

Material Safety Data Sheet

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

Product name	N4000
Product Use	Viscosity Reference Standard.
Supplier	Poulten Selfe and Lee Ltd. - PSL Calibration Laboratory Russell House Burnham Business Park Burnham-on-Crouch Essex CM0 8TE United Kingdom
Emergency telephone Number	+44 (0) 1621 787100

2. Composition/information on ingredients

Highly refined mineral oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Product Trivial Name	PIB. POLYISOBUTYLENE
Product Formal Name	BUTENE, HOMOPOLYMER
Product Chemical Family	Hydrocarbon polymer
CAS Number	9003 – 29 - 6

This product does not contain any hazardous ingredients at above regulated thresholds.

3. Hazards identification

Classification according to Regulation (EC) No. 1272/2008 [CLP]: This product is NOT classified as dangerous.

Physical/chemical Hazards	Not classified as dangerous.
Human health hazards	Not classified as dangerous.
Environmental hazards	Unlikely to be harmful to aquatic organisms.
Effects and symptoms	
Eyes	No significant health hazards identified.
Skin	No significant health hazards identified.
Inhalation	No significant health hazards identified.
Ingestion	No significant health hazards identified.

4. First-aid measures

Eye Contact	In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.
Inhalation	If inhaled, remove to fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration. Get medical attention if symptoms appear.
Ingestion	If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed- can enter lungs and cause damage. Drain stomach by gastric lavage under qualified medical

Notes to physician

supervision. Obtain medical attention immediately.
Treatment should in general be symptomatic and directed to relieving any effects.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after eye contact

Hot material can cause burns.

Symptoms/injuries after skin contact

Hot material can cause burns.

Symptoms/injuries after inhalation

The product decreases available oxygen, causes suffocation.

Symptoms/injuries after ingestion

Ingestion may cause nausea and vomiting. Central nervous system depression. Convulsions. Death.

Indication of any immediate medical attention and special treatment needed

In case of burned skin, to minimize physical damage to skin, do not remove the product. Cover the injured with appropriate burn gel.

5. Fire-fighting measures

Extinguishing Media

Suitable

In case of fire, use water fog, foam, dry chemical or CO2 extinguisher or spray.

Not Suitable

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

Hazardous decomposition products

These products are carbon oxides (CO, CO2).

Unusual fire/explosion Hazards

None identified.

Special fire-fighting procedures

None identified.

Advice for fire-fighters

Cool closed containers exposed to fire with water spray. In case of fire: Wear self-contained breathing apparatus.

6. Accidental release measures

For non-emergency personnel

Protective equipment

Wear protective clothing as described in Section 8. Wear suitable protective clothing.

Emergency procedures

Stop leak if safe to do so. Stay away from low ground with wind on your back. Clean up even minor leaks or spills if possible without unnecessary risk.

For emergency personnel

Protective equipment

Wear suitable protective clothing. In case of fire: wear self-contained breathing apparatus.

Emergency procedures

Eliminate leaks immediately. Stay away from low ground with wind on your back. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Do not discharge into drains or the environment.

Containment and cleanup methods

For containment: Eliminate leaks immediately. Ventilate affected area. For cleanup: Eliminate leaks immediately. Apply water mist to increase dispersion rate. Provide adequate ventilation. See Section 13 for Waste Disposal Information. Splash goggles.

Personal Protection in Case of a Large Spill

Full suit. Boots. Gloves.

7. Handling and storage

Precautions for safe handling

Product shall only be used by fully trained professional users that are knowledgeable on all hazards posed by it. Use only in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid

Handling	contact with skin and eyes. To avoid the possibility of skin disorders, repeated or prolonged contact with products of this type must be avoided. It is essential to maintain a high standard of personal hygiene. Heating is not required or recommended for processing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practices. Do not eat, drink or smoke when using this product.
Technical measures	Provide adequate ventilation.
Storage	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Bulk storage does not require any special measure. If product is held heated above 60°C the use of nitrogen blanket is recommended.
Incompatible products	Strong acids. Oxidizing agents, strong. Peroxides. Chlorates.
Incompatible materials	None known.

8. Exposure controls/personal protection

Occupational Exposure Limits	EH40-OES (United Kingdom) STEL: 10mg/m ³ 15 minute(s) Form: Oil mist, mineral TWA: 5 mg/m ³ 8 hour(s). Form: Oil mist, mineral
Control Measures	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.
Hygiene Measures	Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Personal Protective Equipment	Gloves. Protective goggles. Protective clothing.



Respiratory System	In case of inadequate ventilation, wear respiratory protection. Half-mask with filter according to EN 149.
Skin and body	When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection must be worn.
Hands	Wear suitable gloves tested to EN374.
Eyes	Wear chemical goggles if material is handled hot. Not required for normal conditions of use. DIN EN 166.

9. Physical and chemical properties

Physical State	Liquid
Colour	Amber
Odour	Mild
Boiling point / range	Above 250 °C
Pour Point	Below minus 18 °C
Kinematic Viscosity	220 cSt at 40 °C
Flash Point	Above 200 °C (closed)
Autoignition	Above 250 °C
Explosive Properties	Not determined
Relative Density	Below 1.0 at 20 °C
Water Solubility	Insoluble
Fat Solubility	Not determined

10. Stability and reactivity

Stability Reactivity

Stable under normal conditions, hazardous polymerisation will not occur.
May react with strong acids or strong oxidizing such as chlorates and peroxides.

Conditions to avoid

Temperatures above 20 °C

Materials to avoid

Strong oxidising agents, strong acid.

Hazardous Decomposition Products

Heating this product up to 260°C may cause rapid depolymerization with production of extremely flammable isobutene vapors. Thermal combustion may release carbon monoxide and dioxide.

11. Toxicological information

Acute toxicity

Not classified

Butene, polymer with 2-methyl-1-propene (9044-17-1)

LD50 oral rat	> 34000 mg/kg
LD50 dermal rabbit	> 10000 mg/kg
LC50 inhalation rat (mg/l)	> 17 mg/m ³

Health Effects

Eyes

May cause transient irritation

Skin

Unlikely to cause harm on brief or occasional contact

Inhalation

Low volatility makes inhalation unlikely at ambient temperatures

Ingestion

May cause nausea, vomiting and diarrhoea

Chronic

Repeated and prolonged skin contact may lead to skin disorders

Other

None known

12. Ecological information

Toxicity

Butene, polymer with 2-methyl-1-propene (9044-17-1)

LC50 fishes 1	> 1000 mg/l 96 hours (similar material)
EC50 Daphnia 1	> 1000 mg/l 48 hours (similar material)

Persistence/degradability

Not easily biodegradable

Mobility

Mobile liquid. Insoluble in water. Non-volatile. Not expected to move rapidly on water flows/surface due to the high viscosity and very low solubility.

Bioaccumulative potential

This product is bioaccumulate based on logP values of constituents.

Environmental assessment

When used and disposed of as intended, no adverse environmental effects are foreseen.

Ecotoxicity

Not expected to be toxic to aquatic organisms

Not to be inhibitory to sewage bacteria.

This substance/mixture does not meet the PBT or the vPvB criteria of REACH, Annex XIII.

13. Disposal considerations

Disposal Consideration /

Where possible, arrange for product to be recycled.

Do not cut, grind, drill, weld, reuse or dispose off containers unless adequate precautions are taken against these hazards.

Waste information

Dispose of via an authorized person/ licensed waste disposal contractor in accordance with local and national regulations.

14. Transport information

In accordance with ADR, RID, IMDG, IATA, ADN.

UN number
UN-No (ADR, IATA, IMDG, ADN) 3257

UN proper shipping name ELEVATED TEMPERATURE LIQUID, N.O.S.
Transport document description UN 3257 ELEVATED TEMPERATURE LIQUID, N.O.S., 9, III, (D)

Transport hazard classes
Class (UN, IATA, IMDG, ADN) 9
Classification code M9
Hazard labels (UN) 9



Packing group (UN) III

Environmental hazards
Dangerous for the environment No
Marine Pollutant No

Overland transport
Hazard identification number (Kemler No) 99
Classification code (UN) M9
Special provision (ADR) 274, 580, 643
Transport category (ADR) 3
Tunnel restriction code D
Limited quantities (ADR) 0
Excepted quantities (ADR) E0
EAC code 2Y

No additional information available on transport by sea, air, inland waterway.

15. Regulatory information

This product is NOT classified as dangerous for supply in the UK

No REACH Annex XVII restrictions.

Hazard label Data

EC Directives	Waste Oil Directive, 87/101/EEC Framework Waste Directive, 91/156/EEC
Statutory Instruments	Health & Safety at Work, etc. Act 1974 Consumer Protection Act 1987 Environmental Protection Act 1990
Codes of Practice	Waste Management. The Duty of Care
Guidance Notes	Occupational exposure limits (EH40) Carcinogenicity of mineral oils (EH 58)

Skin cancer caused by oil [MS(B)5]
 Save your skin! – Occupational Contact Dermatitis [MS(B)6]
 Dermatitis – cautionary notice [SHW 367]
 Effects of mineral oil on the skin [SHW 397]

The above publications are available from HMSO or HSE

Compliance with Regulation (EC) 1907/2006 as amended, Regulation (EC) 1272/2008 as amended, Directive 1999/EC as amended, Directive 67/548/EEC as amended.

16. Other information

HMIS rating:

Health hazard: 0
Chronic health hazard
Flammability: 0
Physical hazard: 0

NFPA rating:

Health hazard: 0
Fire hazard: 0
Reactivity hazard: 0

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulations [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DPD = Dangerous Preparations Directive [1999/45/EC]
DSD = Dangerous Substances Directive [67/548/EEC]
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH Statement = CLP-specific Hazard Statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = Logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-Operation and Development
PBT = Persistent, Bioaccumulative and Toxic
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SADT = Self-Accelerating Decomposition Temperature
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity – Repeated Exposure
STOT-SE = Specific Target Organ Toxicity – Single Exposure
TWA = Time Weighted Average
UN = United Nations
UVCB = Complex Hydrocarbon Substance
VOC = Volatile Organic Compound
vPvB = *Very Persistent and Very Bioaccumulative*

The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. You should not use the product other than for the stated application or applications without seeking advice from us. If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to secure that any person handling or using the product is provided with the information in this sheet. If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and of any precautions which should be taken. Further copies of this Safety Data Sheet may be obtained from Poulten Selfe & Lee Ltd.