revision date

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○ Last revised history :

4) Other