SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

Viscosity standard specimen 100 000 AW

Version 5.0

Revision date 23.02.2022

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

1.1. Product identifier

Trade name: Viscosity standard specimen 100 000 AW

Mixture: Mixture of Polybutene (Isobutylene-/Butene-copolymer) different viscosities.
CAS-No.: 9003-29-6

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

Use of the Substance/Mixture: calibration of viscosity measuring instruments according to DIN EN ISO 9001

Recommended restrictions on use: exclusively for calibration purposes

1.3. Details of the supplier of the safety data sheet

Company: ZMK & ANALYTIK GmbH
PD-ChemiePark Bitterfeld-Wolfen
Areal A, Filmstraße 7
DE 06766 Bitterfeld-Wolfen
Telephone : +49 (0)3494-6973-0
Telefax : +49 (0)3494-6973-34
E-mail address: info@zmk-wolfen.de

1.4. Emergency telephone number

Emergency telephone number: +49 (0)3494-6973-0 (Available: from 8 to 16 Uhr / Mo to Fr)

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

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

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Hazard statements: In accordance with EC directives or respective national laws, the product does not need to be classified nor labelled.

2.3. Other Hazards

No hazards resulting from the material as supplied. Normal precautions common to safe manufacturing practice should be followed in handling and storage.

3. Composition/information on ingredients

3.1. Mixture

Chemical nature: Mixture of Polybutene (Isobutylene-/Butene-copolymer) different viscosities.

Annotations: No dangerous ingredients according to Regulation (EC) No. 1907/2006.

4. First aid measures

4.1. Description of first aid measures

Eye contact:	Hot material: Flush eyes with plenty of water for at least 15 minutes. Seek medical assistance for mechanical removal of this material from the eye. The use of flushing fluid, other than water, is not recommended. Cold material: flush eyes with plenty of water.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Skin contact:	Hot material: Immediately flush with cool water for at least 15 minutes. Get immediate medical attention. Cold material: Clean exposed skin with waterless hand cleaner.
Ingestion:	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities swallowed, wash out mouth and call physician.

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

Eye contact:	May cause slight transient irritation. Heated material can cause thermal burns.
Inhalation:	Exposure to aerosols or particulates from heated material may cause adverse lung effcts if high concentrations are inhaled.
Skin contact:	Prolonged or repeated contact may dry skin and cause irritation. Heated material can cause thermal burns.
Ingestion:	Ingestion may cause gastrointestinal irritation and diarrhoea.

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

Notes to physician:	Medical personnel may leave the material in place to minimise physical damage to the skin. Medical personnel may cover the material with a burn gel to prevent the adhesion of the dressing to the material.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable Extinguishing Media:	Do not use water jet.

5.2. Special hazards arising from substance or mixture

Hazards from the substance or mixture:	Rapid depolymerisation can occur in a fire and produce flammable vapours. May depolymerise at temperatures above 200°C with the production of extremely flammable butene monomers. Where open cell insulation has been contaminated with polybutene, spontaneous combustion may occur at temperatures as low as 138°C (280°F). Therefore, where open cell insulation has been used, the temperature of storage tanks and heat tracing must be kept well below 120°C (250°F) and any insulation contaminated with polybutene should be replaced immediately.
Hazardous combustion products:	carbon oxides (CO, CO2)

5.3. Advice for fire-fighters

Special protective equipment for fire-fighters:	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:	Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye/face protection. Ventilate the area.

6.2. Environmental precautions

Environmental precautions:	Do not allow contact with soil, surface or ground water. Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Small spill:	For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal.
Large spill:	For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Treat as an oil spill. insoluble in water. See section 13 for waste disposal information.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:	Handle in accordance with good industrial hygiene and safety practice. Use only in area provided with appropriate exhaust ventilation. Wear suitable protective equipment. Avoid inhalation, ingestion and contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:	Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end uses

Specific use(s)	exclusively for calibration of viscosity measuring instruments according to DIN EN ISO 9001

8. Exposure controls/personal protection

8.1. Control parameters

No exposure limit value known.
No DELs available.
No PECs available.

8.2. Exposure controls

Appropriate engineering controls:	Use only with adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location.
Individual protection measures:	
Hygiene measures:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Eye/face protection:	Safety glasses with side shields. Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to aerosols or splashes or when material is handled hot.

Skin protection:	
Hand protection:	Wear gloves that cannot be penetrated by chemicals or oil. nitrile rubber Wear heat-resistant protective gloves that are able to withstand the temperature of heated product. 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 a 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.
Body protection:	Wear apron or coverall if there is a risk of exposure to splashes. When handling hot material, wear heat resistant protective gloves, clothing and face shield that are able to withstand the temperature of the heated product.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection:	If ventilation is inadequate, use respirator that will protect against organic vapour and dust/mist.
Thermal hazards:	Not available
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	Colourless.
Odour:	characteristic..
pH:	Not available
Melting / freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash point::	Open cup: >154°C [Cleveland.]
Burning rate:	Not applicable
Vapour pressure:	Not available
Density:	0,896 g/cm^3 (20 °C)
Water solubility:	insoluble
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity, kinematic:	98 000 mm^2/s (20 °C) 17 000 mm^2/s (40 °C)
Explosive properties:	Not available
Oxidising properties:	Not available

10. Stability and reactivity

10.1. Reactivity

Advice: No specific test data related to reactivity available for this product or its ingredients.

10.2. Chemical stability

Advice: The product is stable.

10.3. Possibility of hazardous reactions

Hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Conditions to avoid: Keep away from all sources of ignition, heat, sparks, flame. Avoid strong oxidising Conditions. May depolymerise at temperatures above 200°C with the production of extremely flammable butene monomers.

10.5. Incompatible materials

Materials to avoid: Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products: carbon oxides (CO, CO2)

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Acute oral toxicity:	LD50 Oral: >34600 mg/kg, Species: Rat
Acute inhalation toxicity:	LC50 Inhalation Vapour: 4820 mg/m³ Species: Rat (4 hours)
Acute dermal toxicity:	LD50 Dermal: >10250 mg/kg, Species: Rat
Irritation/Corrosion:	not available
Sensitiser:	not available
Mutagenicity:	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
Carcinogenicity:	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).
Reproductive toxicity:	No known significant effects or critical hazards.
Teratogenicity:	No component of this product at levels greater than 1% is classified by established regulatory criteria as teratogenic or embryotoxic.

12. Ecological information

12.1. Toxicity

Product/ingredient name	Resultat	Spezies	Exposition
Polybutene (Isobutylene/butene copolymer)	EC50 >1000 mg/l	Daphnia	48 h
	LC50 >1000 mg/l (similar material)	Fish	96 h
	LC50 >1000 mg/l (similar material)	Fish	96 h

Conclusion/Summary: Aquatic studies of materials with very low water solubility often refer to the amount of chemical added to the test system, not the amount dissolved in water. Most acute acquatic toxicity studies of these have used the water-accommodated fraction (WAF) obtained by mixing the test chemical in water for 20 to 24 hours, then siphoning the water for use in the test. The water-soluble fraction (WSF) is a similar approach. These materials are not expected to adversely affect microbial activity. Following a modified OECD Method 209, bacterial inhibition using activated sludge microbes was tested with several grades of this material. The tests showed no bacterial inhibition at loadings of up to 25 mg/L, measured through oxygen consumption (respiration). In separate tests, the biological oxygen demand (BOD) of the microorganisms was measured. In these tests, there was no evidence of bacterial toxicity, even at loadings of about 200,000 mg/L. In addition, an epoxidised form of this material was found to be non-mutagenic and non-toxic to the micro-organism used in the Ames mutagenicity assay, Salmonella typhimurium.

12.2. Persistence and degradability

Biodegradability: This product is unlikely to biodegrade at a significant rate.

12.3. Bioaccumulative potential

Bioaccumulation: no data available

12.4. Mobility in soil

Mobility: no data available

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.6. Other adverse effects

Additional ecological information: No known significant effects or critical hazards.

13. Disposal considerations

13.1. Waste treatment methods

Product

Methods of disposal: Avoid contact of spilt material with soil and prevent runoff entering 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. Empty containers may contain harmful, flammable/combustible or explosive residue or vapours. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Labels should not be removed from containers until they have been cleaned.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

Nonbulk Shipping Information	
ADR/RID Nonbulk Shipping Information	This material is not regulated for transport when shipped in non-bulk packages. When this material is shipped at temperatures < 100C this material is not regulated for transport.
IMDG Nonbulk Shipping Information	This material is not regulated for transport when shipped in non-bulk packages. When this material is shipped at temperatures < 100C this material is not regulated for transport.
IATA Nonbulk Shipping Information	This material is not regulated for transport when shipped in non-bulk packages. When this material is shipped at temperatures < 100C this material is not regulated for transport.

15. Regulatory information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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

Notification status

United States inventory (TSCA 8b)	All components are listed or exempted.
Canada inventory:	All components are listed or exempted.
Australia inventory (AICS):	All components are listed or exempted.
China inventory (IECSC):	All components are listed or exempted.
Japan inventory:	All components are listed or exempted.
Korea inventory:	All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC):	All components are listed or exempted.
Philippines inventory (PICCS):	All components are listed or exempted.

15.2. Chemical Safety Assessment

completed.

16. Other information

Additional Information:	This product is not classified for human health or environmental hazards. An exposure scenario is not required.
Other information :	The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.