according to Regulation (EC) No. 1907/2006

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

1.1 Product identifier

Trade name : Lupolen 2427H

Synonyms : Ethene, homopolymer, PE

Substance name : Polyethylene Substance No. : 9002-88-4

Chemical characterization : Polyethylene Homopolymer

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Manufacture of plastic articles by injection molding, extrusion

or other conversion process.

Prohibited uses : FDA Class III medical devices; European class III medical

devices; Health Canada class IV Medical Devices;

Applications involving permanent implantation into the body;

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Life-sustaining medical applications

1.3 Details of the supplier of the safety data sheet

Company Registration number Telephone

Basell Sales & Marketing Company B.V. NA 31 (0) 10 275 55 00

Delftseplein 27E 3013 AA Rotterdam

Netherlands

E-mail address : product.safety@lyb.com

Responsible/issuing person

1.4 Emergency telephone number

Basell Sales & Marketing Company B.V. +32 3 575 1235

Poison Center:

Gesundheid Österreich GMBH

AT: +43 1 406 43 43 24 hours all days

2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

2.3 Other hazards

If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

3. Composition/information on ingredients

3.2 Mixtures

Ingredients

Chemical name	CAS-No. EC-No.	Classification (REGULATION (EC) No 1272/2008)	Weight %
Polyethylene	9002-88-4	Not Classified	> 99.5 %

Contains: Additives and stabilizers

4. First aid measures

4.1 Description of first-aid measures

General advice : Take proper precautions to ensure your own health and safety

before attempting rescue and providing first aid.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get

medical attention.

In case of excessive inhalation of fumes that may be

generated during heating of this material, move the person to

fresh air.

Obtain medical attention.

Keep person warm, if necessary give Cardio-Pulmonary

Resuscitation (CPR)

In case of skin contact : If molten material contacts the skin, immediately flush with

large amounts of water to cool the affected tissue and

polymer.

Do not attempt to peel polymer from skin as this will remove

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the skin.

Obtain immediate emergency medical attention if burn is deep

or extensive.

In case of eye contact : Flush eyes thoroughly with water for several minutes and seek

medical attention if discomfort persists.

: In case of eye contact with molten polymer:

Continuously flush eye(s) with cool running water for at least

15 minutes.

Beyond flushing, DO NOT attempt to remove the material

adherent to the eye(s).

Immediately seek medical attention.

If swallowed : Adverse health effects due to ingestion are not anticipated.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Inhalation of process fumes and vapors may cause soreness

in the nose and throat and coughing.

Hazards : Dust contact with the eyes can lead to mechanical irritation.

Molten polymer may cause thermal burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treatment of overexposure should be directed at the control of

symptoms and the clinical condition of the patient.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media : SMALL FIRE:

Use dry chemical, CO2, or water spray.

: LARGE FIRES:

Use water spray hose nozzles from a safe location.

Unsuitable extinguishing :

media

: None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire

fighting

: Keep away from heat and sources of ignition.

In case of fire hazardous decomposition products may be

produced such as:

Carbon monoxide, carbon dioxide and unburned

hydrocarbons (smoke).

5.3 Advice for firefighters

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Special protective equipment

for fire-fighters

: Wear approved positive pressure self-contained breathing

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apparatus and firefighter protective clothing.

Further information : Combustible particulate solid, will decompose under fire

conditions.

Calorific Value: 8000 - 11000 kcal/kg

Fight fire from safe distance with hose lines or monitor

nozzles.

Heat from fire may melt, decompose polymer, and generate

flammable vapors.

Move containers from fire area if it can be done without risk. Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container.

Always stay away from tanks engulfed in fire.

Do not attempt to get on top of storage containers involved in

fire.

Cool storage containers with large volumes of water even

after fire is out.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Equip responders with proper protection.

Creates dangerous slipping hazard on any hard smooth

surface.

Equip emergency responders with proper personal protective

equipment (PPE)
Avoid generating dust.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces

with compressed air).

Potential combustible dust hazard.

Polymer particles create slipping hazard on hard smooth

surfaces.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Methods for containment / Methods for cleaning up

: On land, sweep/shovel into suitable disposal containers or vacuum using equipment which avoids ignition risk.

On water, material is insoluble; collect and contain as any

solid.

All recovered material should be packaged, labeled.

transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good

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engineering practices. Reclaim where possible.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Material is in a pellet form.

> If converted to small particles during further processing, handling, or by other means, may form combustible dust

concentrations in air.

Avoid dust accumulation in enclosed space.

Avoid generating dust; fine dust suspended in air and in the presence of an ignition source is a potential dust explosion

hazard.

Static discharge (spark), or other ignition sources, in high dust

environments may ignite the dust and result in a dust

explosion

Electrostatic charge may build during conveying or handling. Equipment handling polymer should be conductive and

grounded (earthed) and bonded.

Metal containers involved in the transfer of this material

should be grounded and bonded.

All electrical equipment should conform to applicable electric

codes and regulatory requirements for areas handling

combustible dusts.

After handling, always wash hands thoroughly with soap and

water.

When bringing the material to processing temperatures vapors may develop may condense in the exhaust ventilation. See

section 10.

Fire-fighting class : Polymer will burn but does not easily ignite.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Store in a dry location.

Use good housekeeping practices during storage, transferring and handling. Process enclosures and adequate ventilation should be used to avoid excessive dust accumulation. Store away from excessive heat and away from strong

oxidizing agents.

Keep container closed to prevent contamination.

Take measures to prevent the build up of electrostatic charge.

7.3 Specific end use(s)

: See Section 1.2.

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8. Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Occupational Exposure Limits

Ingredients	CAS-No.	Туре	Limit Value	Basis Revision Date	Additional Information
Materials that can be formed when handling this product: Non- specified (inert or nuisance) dust		TWA	10 mg/m3 inhalable	US (ACGIH) 2005	
Materials that can be formed when handling this product: Non- specified (inert or nuisance) dust		TWA	3 mg/m3 respirable	US (ACGIH) 2005	

Consult local authorities for acceptable exposure limits.

8.2 Exposure controls

Engineering measures

Follow the recommendations in international standard NFPA 654 (as amended and adopted) for equipment used to handle this product.

Engineering controls, i.e. enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Personal protective equipment

Respiratory protection : Use process enclosures, local exhaust ventilation, or other

engineering controls to keep airborne levels below

recommended exposure limits.

When workers are facing concentrations above the exposure

limit they must use appropriate certified respirators.

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Use appropriate respiratory protection where atmosphere

exceeds recommended limits.

Where workers could be exposed to dust concentrations above the exposure limit they must use appropriate certified

respirators.

Hand protection : Wear gloves that provide thermal protection where there is a

potential for contact with heated material.

Eye and face protection : Dust service goggles should be worn to prevent mechanical

injury or other irritation to eyes due to airborne particles which

may result from handling this product.

Skin and body protection : Wear suitable protective clothing.

Hygiene measures : Selection of appropriate personal protective equipment should

be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered

during use.

Use good personal hygiene practices.

Wash hands before eating, drinking, smoking, or using toilet

facilities.

Take off contaminated clothing and wash before reuse.

Environmental exposure controls

General advice : See section 6.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Pellets.

Color : Translucent to white

Odor : Slight.

Flash point : No Data Available.

Lower explosion limit : The minimum explosive concentration (MEC) for polymer dust

varies according to particle size distribution.

Upper explosion limit : Not applicable.

Flammability (solid, gas) : Polymer will burn but does not easily ignite.

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Oxidizing properties : Not considered an oxidizing agent.

Autoignition temperature : > 300 °C

Decomposition temperature : not determined

Melting point/range : 50 - 170 °C

Boiling point/boiling range : Not applicable.

Vapor pressure : Not applicable.

Density : < 1 g/cm3

Water solubility : Insoluble.

Partition coefficient: n-

octanol/water

: No Data Available.

Viscosity, dynamic : Not applicable.

Relative vapor density : Not applicable.

Evaporation rate : Not applicable.

Explosive properties : No Data Available.

9.2 Other information

Other information : No additional information available.

10. Stability and reactivity

10.1 Reactivity

No known reactivity hazards.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Will not occur.

10.4 Conditions to avoid

Conditions to avoid : Avoid contact with strong oxidizers, excessive heat, sparks or

open flame.

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10.5 Incompatible materials

Materials to avoid : Material may be softened by some hydrocarbons.

10.6 Hazardous decomposition products

Hazardous decomposition

Thermal decomposition

products

: Not expected to decompose under normal conditions.

: Note: Carbon monoxide, olefinic and paraffinic compounds, trace amounts of organic acids, ketones, aldehydes and

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alcohols may be formed.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Not classified

Acute inhalation toxicity : Not classified

Acute dermal toxicity : Not classified

Skin corrosion/irritation : Not a skin irritant.

Serious eye damage/eye

irritation

: Not an eye irritant.

Mechanical irritation is possible.

Respiratory or skin

sensitization

: Not classified

Chronic toxicity

Carcinogenicity : Not classified

Germ cell mutagenicity : Not classified

Reproductive toxicity

Effects on fertility /

: Not classified

Effects on or via lactation

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Effects on Development : Not classified

Target Organ Systemic Toxicant - Single exposure

: The substance or mixture is not classified as specific target

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organ toxicant, single exposure.

Target Organ Systemic Toxicant - Repeated exposure

: The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Aspiration hazard : Not applicable.

12. Ecological information

12.1 Toxicity

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

12.2 Persistence and degradability

Biodegradability : Not expected to be biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation : This material is not expected to bioaccumulate.

12.4 Mobility in soil

Additional advice : This material is not volatile and insoluble in water.

Environmental fate and

pathways

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Additional ecological : Ecotoxicity is expected to be minimal based on the low water

information solubility of polymers.

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No data available on this product. However, birds, fish and other wildlife may eat pellets which may obstruct their intestinal tracts.

13. Disposal considerations

13.1 Waste treatment methods

Product : All recovered material should be packaged, labeled,

transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good

engineering practices. Reclaim where possible.

Recycle if possible.

14. Transport information

Not regulated for transport

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACh status

If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, we confirm that all substances in this preparation have been pre-registered or, where required under REACh, registered, and that we have the intention to proceed with their registration in accordance with the deadlines set forth in REACh. (Regulation (EU) No. 1907/2006)

Other international regulations

Global Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement

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Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant
Taiwan	TCSCA	Compliant

Contact product.safety@lyb.com for additional global inventory information.

15.2 Chemical safety assessment

No information available.

16. OTHER INFORMATION

Material safety datasheet sections which have been updated:

Revised Section(s): 1 15 16 August 3 2017

Abbreviations and Acronyms

ACGIH - American Conference of Governmental Industrial Hygienists

ACGIH_BEIs - American Conference of Governmental Industrial Hygienists_Biological Exposure Indices

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

AICS - Australian Inventory of Chemical Substances

ASTM - American Society for Testing and Materials

BEL - Biological Exposure Limits

BTEX - Benzene, Toluene, Ethylbenzene, Xylenes

CAS - Chemical Abstracts Service

CEFIC - European Chemical Industry Council

CLP - Classification Packaging and Labelling

COC - Cleveland Open-Cup

CS - Consumer Scenario

DIN - Deutsches Institut für Normung

DN(M)EL - Derived No (Minimal) Effect Level

DSL - Canada Domestic Substance List

EC - European Commission

EC50 - Median Effective Concentration

ECETOC - European Center on Ecotoxicology and Toxicology of Chemicals

ECHA - European Chemicals Agency

EL50 - Effective Loading fifty

ELINCS - EHR-Lab Interoperability and Connectivity Specification

ENCS - Japanese Existing and New Chemical Substances Inventory

ERC - Environmental Release Category

EUSES - European Union System for the Evaluation of Substances

EWC - European Waste Code

GHS - Globally Harmonized System of Classification and Labelling of Ch

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IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IC50 - Inhibitory Concentration fifty IL50 = Inhibitory Level fifty

IMDG - International Maritime Dangerous Goods

IECSC - Chinese Chemicals Inventory

IOELV - Indicative Occupational Exposure Limit Values

IP346 - Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics

DMSO-extractables

KECI - Korea Existing Chemicals Inventory

Koc - Organic Carbon/Water Partition Coefficient

LC50 - Lethal Concentration fifty

LD50 - Lethal Dose fifty per cent.

LL/EL/IL - Lethal Loading/Effective Loading/Inhibitory Loading

LL50 - Lethal Loading fifty

MAK Commission - Permanent Senate Commission for the Investigation of Health Hazards of

Chemical Compounds in the Work Area

MARPOL - International Convention for the Prevention of Pollution from Ships

No. - Number

NOEC/NOEL - No Observed Effect Concentration / No Observed Effect Level

NZIoC - New Zealand Inventory of Chemicals

OE_HPV - Occupational Exposure - High Production Volume

OECD - Organization for Economic Co-operation and Development

OEL - Occupational Exposure Limit

PBT - Persistent, Bio accumulative and Toxic

PICCS - Philippine Inventory of Chemicals and Chemical Substances

PNEC - Predicted No Effect Concentration

PPE - Personal Protective Equipment

PROC - Process Category

QSAR - Quantitative Structure-Activity Relationship

REACh - Registration Evaluation and Authorization of Chemicals

RID - Regulations Relating to International Carriage of Dangerous Goods by Rail

SDS - Safety Data Sheet

SKIN DES - Skin Designation

STEL - Short term exposure limit

STP - Standard Temperature and Pressure

TCSCA - Taiwan inventory of chemicals

TGD - Technical Guidance Document

TRA - Targeted Risk Assessment

TSCA - US Toxic Substances Control Act

TWA - Time-Weighted Average

UN - United Nations

vPvB - very Persistent and very Bioaccumulative

WGK - German Water Endangerment Class

Disclaimer

Multiple legal entities and registration numbers may be displayed in Section 1. The Recipient shall refer to the shipping documents to identify the legal entity that supplied this product.

This document is generated for the purpose of distributing health, safety, and environmental

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Disclaimer

data.

Information is correct to the best of our knowledge at the date of the SDS publication. It is not a specification sheet nor should any displayed data be construed as a specification. Before using a product sold by a company of the LyondellBasell family of companies, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally.

SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

Users should review the applicable Safety Data Sheet before handling the product.

This product(s) may not be used in the manufacture of any of the following, without prior

This product(s) may not be used in the manufacture of any of the following, without prior written approval by Seller for each specific product and application:

- (i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices;
- (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
- (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- (iv) tobacco related products and applications, electronic cigarettes and similar devices.
- (v) safety components in automotive applications, for example: air bags, air bag unit housings and covers, seat belt mechanisms, brake systems, pedals and pedal supports, steering systems.

The product(s) may not be used in:

- (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices;
- (ii) applications involving permanent implantation into the body;
- (iii) life-sustaining medical applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

In addition to the above, LyondellBasell may further prohibit or restrict the use of its products in certain applications. For further information, please contact a LyondellBasell representative.

The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg. Adflex, Adstif, Adsyl, Akoafloor, Akoalit, Alastian, Alathon, Aquathene, Avant, Catalloy, Clyrell, Dexflex, Flexathene, Hifax, Hipolyene, Histif, Hostacom, Hostalen, Indure, Integrate, Koattro, Lucalen, Luflexen, Lupolen, Metocene, Microthene, Moplen, Nexprene, Petrothene, Plexar, Pristene, Pro-Fax, Purell, Sequel, SJS, Softell, Starflex, Ultrathene, and Valtec are trademarks owned or used by the LyondellBasell family of companies.

Numerical Data Presentation

The presentation of numerical data, such as that used for physical and chemical properties and

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toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

Language Translations

The information presented in this document has been translated from English by a vendor LyondellBasell believes to be reliable. LyondellBasell and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no liability or other responsibility for any errors that may have occurred. Please refer to our web site (www.lyondellbasell.com) for the original document written in English.

End of Material Safety Data Sheet