SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 as amended by Commission Regulation (EU) 2020/878
and Regulation (EC) No. 1272/2008

Issuing Date 18-Nov-2022 **Revision Date** 17-Dec-2024 **Revision Number** 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) SLH118, SLH218

Product Name Green Linear Low Density Polyethylene

Synonyms LLDPE- copo

Pure substance/mixture Mixture

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

Recommended use Polymer preparations and compounds

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier
Braskem Netherlands BV
Weena 238-240, 9th Floor Tower C
NL - 3012NJ- Rotterdam, Netherlands
Telephone: +31 10 798 5002

For further information, please contact
E-mail address polymer.compliance-europe@braskem.com

1.4. Emergency telephone number

Emergency telephone

CHEMTREC: +1 703-741-5970 (24h)

Emergency telephone - §45 - (EC)1272/2008	
Europe	**112**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008
This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

Hazard statements
Not classified

Unknown acute toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Additional information
The synthetic polymer microparticles supplied is subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

2.3. Other hazards
Special danger of slipping by leaking/spilling product. Electrostatic charges may be generated during handling. If small particles are generated during processing or handling, this product may form combustible dust concentrations in air.
This substance does not meet the PBT/vPvB criteria of REACH, annex XIII

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
PE copolymer 1-butene, 1-hexene 60785-11-7	< 100	No data available	No information available	[F]	-	-	-

[F] - Although non-hazardous, the manufacturer chooses to disclose the composition

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59).

This product contains one or more synthetic polymer microparticles as defined by entry 78 of Annex XVII to Regulation (EC) No. 1907/2006.

Chemical name	CAS No.	Weight-%	Synthetic polymer microparticles
PE copolymer 1- butene, 1-hexene	60785-11-7	<100	X

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove to fresh air. Medical aid is necessary if symptoms appear to be an obvious consequence of inhalation.

Eye contact Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if

irritation develops and persists.

Skin contact After contact with product or dust: Wash skin with soap and water. Get medical attention if irritation develops and persists. After contact with molten product, cool skin area rapidly with cold water. Removal of solidified molten material from skin requires medical assistance.

Ingestion Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms Product dust may be irritating to eyes, skin and respiratory system.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media CO2, dry chemical, dry sand, alcohol-resistant foam. Water spray or fog.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Avoid generation of dust. Fine dust dispersed in air may ignite. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence.

5.3. Advice for firefighters

Specific/special fire-fighting measures Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. Avoid contact with eyes. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Prevent dust cloud.

Methods for cleaning up Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information See section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. Avoid contact with eyes. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals.

Storage class (TRGS 510) LGK 11.

7.3. Specific end use(s)

Specific use(s) Polymer preparations and compounds. Industrial. Professional use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Showers

Eyewash stations
Ventilation systems.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). During hot processing: Tight sealing safety goggles. If there is a risk of contact: Face protection shield. Eye protection must conform to standard EN 166.

Hand protection Wear suitable gloves. Heat resistant gloves are recommended when handling molten materials. Gloves must conform to standard EN 374.

Skin and body protection Wear suitable protective clothing. During hot processing: Long sleeved clothing. Protective shoes or boots.

Respiratory protection The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Regular cleaning of equipment, work area and clothing is recommended.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Translucent pellets
Physical state	Solid
Colour	White
Odour	Not applicable
Odour threshold	Not applicable

Property	**Values**	**Remarks • Method**
Melting point / freezing point		No data available
Initial boiling point and boiling range		Not applicable
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Flash point		No data available
Autoignition temperature	350 °C	
Decomposition temperature		No data available
pH		Not applicable
pH (as aqueous solution)		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Water solubility	Insoluble	
Solubility(ies)	Xylene	
Partition coefficient		No data available
Vapour pressure		Not applicable
Relative density		No data available

Bulk density	0.916 - 0.920 g/cm^3
Liquid Density	No data available
Vapour density	Not applicable
Particle characteristics	
Particle Size	No data available
Particle Size Distribution	No data available

9.2. Other information

9.2.1. Information with regards to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity None under normal use conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reacts strongly with fluorine.

10.4. Conditions to avoid

Conditions to avoid High temperature. Dust formation.

10.5. Incompatible materials

Incompatible materials Fluorine. Strong acids. Strong oxidising agents. Chlorinated solvents. Aromatic compounds.

10.6. Hazardous decomposition products

Hazardous decomposition products Decomposition products depend on temperature, exposure to air, and the presence of other substances. Processing may release irritating fumes, olefinic and paraffinic compounds, carbon monoxide, and carbon dioxide. Potential thermal decomposition products include trace aldehydes (including formaldehyde), alcohols, organic acids, and hydrocarbons.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information .

Inhalation Specific test data for the substance or mixture is not available. Inhalation of dust in high concentration may cause irritation of respiratory system.

Eye contact	Specific test data for the substance or mixture is not available. Dust contact with the eyes can lead to mechanical irritation.
Skin contact	Specific test data for the substance or mixture is not available. Contact with dust can cause mechanical irritation or drying of the skin.
Ingestion	Specific test data for the substance or mixture is not available. May be harmful if swallowed. May cause irritation of the mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms None known.

Acute toxicity

Numerical measures of toxicity
Based on available data, the classification criteria are not met.

Unknown acute toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitisation	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated. Material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life. Avoid release to the environment.

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

Other adverse effects No information available.

PMT or vPvM properties Based on available data, the classification criteria are not met.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Should not be released into the environment.

Contaminated packaging Do not dispose of with household waste. Do not flush to sewer. Do not allow to enter into surface water or drains. Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IMDG Not regulated
14.1 UN number or ID number Not regulated
14.2 UN proper shipping name Not regulated
14.3 Transport hazard class(es) Not regulated
14.4 Packing group Not regulated
14.5 Environmental hazards Not applicable
14.6 Special Precautions for Users

Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID	Not regulated
14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

ADR	Not regulated
14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

IATA	Not regulated
14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None
Note:	None

SECTION 15: Regulatory information

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

National regulations

France
Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
PE copolymer 1- butene, 1-hexene 60785-11-7	-

Germany
Water hazard class (WGK) non-hazardous to water (nwg)

Netherlands
Water contaminating class (Netherlands)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
PE copolymer 1- butene, 1-hexene	-	-	-

European Union
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents

at work.

Authorisations and/or restrictions on use:
This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV).
This product contains one or more substance(s) subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

Ordinance on the Incentive Tax on Volatile Organic Compounds (OVOC) SR 814.018
Not applicable

WPO (GSchV) SR 814.201; WPA (GSchG) SR 814.20
Not applicable

International Inventories
Contact supplier for inventory compliance status
IECSC Contains listed substance(s): 1-Butene, polymer with ethene (CAS no. 25087-34-7)

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
ATE: Acute Toxicity Estimate
SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	On basis of test data
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method

Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet