

LG PVC LS100



Straight PVC

Introduction

LS100, homopolymer made by suspension polymerization is applied to various products such as sheet, pipe, profile, wire and hose.

LS100, is a general-purpose product used for soft and hard products and is most widely used in PVC grade.

Application

Pipe, sheet, profiles, wire & cable insulation, non-toxic applications for pipe, hose & film

Properties

Item	Test Method	Unit	Test Condition	Value
Degree of Polymerization	JIS K 6721-77	-	30°C	1000 ± 50
K-Value	DIN 53726	-	-	66
Particle Size	ASTM D1705	%	45Mesh	Max 0.2
Apparent Bulk Density	ASTM D1895-90	g/cm ²	-	0.54 ± 0.04
Specific Gravity	ASTM D790	-	23°C	1.4
Volatiles	ASTM D3030-90	%	Max 0.3	Max 0.3

*Note : 1)The values of properties in the above table have been obtained by the test pieces(natural color) manufactured under certain of injection.


2)The listed values should be used for referential purposed only.

Contact the technical team of PVC & Plasticizer any questions or requirements relevant to LS100 products.



Tech center, 84, Jang-dong, Yusung-gu, Taejon, Korea

Tel: 82-42-860-8511, Fax : 82-42-863-2385

 LG Chem /Yeosu plant	Material Safety Data Sheet	Identity No.	GHS-PVC-036
	Poly Vinyl Chloride	Pages	1/8

1. Identification of the product and the supplier

- 1) Chemical Name : Poly Vinyl Chloride (PVC)
- 2) Advisable use and Restriction
- Advisable use :
 - Used for various use such as pipe, profile, synthetic leather, wallpaper.
 - Restriction of product using :Used for recommended use.
- 3) Manufacturer/Supplier/Distributor information
- Supplier : LG Chem, LTD. 70-1, Hwachi-dong, Yeosu-si, Jeollanam-do
 - Address : Twin Towers, 20, Yeouido-dong, Yeongdeungpo-gu, Seoul (LG Chem, LTD PVC division)
 - Emergency response number : +82-61-680-1131
 - Respondent : LG Chem, LTD, PVC division, Yeosu PVC plant, QA team

2. Hazard identification

1) Hazard classification : Not classified

2) Allocation label elements

<input type="radio"/> Pictogram and symbol	<input type="radio"/> Signal word	<input type="radio"/> Hazard statement
Not applicable	Not applicable	Not applicable

- Precautionary statements
 - [Prevention] : Not applicable
 - [Response] : Not applicable
 - [Storage] : Not applicable
 - [Disposal] : Not applicable

3) Other hazard information not included in hazard classification

- NFPA Rating system : Health: **1**, Flammability: **0**, Reactivity: -

3. Composition/information on ingredients

Chemical Name	Common name Synonyms	CAS No.	Content (%)
Poly Vinyl Chloride (PVC)	Chloroethylene polymer	9002-86-2	100 %

4. First-aid measures

1) Eye contact:

- Keep away from exposure if exposure effect occurred.
- In case of contact with substance, flush eyes with amount of water for at least 15 minutes.
- In case of contact with chemicals, get medical advice/attention.

2) Skin contact:

- Remove contaminated clothing and shoes. Wash skin with soap and water for at least 15 minutes.
- Get medical attention if skin symptoms occurred.
- Wash contaminated clothing and shoes before reuse.

3) Inhalation:

- Move victim to non-contaminated place in fresh air.
- Get medical attention if irritation or symptoms occurred.
- Give artificial respiration if victim is not breathing.

4) Ingestion:

- Get medical attention if swallowed amount of substance.
- Get medical attention if irritation or symptoms occurred.

5) Indication of immediate medical attention and notes for physician:

- Call emergency medical service. Get medical advice/attention, if you needed.
- 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, CO₂, water, regular foam

2) Specific hazards arising from the chemical (ex: hazardous combustion products):

- Containers may explode when heated.
- It may produce HCl and toxic gases when combusted.
- It begins to decompose at above 100 °C according to the increase of corrosive hydrogen chloride gas.
 - Thermal decomposition products: ethyl chloride, phosgene, vinyl chloride monomer, carbon

3) Special protective equipment and precautions for fire-fighters:

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

6. Accidental release measures

1) Personal precautions, protective equipment and emergency procedures:

- Stop leak if you can do it without risk.
- Isolate exposed area.
- Keep unauthorized personnel away.
- Use certificated protective equipment.
- Ventilate the leaked area.

2) Environmental precautions and protective procedures:



- Ensure adequate ventilation.
- Prevent entry into waterways, sewers or basements.

3) The methods of purification and removal:

- Do not touch or walk through spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and storage

1) Precautions for safe handling:

- Wash thoroughly after handling.
- Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures.

2) Conditions for safe storage:

- Store in a closed container.
- Keep away from waterways and sewers.

8. Exposure controls/personal protection

1) Occupational Exposure Limits

	Poly Vinyl Chloride (PVC)
Korean Occupation of Safety and Health Regulation	Not available
ACGIH	TWA= 1 mg/m ³
OSHA	Not available
NIOSH	Not available
Biological exposure index	Not available
EU Regulation	<ul style="list-style-type: none"> • Ireland – TWA: 10 mg/m³ (total inhalable dust); 4 mg/m³ (respirable dust) • Bulgaria – TWA : 6.0 mg/m³ (dust) • Italy - TWA : 1 mg/m³ (respirable fraction)
Other	<ul style="list-style-type: none"> • Austria – STEL: 10 mg/m³ • Canada- TWA: 1 mg/m³ TWA (respirable fraction), STEL: 10 mg/m³ STEL (total dust) • Japan- TWA: 1 mg/m³ OEL (respirable dust); 4 mg/m³ OEL (total dust)

2) Appropriate engineering controls

- Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.
- Check legal suitability of exposure level.

3) Personal protective equipment:

- Respiratory protection: Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.
- Eye protection:
 - An eye wash unit and safety shower station should be available nearby work place.
 - Wear safety glasses to protect eyes from scattering toxic substance.
- Hand protection: Wear chemical resistant gloves to avoid direct contact with chemical substance.
- Body protection: Wear appropriate protective chemical resistant clothing to prevent exposure of skin.

9. Physical and chemical properties

1) Appearance	Solid / white
2) Odor	Odorless
3) Threshold of odor	Not available
4) pH	Not available
5) Melting point/freezing point	302 °C
6) Initial boiling point and boiling range	Not available
7) Flash point	Not available
8) Evaporation rate	Not available
9) Flammability (solid, gas)	Not available
10) Upper/lower flammability or explosive limits.	Not available
11) Vapour pressure	Not available
12) Solubility(ies)	Insoluble
13) vapour density	Not available
14) Specific gravity /Density	1.406 g/cm ³ (20 °C)
15) n-octanol/water partition coefficient	Not available
16) Auto ignition temperature	435 °C
17) Degradation temperature	Not available
18) Viscosity	Not available
19) Molecular weight	60,000 ~ 150,000 g/mol

10. Stability and reactivity

- 1) Chemical stability and Possibility of hazardous reactions:
 - Stable under normal temperatures and pressures.
- 2) Conditions to avoid (e.g., static discharge, shock or vibration):
 - Avoid heat, flames, sparks and other sources of ignition.
 - Avoid contact with incompatible materials.
- 3) Incompatible materials: Avoid contact with strong acid, heat, flames, sparks and other sources of ignition.
- 4) Hazardous decomposition products: ethyl chloride, phosgene, vinyl chloride monomer, carbon



11. Toxicological information

Information of Health Hazardous:

- Acute toxicity:
 - oral: Not available
 - dermal: Not available
 - Inhalation: Not available

- Skin Corrosion/ Irritation: Not available

- Serious Eye Damage/Irritation: Not available

- Respiratory sensitizer: Not available

- Skin Sensitization: Not available

- Carcinogenicity: Not classified
 - IARC: Group 3
 - ACGIH, NTP, OSHA, EU Regulation 1272/2008, US EPA: Not listed

- Mutagenicity: Not classified
 - *In vitro* -Ames test (Samonella typhimurium): Negative

- Reproductive toxicity: Not available

- Specific target organ toxicity (single exposure): Not classified
 - In rats, inhalation of fumes from heated polyvinyl chloride produced interstitial edema, as well as focal bronchial and intra-alveolar hemorrhage in the lungs of some animals. However, it is not enough data to classify the toxicity of this substance.

- Specific target organ toxicity (repeat exposure): Not available
 - Lungs may be affected by repeated or prolonged exposure to dust particles, resulting in fibrosis. However, This evidence for the classification is not enough.

- Aspiration Hazard: Not available

12. Ecological information

- 1) Ecological toxicity:
 - Acute toxicity: Not available
 - Chronic toxicity: Not available

- 2) Persistence and degradability: Not available

- 3) Bioaccumulative potential: Not available

- 4) Mobility in soil: Not available



13. Disposal considerations

- 1) Disposal method:
- Waste must be disposed of in accordance with federal, state and local environmental control regulations.
- 2) Disposal precaution:
- Consider the require attentions in accordance with waste treatment management regulation.

14. Transport information

- 1) UN Number: Not applicable
- 2) UN Proper shipping name: Not applicable
- 3) Transport Hazard class: Not applicable
- 4) Packing group: Not applicable
- 5) Marine pollutant: Not applicable
- 6) Special precautions
- in case of fire: Not applicable
 - in case of spill: Not applicable

15. Regulatory information

Korea:

- Occupational Safety and Health Regulation: Not regulated
- Toxic Chemical Control Act: Not regulated
- Dangerous Material Safety Management Regulation: Not regulated
- Wastes Control Act: Not regulated

EU classification:

- Classification: Not applicable
- Risk phrases: Not applicable
- Safety phrases: Not applicable

U.S.A management information:

- OSHA (29CFR1910.119) : Not regulated
- CERCLA 103 (40CFR302.4): Not regulated
- EPCRA 302 (40CFR355.3): Not regulated
- EPCRA 304 (40CFR355.4): Not regulated
- EPCRA 313 (40CFR372.65): Not regulated
- United States - Section 8(b) Inventory (TSCA): XU

Japan management information:

- Inventory-Existing and New Chemical Substances (ENCS) = (6)-66; (6)-67; (6)-76; (6)-1633

China management information:

- Inventory of Existing Chemical Substances (IECSC) = Present

- Canada management information:
 - Domestic Substances List (DSL) = Present
- Philippines management information :
 - Inventory of Chemicals and Chemical Substances (PICCS) = Present
- Australia management information :
 - Inventory of Chemical Substances (AICS) = Present
- Substance of Roterdame Protocol: Not regulated
- Substance of Stockholme Protocol: Not regulated
- Substance of Montreal Protocol: Not regulated

16. Other information

1) Information source and references:

- U.S. National library of Medicine (NLM) Hazardous Substances Data Bank (HSDB):
<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB.htm>
- U.S. National library of Medicine (NLM) Chemical Carcinogenesis Research Information System (CCRIS):
(<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CCRIS>)
- IARC. Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man. Geneva: World Health Organization, International Agency for Research on Cancer, 1972-PRESENT (Multivolume work), p. S7 216 (1987)
- Korea Occupational Health & Safety Agency: <http://www.kosha.net>
- AKRON: <http://ull.chemistry.uakron.edu/erdl>
- ACGIH, TLV and BEIs # 0108, 2008
- IPCS INCHEM: <http://www.inchem.org/documents/icsc/icsc/eics1487.htm>
- National chemicals information systems (<http://ncis.nier.go.kr>)

2) Issue date : 1997. 04. 01

3) Revision number and date : 2011. 05. 02 (6th)

4) Other material safety data sheet information:

- This MSDS were made of the informational purposes for the safe handling when education or use of the production department workers. Therefore we make no guarantee for result obtained, and assume no responsibility for damages incurred by use of this product. But the material used for the purpose of the data requested is available for further information.



<Record management>

Revision	Revision categories	Revision content	Revision date	Personnel
6 th	GHS Writer Deliberator Approver	GHS add Bin Jung-mun → Jung Jang-ho Jin Su-gil → Park Sang-chun Jung Jong-hoe → Moon Bo-hwan	2010.04.09	Jung Jang-ho
7 th	2. Hazard identification	Revision of existing MSDS GHS applicable categories	2010.06.21	Jung Jang-ho
8 th	Part	Change of form, Revision by recent Data	2011.5.10	Kim Jong-Tae

Product Information

www.chemwide.com

Updated : May. 2006

General Description

LS100 is a general-purpose product used for soft and hard products and is most widely used in PVC grade.

Main Applications

Pipe, power cable jacket, leather, sheets, hoses, soft/hard sheets, wrapping film and innocuous film.

Resin Properties

Parameter	Test Method	Unit	Test Condition	Typical Value
K-Value	DIN53726 / ISO1628-2	-	-	66(65)
Degree of Polymerization	JIS K 6720-2	-	30 °C	1,000 ± 50
Particle Size	ASTM D1921	%	45 mesh	Max. 0.2
Apparent Bulk Density	ASTM D1895	g/cm ³	-	0.54 ± 0.04
Specific Gravity	ASTM D790	-	23 °C	1.4
Volatiles	ASTM D3030	%	110 °C, 1hr	Max. 0.3

Packaging

Paper bag(25kg), Jumbo bag

Certificate Numbers

ISO 9001:2000 00048-1997-AQ-SEO-RvA (rev.1)
ISO 14001:2004 0008-1996-AE-SEO-RvA
OHSAS 18001:1999 0015-2000-HSO-SEO-DNV (rev.1)

IMPORTANT ! Although LG Chem believes that the information contained herein (including data and statements) is accurate as of date hereof, LG Chem makes neither warranty nor guarantee, expressed or implied, (i) that the result described herein will be obtained under end-use conditions, or (ii) as to the effectiveness or safety of any design incorporating LG Chem materials, products, recommendations or advice. Each user bears full responsibility for making its own determination as to the suitability of LG Chem's materials, products, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating LG Chem material or products will be safe and suitable for use under end-use conditions.

Keep the directions and advices contained in MSDS (Material Safety Data Sheet) made and distributed by LG Chem when handling the product and work out proper safety countermeasures. The substance described in MSDS is intended for general condition and each user must work out additional safety countermeasures when mixing with other products or using in special condition.

