

For more information and technical assistance contact;

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MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product:	InnoPlus LDPE
Chemical Name and Synonyms:	Low Density Polyethylene
CAS No.:	9002-88-4
Formula:	$(CH_2-CH_2)_n$
Company Identification/Supplier:	PTT Polyethylene Company Limited 8, Padang Rd., Tambon Map Ta Phut , Amphoe Mueang, Rayong 21150 Thailand
Emergency Telephone No:	+66(0)-3892-1191

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	AMOUNT
Polyethylene	9002-88-4*	< 100% weight

* See Notes in Section 16

NOTE:

This product is not considered a hazardous material at temperatures below the melting point as determined in Section 9.

SECTION 3 – HAZARDS IDENTIFICATION

PHYSICAL/CHEMECAL HAZARDS:

This product has been evaluated and does not require any hazard warning on the label under established regulatory criteria. High dust concentrations have a potential for combustion or explosion.

HUMAN HEALTH HAZARDS:

Not classified as dangerous substance. Handling and/or processing of this material may generate dust which may cause mechanical irritation of the eyes, skin, nose and throat.

ENVIRONMENTAL HAZARDS:

Not classified as dangerous material.

EFFECTS AND SYMTOMS:

Eyes

No significant irritation expected other than possible mechanical irritation. Heated material can cause thermal burns. When heated to decomposition it emits acid smoke and irritating fumes.

Skin

No significant irritation expected other than possible mechanical irritation. Heated material can cause thermal burns.

Inhalation

Dust: Exposure to airborne concentrations well above the recommended exposure limits may cause irritation of the nose, throat, and lungs.
Vapor: If heated to more than 300°C, the product may form vapors or fumes which could cause irritation of the respiratory tract, coughing, and shortness of breath.

Ingestion

No significant health hazards identified.

SECTION 4 – FIRST AID MEASURES

EYE CONTACT

Flush eyes with running water immediately while holding the eyelids open. Remove contact lens, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention.

SKIN CONTACT

Molten resin: If molten material comes in contact with the skin, cool under ice water or running stream of water. Do not attempt to remove the material from the skin. Remove could result in severe tissue damage. Get medical attention.

INGESTION

If swallowed, do not induce vomiting. Give a person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

INHALATION

Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

SECTION 5 – FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING AGENTS: Water haze, Foam, Chemical powder.

FOR SAFETY REASONS UNSUITABILITY EXTIGUISHING AGENTS: Water jet.

SPECIAL HAZARDS:

Caused by the material, its product of combustion or resulting gases: In case of fire it can release: Water (H₂O), Carbon dioxide (CO₂), and when lacking oxygen (O₂), Carbon monoxide (CO). The products of the burning are dangerous.

PROTECTIVE EQUIPMENT:

Use a mask with universal filler. Use self-contained breathing apparatus within confined rooms.

SECTION 6 – ACCIDENTAL RELEASE MEASURE

PROTECTIVE MEASURES: Eliminate all sources of ignition in vicinity of spilled material. Wear appropriate personal protective equipment when cleaning up spills.

SPILL MANAGEMENT: Avoid creating dust clouds. Shovel, sweep up or use industrial vacuum cleaner to pick up. Place in container for proper disposal. Reduce airborne dust and prevent scattering by moistening with water. Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. If heated material is spilled, allow it to cool before proceeding with disposal method.

SECTION 7 – HANDLING AND STORAGE**INFORMATION FOR SAFE HANDLING:**

No special requirements necessary, if handled at room temperature.

Avoid spilling the product, as this might cause falls.

Potential toxic/irritating fumes may be evolved from heated material.

Provide appropriate ventilation for such processing conditions.

Take precautionary measures against explosion risks, as all types of polymers may develop dust during transporting or grinding of granules.

REQUIREMENTS TO BE MET BY STOREROOMS AND CONTAINERS:

Take precautionary measures to prevent the formation of static electricity.

Do not smoke. Ground equipment electrically.

INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:

Not required.

FURTHER INFORMATION ABOUT STORAGE CONDITIONS:

Protect from heat and direct sunlight.

Store under dry conditions.

SPECIFIC APPLICATIONS:

For safe stacking follow the storage recommendations specific for this product.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION**ENGINEERING CONTROLS:**

Use in a well-ventilated area. If handling results in dust generation, special ventilation may be needed to ensure that dust exposure does not exceed the OSHA PEL for nuisance dust. If heated material generates vapor or fumes, use process enclosures, local exhaust

ventilation, or other engineering controls to control exposure.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory system

Product processing, heat sealing of film or operations involving the use of wires or blades heated above 300°C may produce dust, vapor or fumes . To minimize risk of overexposure to dust, vapor or fumes it is recommended that a local exhaust system is placed above the equipment, and that the working area is properly ventilated. If ventilation is inadequate, use certified respirator that will protect against dust/mist.

Skin and body

Hot material: Wear heat-resistant protective gloves, clothing and face shield able to withstand the temperature of the molten product.

Cold material: None required; however, use of gloves is good industrial practice.

Hand

Hot material: Wear heat-resistant protective gloves able to withstand the temperature of the molten product.

Cold material: None required; however, use of gloves is good industrial practice.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Eyes

Safety glasses with side shields. Use dust goggles if high dust concentration is generated.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:

Pellets.

ODOR:

Slight waxy odor.

COLOR:

Translucent to white.

FREEZING POINT:

No test data available.

MELTING POINT:

100-120 °C

BOILING POINT:

No test data available

FLASH POINT:

No test data available

DENSITY:

0.910 – 0.940 g/cm₃

SPECIFIC GRAVITY:

No test data available

AUTOIGNITION TEMPERATURE:

No test data available

EXPLOSIVE PROPERTIES

High dust concentrations have a potential for combustion or explosion

PERCENT VOLATILE:

No test data available

VAPOR PRESSURE:

No test data available

WATER SOLUBILITY:

Insoluble.

SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY:

This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

CONDITIONS TO AVOID: Not Applicable.

INCOMPATIBILITY WITH OTHER MATERIALS:

May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

Low molecular weight hydrocarbon, carbon dioxide, carbon monoxide, unidentified organic compounds.

SECTION 11 – TOXICOLOGICAL INFORMATION

PRIMARY IRRITANT EFFECT:

ON THE SKIN: No irritant effect.

ON THE EYES: No irritant effect.

SENSITIZATION: No sensitizing effect known.

ADDITIONAL TOXICOLOGICAL INFORMATION:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

SECTION 12 – ECOLOGICAL INFORMATION

MOBILITY AND BIOACCUMULATION POTENTIAL:

Floats on water. There is no bioaccumulation.

OTHER INFORMATION:

This product is not biodegradable.

GENERAL NOTES:

The product is not toxic, small particles can have physical effects on water and Soil organisms.

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL CONSIDERATION/WASTE INFORMATION:

Recycle to process, if possible. Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.

SECTION 14 – TRANSPORT INFORMATION

TRANSPORT/ADDITIONAL INFORMATION:

According to national and international guidelines, which regulate the road-, rail-, air- and sea-transport, this product is classified as not dangerous.

SECTION 15 – REGULATION INFORMATION

US. Toxic Substances Control Act : All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

OSHA Hazard Communication Standard : This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16 – OTHER INFORMATION**NOTES:**

Date of issue:	Oct-2010
Prepare by:	Technical Support, Polymer VC, PTT Chemical PLC.
Polymer CAS Numbers:	For polyethylene homopolymer grades: 9002-88-4

NOTICE:

This Material Data Sheet has been based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We take no responsibility for inappropriate use, processing and handling by purchasers and uses of the product.



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SAFETY DATA SHEET

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: LINEAR LOW DENSITY POLYETHYLENE - Grades designated by LL or LLP prefix
Product Description: LLDPE without polymer processing aid, see Section 16 for applicable grades.

Intended Use: Coatings, Extrusion and moulding, Film blowing

COMPANY IDENTIFICATION

Supplier: ExxonMobil Chemical Asia Pacific (Regn. No. 52893724C)
(A Division Of ExxonMobil Asia Pacific Pte Ltd - Regn. No. 196800312N)
POLYOLEFINS
1 Harbour Front Place
#06-00 Harbour Front Tower One 098633 Singapore

24 Hour Environmental / Health Emergency 800-101-2201
Telephone
Supplier General Contact +65 6885 8339

Local Contact:

Country	Emergency Telephone Number
China	4001-204937
Hong Kong	800-968-793
India	000-800-100-7141
Japan	+81-3-45209637
Malaysia	1-800-815-308
Republic of Korea	00-308-13-2549
Thailand	001-800-13-203-9987

This (M)SDS is a generic document with no country specific information included.

SECTION 2

HAZARDS IDENTIFICATION

This material is not hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

Other hazard information:

PHYSICAL / CHEMICAL HAZARDS

WARNING: May form combustible dust concentrations in air (during processing/handling). Material can accumulate static charges which may cause an ignition. Spilled pellets present a slipping hazard on hard surfaces. Contact with hot material can cause thermal burns which may result in permanent damage.

HEALTH HAZARDS



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If dust is generated, it could scratch the eyes and cause minor irritation to the respiratory tract. When heated, the vapour/fumes given off may cause respiratory tract irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

SECTION 3

COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

No Hazardous Substance(s) or Complex Substance(s) required for disclosure.

NOTE: The product may contain varying levels of additives such as slip and anti-blocking agents, antioxidants and stabilisers.

SECTION 4

FIRST AID MEASURES

INHALATION

At ambient/normal handling temperatures, no adverse effects due to inhalation of dust are expected. In case of adverse exposure to vapours and / or aerosols formed at elevated temperatures, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest.

SKIN CONTACT

For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

No adverse effects due to ingestion are expected.

ACUTE AND DELAYED SYMPTOMS/EFFECTS

See Toxicological Section

SECTION 5

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Assure an extended cooling down period to prevent re-ignition. Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.



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Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentration and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products: Smoke, Fume, Incomplete combustion products, Oxides of carbon, Flammable hydrocarbons

FLAMMABILITY PROPERTIES

Flash Point [Method]: N/A

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

Autoignition Temperature: N/A

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (for example, clearing dust surfaces with compressed air). Prevent dust exposure to ignition sources. For example, use non-sparking tools and prohibit smoking, flares, sparks or flames in immediate area. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Spilled pellets present a slipping hazard on hard surfaces. Prevent dust cloud. Small Dry Spills: With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas. For Large Spills: Cover spill with plastic sheet or tarpaulin to minimise spreading.

SECTION 7

HANDLING AND STORAGE

HANDLING

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts



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do not accumulate on surfaces. Dust from material can accumulate electrostatic charges due to friction from transfer and mixing operations and cause an electrical spark (ignition source). Provide adequate precautions to ignition sources, such as electrical grounding and bonding, inert atmosphere or non-sparking tools. However, bonding and grounds may not eliminate the hazard for static accumulation. Consult local applicable standards for guidance. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids and EN 61241, Electrical Apparatus for Use in the Presence of Combustible Dust for safe handling. Avoid elevated temperatures for prolonged periods of time. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent small spills and leakage to avoid slip hazard. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Care should be taken when storing and handling this product. Apart from the specific nature of the polymer product, conditions such as humidity, sunlight and temperature have an influence on the way the product behaves during storage and handling. Special attention should be paid to avoid inappropriate stacking of palletised bags or other package units. Indeed, polymer products may be dimensionally unstable under certain conditions. Avoid conditions generating heat during transfer operations.

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]

Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames and high temperatures. Do not store in open or unlabelled containers.

Storage Temperature: [Ambient]

Storage Pressure: [Ambient]

Suitable Containers/Packing: Bulk Containers; Hopper Cars; Bags; Boxes; Drums; Octatainer; Silos

Suitable Materials and Coatings (Chemical Compatibility): Aluminium; Polyethylene Bags

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: For dusty conditions, ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m³ (inhalable particles), 3 mg/m³ (respirable particles). Product may also contain varying levels of additives, such as slip and antiblocking agents (talc or silica), antioxidants, stabilizers, and corrosion inhibitors. Certain grades may contain cristobalite, a form of crystalline silica, as an additive that is encapsulated in the polymer. Inhaled crystalline silica in an occupational environment is recognized as a known human carcinogen. However, the potential for release of silica to the air when this polymer is handled has been assessed and the encapsulated silica within the polymer is not expected to pose a health hazard when processed under normal conditions of use.

Biological limits

No biological limits allocated.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.



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ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. **SPECIAL PRECAUTIONS:** Should significant vapours/fumes be generated during thermal processing of this product, it is recommended that work stations be monitored for the presence of thermal degradation by-products which may evolve at elevated temperatures (for example, oxygenated components). Processors of this product should assure that adequate ventilation or other controls are used to control exposure. It is recommended that the current ACGIH-TLVs for thermal degradation by-products be observed. Contact your local sales representative for further information. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product are designed and maintained to minimize dust generation and accumulation. Ensure that dust-handling systems (such as exhaust ducts, dusts collectors, vessels, and processing equipment) are designed to minimize the potential for dust ignition and prevent explosion propagation. For example, use explosion relief vents, an explosion suppression system or inert equipment internals. Additional examples of proper equipment include using only appropriately classified electrical equipment and powered industrial trucks.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Particulate air-purifying respirator approved for dust or oil mist is recommended.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If dusty conditions exist, chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after



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handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Solid
Form: Pellet, Granule, Powder
Colour: Clear to Opaque, White to Off-White
Odour: None to Mild
Odour Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.9 - 0.95
Bulk Density: 0.4 g/cc at 20 °C - 1 g/cc at 20 °C
Flammability (Solid, Gas): N/A
Flash Point [Method]: N/A
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/A
Boiling Point / Range: N/A
Decomposition Temperature: N/D
Vapour Density (Air = 1): N/A
Vapour Pressure: N/A
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: 115°C (239°F) - 130°C (266°F)
Molecular Weight: > 25000
Hygroscopic: No

SECTION 10

STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid elevated temperatures for prolonged periods of time.



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MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
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ACUTE TOXICITY

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
Inhalation	
Toxicity: No end point data for material.	Minimally Toxic. Based on chemical structure (polymers).
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on chemical structure (polymers).
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on chemical structure (polymers).
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on chemical structure (polymers).
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on chemical structure (polymers).

OTHER HEALTH EFFECTS FROM SHORT AND LONG TERM EXPOSURE

Anticipated health effects from sub-chronic, chronic, respiratory or skin sensitization, mutagenicity, reproductive toxicity, carcinogenicity, target organ toxicity (single exposure or repeated exposure), aspiration toxicity and other effects based on human experience and/or experimental data.

For the product itself:

Dust may be irritating to the eyes and respiratory tract.

Elevated temperatures or mechanical action may form vapours, mists or fumes which may be irritating to the eyes and respiratory tract.

Contains:

Additives that are encapsulated in the polymer. Under the normal conditions for processing and use of this polymer the encapsulated additives are not expected to pose any health hazard. However, grinding of the polymer is not recommended without the use of appropriate measures to control exposure (see Section 8 - Engineering Controls).

IARC Classification:

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = IARC 1

2 = IARC 2A

3 = IARC 2B



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SECTION 12

ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

Material -- Not expected to be harmful to terrestrial organisms.

MOBILITY

Material -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be persistent.

Hydrolysis:

Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis:

Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

Material -- Transformation due to atmospheric oxidation not expected to be significant.

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13

DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

SECTION 14

TRANSPORT INFORMATION

LAND (ADR/RID) : Not Regulated for Land Transport



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SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15

REGULATORY INFORMATION

Material is not hazardous as defined by the EU Dangerous Substances/Preparations Directives.

EU LABELING: Not regulated according to EC Directives

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Complies with the following national/regional chemical inventory requirements: TSCA

Contact Sales / Marketing group for complete chemical inventory listing applicable to product.

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:

Section 06: Protective Measures was modified.

Section 09: Bulk Density was modified.

Section 11: Dermal Lethality Test Data was modified.

Section 11: Oral Lethality Test Data was modified.

Section 11: Inhalation Lethality Test Data was modified.

Section 11: Dermal Irritation Test Data was modified.

Section 11: Eye Irritation Test Data was modified.

Section 11: Inhalation Irritation Test Data was modified.

Section 09: Relative Density - Header was modified.

Section 08: Eye Protection was modified.

Section 11: Inhalation Lethality Test Comment was modified.

Section 16: Materials Covered was modified.

Section 11: Additional Health Information was modified.

Section 09: Melting Point C(F) was modified.

Section 01: Company Contact Methods Sorted by Priority was modified.

Section 01: Indent Secondary Companies Table was modified.



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THIS SDS COVERS THE FOLLOWING MATERIALS: Linear Low Density PE grades for which the grade name consists of a base polymer designated by a LL or LLP prefix followed by a suffix referring to an additive package. Applicable designations follow. | Base polymers : | LL 1000S | LL 1001 | LL 1002 | LL 1004 | LL 1015 | LL 1201 | LL 1433 | LL 3000S | LL 3001 | LL 3002 | LL 3003 | LL 3201 | LL 3402 | LL 3404 | LL 4004 | LL 5002 | LL 5100 | LL 5252 | LL 60 | LL 6100 | LL 6101 | LL 6201 | LL 6202 | LL 6235 | LL 6301 | LL 6407 | LL 8360 | LL 8446 | LL 8450 | LL 8460 | LL 8501 | LL 8555 | LLP 8360 | LLP 8450 | LLP 8460 | LLP 8470 | LLP 8555 | Possible additive packages : | 09 | 17 | 19 | 21 | 24 | 25 | 28 | 29 | 32 | 38 | 39 | 48 | 67 | 80 | 82 | EL | KA | KI | KW | RQ | X29 | X31 | X59 | X72 | X74 | X75 | X76 | XR | XV | YB | ZB | ZZ

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