

SAFETY DATA SHEET

LOW DENSITY POLYETHYLENE (LDPE)

Infosafe No.: KP00B
ISSUED Date : 05/10/2018
ISSUED by: QENOS PTY LTD

1. IDENTIFICATION

GHS Product Identifier

LOW DENSITY POLYETHYLENE (LDPE)

Company Name

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Recommended use of the chemical and restrictions on use

Unpigmented LDPE and LLDPE for film, moulding and extrusion applications.

Production of moulded polyethylene articles, wire and cable coatings, packaging film.

Other Names

Name	Product Code
LINEAR LOW DENSITY POLYETHYLENE (LLDPE)	
ALKATHENE®; ALKATUFF®; ALKAMAX®	

Alkathene® grades:	
LD0220MS, LD1217, LD6622,	
LDD201, LDD203, LDD204, LDD205,	
LDF433, LDH210, LDH215, LDJ225,	
LDJ226, LDN248, WNC199, WRM124,	
XDS34, XJF143, XLC177, XLF197.	

Alkatuff® grades:	
LL0228, LL425, LL438	
LL501, LL525, LL601,	
LL705UV, LL710UV, LL711UV, LL711UV-1, LL725,	
LL755, LL820.	

Alkamax® grades:	
ML1710SC, ML1735SCX, ML1810PN, ML1810PS, ML2610PN.	

LLCOS1, LLFOS1, LLMOS1, LLMOS2, LLVOS1, HDH0S1,	
LDD25, LDH45, LDJ65, LDN85,	
LDP105, LDR125, LDS145, TUFFPEL,	
LDSCRAP, LDSCRUM, LDSCRPEL.	

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture

Not classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Signal Words: Not Applicable

Hazard and Precautionary Statements: Not Applicable

Label elements: Not Applicable

Other Information

Classification according to Directive 67/548/EEC: Not classified as a dangerous substance.

Classification according to Regulation (EC) No 1272/2008 (CLP/GHS): Not classified as a hazardous substance.

Labelling according to Regulation (EC) No 272/2008 (CLP/GHS): Not applicable.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition).

Other hazards:

No significant health hazard in normal industrial use conditions.

Contact with melted/heated product may cause thermal burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
PROPRIETARY ADDITIVES		0-2 %
POLYETHYLENE		98-100 %

Other Information

Applicable CAS Numbers for Polyethylene grades may include:

CAS No. 9002-88-4 Polyethylene homopolymer
CAS No. 25087-34-7 Ethylene/butene-1 copolymer
CAS No. 25213-02-9 Ethylene/hexene-1 copolymer

4. FIRST-AID MEASURES

Inhalation

Remove victim to fresh air.

Remove contaminated clothing. Seek medical advice if effects persist.

Ingestion

Not expected to be a problem. If uncomfortable seek medical assistance.

Skin

Wash contact area with soap and water. Molten material will adhere to skin and cause burns. Cool material as quickly as possible with water and see a physician for prompt removal of the adhering material and treatment of the burn. Do not remove material or clothing from skin. Removal may result in further damage to skin.

Eye contact

Flush with water in order to remove particulates. For contact with molten material treat as for skin burns.

Advice to Doctor

Treat symptomatically. Advice as per above information.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon Dioxide, Foam, Dry Chemical, Water Fog or Fine Water Spray;

Specific Hazards Arising From The Chemical

Dust explosion hazard - High concentration of air-borne powders, fines or dust may form explosive mixtures with air. Risk of dust explosion is increased if flammable vapour also present.

Static electricity - May accumulate hazardous static charge when agitated in transfer handling systems.

See section 7 for additional information.

Decomposition Temperature

>250°C

Precautions in connection with Fire

Firefighters must use self contained breathing apparatus;

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal

1. Dampen down to prevent spread by wind.
2. Shovel or sweep up spilled material and dispose or recycle.
3. Disposal of recovered material should conform to local regulations.

NOTE: Spilled pellets on surfaces/floors will create slip hazards and should be swept up promptly.

7. HANDLING AND STORAGE

Handling and storage

Manage Dust explosion Hazard: Minimize production of fines/dust when handling PE polymer. Keep handling areas free of loose dust/powder and fines around handling systems and prevent build up and concentration of fines/dust on flat surfaces such as floors and other surfaces such as ducting, structure beams and ceilings. Manage Static Electricity hazard: Earth (ground) all material handling and transfer equipment to dissipate static electricity. Keep away from uncontrolled heat and other ignition sources. For additional information on control of static and potential dust and fire hazards, refer to NFPA -654 "Standard for the Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical and Plastics Industries".

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values

No Exposure Limit Established

Other Exposure Information

No exposure standard has been published by Safe Work Australia for this product.

Safe Work Australia recommends an 8-hour occupational exposure limit for Total Inhalable Particulates (Dusts not otherwise classified) of 10 mg/m³.

Appropriate Engineering Controls

Good general ventilation is required under ordinary conditions of use. Avoid inhaling dusts and fumes generated during use. Use with local exhaust ventilation during processing.

Personal Protective Equipment

Thermal resistant gloves should be worn when handling hot materials. Use safety glasses. Under dusty conditions (concentrations greater than occupational exposure standards) approved dust respirators (eg a P2 disposable respirator or half face respirator fitted with a P3 filter) should be worn to prevent over-exposure by inhalation.

Any personal protection used should meet Australian standards. Approved respiratory protective equipment to AS/NZ1715 and AS/NZ1716 should be worn.

Technical Protective Measures

NOTES REGARDING THERMAL DEGRADATION of POLYETHYLENE

When discussing the degradation of Polyethylene it is important to distinguish between the burning and fuming of the product.

Fumes from Polyethylene: During processing of polyethylene ie whenever the polymer is heated, fumes will be evolved - the extent and content of which will largely depend on the temperature and duration of the exposure.

Because of the wide range of processing conditions which will influence the degradation process and therefore the composition of the fumes, the precise nature of which will vary according to conditions but likely to include butane and other alkanes and alkenes, the general recommendation is given that the inhalation of fumes should be avoided and that the area be well ventilated ie. the level of fumes evolved should be kept as low as possible. It is recommended that general ventilation be provided at the rate of at least six air changes per hour. In some circumstances, based on risk assessment, local exhaust ventilation may be required. (1)

Where continued inhalation of the fumes has occurred or there has been a build up of fumes, a number of effects have been reported relating to irritation of the eyes, respiratory tract and throat. Headaches may also occur.

In certain situations, based on risk management processes, respiratory protection (eg supplied air or organic canister) may also be used to control exposure to polyethylene fume. Only approved respiratory protective equipment to AS/NZ1715 and AS/NZ1716 should be worn.

Burning of Polyethylene: Polyethylene film is a hydrocarbon and therefore will burn readily. It will not however easily self ignite. When burning, polyethylene will drip and run ignited particles. Rolls of polyethylene films and paper, particularly tissue paper, should be stored separately if at all possible - the former is hard to ignite, but burns strongly once alight, the latter will easily ignite and smoulder. Once established, burning polyethylene has at least 50% higher calorific value, therefore the flame will be more than twice the intensity.

If separate storage is not possible, extra high hazard sprinkler system should be concentrated over the area reserved for polyethylene film.

The fire brigade code does not treat rolls of polyethylene film any differently than for paper with respect to hazards from fumes evolved during a fire.

The gases evolved during burning will differ with increasing temperature. However, the major component of the gases will be carbon monoxide, carbon dioxide, very low levels of acrolein, formaldehyde, other aldehydes, ketones, methane, ethane and acetylene. Probably the most attention has been given to the formation of acrolein which can be evolved in toxicologically significant amounts. It is this chemical which causes irritation to the nose, eyes and throat and can cause headaches, and hence the need for any enclosed area to be well ventilated.

It is recommended that fire crew wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.

(1) UK HSE Publication; Plastics Processing Sheet No 13.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Solid

Appearance

Translucent pellets or powder.

Decomposition Temperature

>250°C

Melting Point

100 - 130°C

Boiling Point

None allocated

Vapour Pressure

Not applicable

Flash Point

Not applicable

Flammability

Combustible solid. May form flammable dust clouds in air. Polymer may burn in presence of extreme heat and oxygen. Avoid extreme heat.

Auto-Ignition Temperature

350°C approx.

Flammable Limits - Lower

None allocated

Other Information

Density (Range): 0.910 - 0.945 g/cm³

Water Solubility: Negligible

10. STABILITY AND REACTIVITY

Chemical Stability

STABILITY (Thermal, Light, etc): Stable;

Conditions to Avoid

Extreme Heat

Incompatible materials

INCOMPATIBILITY (Materials to Avoid): Strong oxidising agents

Hazardous Decomposition Products

Carbon Monoxide, Aldehydes, Acetic Acid, Ketones, Acrolein, Ethane and Methane;

Hazardous Polymerization

Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information

Polyethylene has been classified by the international Agency for research on Cancer (IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity to humans. Data available is insufficient for assessment to be made. (IARC Monograph Sup.7, P.70, UK 1987)

Ingestion

No known effects/minimal toxicity. May cause choking if swallowed.

Inhalation

Inhalation of fines may cause irritation of nose and throat. Fumes given off during processing can cause respiratory irritation, headache and nausea.

Skin

Skin contact may result in mechanical injury or abrasion. This is a low risk hazard. Thermal burns may result from exposure to hot material.

Eye

Pellets, fines and powder may scratch eye surfaces/cause mechanical irritation to eyes. Fumes given off during processing may cause eye irritation.

Chronic Effects

None known.

12. ECOLOGICAL INFORMATION

Environmental Protection

Pellets of resin considered environmentally inert.

13. DISPOSAL CONSIDERATIONS

Disposal considerations

Dispose of in compliance with Federal, state and local government regulations. Disposal options include: recycling, incineration and landfilling.

14. TRANSPORT INFORMATION

U.N. Number

None Allocated

UN proper shipping name

None Allocated

Transport hazard class(es)

None Allocated

Storage and Transport

Land: Not Regulated

Sea: Not Regulated

Air: Not Regulated

Keep containers closed at all times. Check regularly for spills.

15. REGULATORY INFORMATION

Poisons Schedule

Not Scheduled

Packaging & Labelling

No special requirements.

Australia (AICS)

All components listed in the AICS.

16. OTHER INFORMATION

References

Commonwealth of Australia, 'Australian Code for the Transport of Dangerous Goods by Road and Rail'.

Manufacturers Advice

Conveying lines and equipment in material handling systems should be grounded to eliminate or reduce the build up of static electricity. Avoid sources of ignition in areas where fines may occur.

Other Information

This MSDS summarises to our best knowledge at the date of issue, the health, safety and environmental hazards of the material and general guidance on how to safely handle the material in the workplace. Since Qenos cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Qenos representative or Qenos at the contact details on page 1.

END OF SDS

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