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Revision Number 1.0

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

### 1.1. Product identifier

**Product Code(s)** SGE7252NS, SGE7252XP, SGF4950, SGF4950HS, SGF4950TT, SGM7746C, SGM9450F, SHA7260, SHC7260, SHD0860, SHD0952, SHD1760, SHD2560, SHE150, STGE7252NS, STGF4950, STGM9450F, STHA7260, STHC7260, STHD0860, STHD2560, STHE150

**Product Name** Green High Density Polyethylene

**Synonyms** None

**Pure substance/mixture** Mixture

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

**Recommended use** Polymer preparations and compounds  
Industrial  
For professional use only

**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 International: +1 703-741-5970

**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 dermal toxicity.

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

**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)
1-Butene, polymer with ethene 25087-34-7	<100	No data available	No information available	[F]	-	-	-

*Classification according to Regulation (EC) No. 1272/2008 [CLP] - Notes*

[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 (ATE<sub>mix</sub>) for classifying a mixture based on its components*

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
1-Butene, polymer with ethene 25087-34-7	4000 mg/kg	No data available	No data available	No data available	No data available

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

**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** CO<sub>2</sub>, 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.

**Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

#### **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** See Section 12 for additional Ecological Information.

**6.3. Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so. Prevent dust cloud.
<b>Methods for cleaning up</b>	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.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

<b>Reference to other sections</b>	See section 8 for more information See section 13 for more information
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**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

<b>Advice on safe handling</b>	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).
<b>General hygiene considerations</b>	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**

<b>Storage Conditions</b>	Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals.
<b>Storage class (TRGS 510)</b>	LGK 11.

**7.3. Specific end use(s)**

<b>Specific use(s)</b>	Polymer preparations and compounds. Industrial. Professional use.
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**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

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

**8.2. Exposure controls**

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). If there is a risk of contact: Face protection shield. Eye protection must conform to standard EN 166.
<b>Hand protection</b>	Heat resistant gloves are recommended when handling molten materials. Gloves must conform to standard EN 374.
<b>Skin and body protection</b>	Wear suitable protective clothing During hot processing: Long sleeved clothing. Protective shoes or boots.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. 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.
<b>General hygiene considerations</b>	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.
<b>Environmental exposure controls</b>	No information available.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

<b>Appearance</b>	Pellets
<b>Physical state</b>	Solid
<b>Colour</b>	White to off-white
<b>Odour</b>	No information available
<b>Odour threshold</b>	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>Melting point / freezing point</b>		No data available
<b>Initial boiling point and boiling range</b>		No data available
<b>Flammability</b>		No data available
<b>Flammability Limit in Air</b>		
<b>Upper flammability or explosive limits</b>		No data available
<b>Lower flammability or explosive limits</b>		No data available
<b>Flash point</b>		No data available
<b>Autoignition temperature</b>	350 °C	
<b>Decomposition temperature</b>		No data available
<b>pH</b>		No data available
<b>pH (as aqueous solution)</b>		No data available

Kinematic viscosity		No data available
Dynamic viscosity		No data available
Water solubility	Insoluble in water	
Solubility(ies)		No data available
Partition coefficient		No data available
Vapour pressure		No data available
Relative density		No data available
Bulk density	0.940 – 0.970 g/cm <sup>3</sup>	
Liquid Density		No data available
Vapour density		No data available
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. If heated to more than 300°C, the product may form vapors or fumes which could cause respiratory tract irritation, coughing and shortness of breath. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

### 10.5. Incompatible materials

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

### 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

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Dust contact with the eyes can lead to mechanical irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Contact with dust can cause mechanical irritation or drying of the skin.
<b>Ingestion</b>	May cause irritation of the mouth, throat and stomach. Specific test data for the substance or mixture is not available. May be harmful if swallowed.

#### 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.

The following values are calculated based on chapter 3.1 of the GHS document:

**ATEmix (oral)** 4000 mg/kg

##### Unknown acute 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).

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1-Butene, polymer with ethene	= 4 g/kg ( Rat )	-	-

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

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitisation</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredients above reportable quantities listed as a carcinogen.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	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.

### **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.

## **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.

**Contaminated packaging** 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
1-Butene, polymer with ethene 25087-34-7	-

##### 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
1-Butene, polymer with ethene	-	-	-

**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 does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**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	On basis of test data
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**