Safety Data Sheet

BIOSOFT 09N
Version: 1.3 (MY)

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

1.1 Product identifier

Commercial product name: **BIOSOFT 09N**

Product identifier: Polydimethylsiloxane with aminoalkyl groups

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

Use of substance / preparation:
Industrial.
Intermediate chemical .

1.3 Details of the supplier of the safety data sheet

Manufacturer/distributor: **BT BIOTEX SDN BHD**
Street/POB-No.: LOT 71, JALAN P10/21 SELAMAN INDUSTRIAL PARK,
State/postal code/city: 43650 BANDAR BARU BANGI, SELANGOR, MALAYSIA
Telephone: +603- 8922 3633
Telefax: +603- 8920 2100

Information about the Safety Data Sheet: eMail biotex@biotex.com.my

1.4 Emergency telephone number

Emergency Information: **+603- 8922 3633**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Hazard class	Hazard category	Route of exposure
Serious eye damage/eye irritation	Category 2A	
Skin corrosion/irritation	Category 2	

2.2 Label elements

Pictogram(s):

Signal Word: Warning

H-Code	Hazard Statements
H315	Causes skin irritation.
H319	Causes serious eye irritation.

P-Code	Precautionary Statements
P280	Wear protective gloves/protective clothing/eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water/soap.
P332+P313	If skin irritation occurs: Get medical advice/ attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Hazard ingredients (labelling):
Poly(dimethyl)[3-((2-aminoethyl)amino)propyl]methylsiloxane

2.3 Other hazards

Inhalation of aerosol spray may damage health. The product contains substances which are relevant for the assessment in chapter 12.5.
The product hydrolyses under formation of methanol (CAS-Nr. 67-56-1). Methanol is classified concerning both physical and

health hazards. The hydrolysis rate and consequently the relevance for the hazard profile of the product is strongly dependent on the specific conditions.

SECTION 3: Composition/information on ingredients

3.1 Substances

3.1.1 Chemical characteristics

amino functional silicone fluid .

3.1.2 Hazardous ingredients

Type	CAS No.	Substance	Content %
INHA	71750-79-3	Poly(dimethyl)[3-((2-aminoethyl)amino)propyl]methylsiloxane	<=100
VERU	556-67-2	Octamethylcyclotetrasiloxane	<1

Type: INHA: ingredient, VERU: impurity

3.2 Mixtures

not applicable

The product contains the following substances of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 57) in amounts ≥ 0.1%:

CAS No.	Substance	Content [%]
556-67-2	Octamethylcyclotetrasiloxane	>=0,5 – <1
541-02-6	Decamethylcyclopentasiloxane	>=0,5 – <1
540-97-6	Dodecamethylcyclohexasiloxane	>=0,1 – <0,3

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:
Take persons to a safe place. Observe self-protection for first aid. Seek medical advice in the event of contact with this substance.

After contact with the eyes:
Rinse immediately with plenty of water for 10-15 minutes. Keep eyelids well open to rinse the whole eye surface and eyelids with water. Seek medical advice and clearly identify substance.

After contact with the skin:
Remove contaminated or soaked clothing. Wash off with plenty of water or water and soap immediately for 10-15 minutes. In serious cases, use emergency shower immediately. Seek medical advice and clearly identify substance.

After inhalation:
Keep the patient calm. Protect against loss of body heat. Seek medical advice and clearly identify substance.

After swallowing:
If conscious, give several small portions of water to drink. Do not induce vomiting. Seek medical advice and clearly identify substance.

4.2 Most important symptoms and effects, both acute and delayed

Any relevant information can be found in other parts of this section.

4.3 Indication of any immediate medical attention and special treatment needed

Further toxicology information in section 11 must be observed.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:
alcohol-resistant foam , carbon dioxide , water mist , sprinkler system , sand , extinguishing powder .

Extinguishing media which must not be used for safety reasons:
water jet .

5.2 Special hazards arising from the substance or mixture

Risk of hazardous gasses or fumes in the event of fire. Exposure to combustion products may be a health hazard! Hazardous combustion products: toxic and very toxic fumes .

5.3 Advice for firefighters

Special protective equipment for fire fighting:
Use respiratory protection independent of recirculated air. Keep unprotected persons away.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Secure the area. Wear personal protection equipment (see section 8). Keep unprotected persons away. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. If material is released indicate risk of slipping. Do not walk through spilled material.

6.2 Environmental precautions

Prevent material from entering surface waters, drains or sewers and soil. Close leak if possible without risk. Contain any fluid that runs out using suitable material (e.g. earth). Retain contaminated water/extinguishing water. Dispose of in prescribed marked containers. Inform authorities if substance leaks into surface waters, sewerage or ground.

6.3 Methods and material for containment and cleaning up

Take up mechanically and dispose of according to local/state/federal regulations. Do not flush away with water. For small amounts: Absorb with a neutral (non-acidic / non-basic) liquid binding material such as diatomaceous earth and dispose of according to government regulations. For large amounts: Liquids may be recovered using suction devices or pumps. If flammable, only air driven or properly rated electrical equipment should be used. Clean any slippery coating that remains using a detergent / soap solution or another biodegradable cleaner. Silicone fluids are slippery; spills are a safety hazard. Apply sand or other inert granular material to improve traction.

Further information:
Exhaust vapours. Eliminate all sources of ignition. Consider explosion protection. Observe notes under section 7.

6.4 Reference to other sections

Relevant information in other sections has to be considered. This applies in particular for information given on personal protective equipment (section 8) and on disposal (section 13).

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling:
Ensure adequate ventilation. Must be syphoned off in situ. Spilled substance increases risk of slipping. Avoid formation of aerosols. In case of aerosol formation special protective measures are required (exhausting by suction, respiratory protection). Observe information in section 8. Keep away from incompatible substances in accordance with section 10.

Precautions against fire and explosion:
Product can separate methanol. Flammable vapors may accumulate and form explosive mixtures with air in containers, process vessels, including partial, empty and uncleaned containers and vessels, or other enclosed spaces. Keep away from sources of ignition and do not smoke. Take precautionary measures against electrostatic charging. Cool endangered containers with water.

7.2 Conditions for safe storage, including any incompatibilities

Conditions for storage rooms and vessels:
Observe local/state/federal regulations.

Advice for storage of incompatible materials:
Observe local/state/federal regulations.

Further information for storage:
Store in a dry and cool place. Protect against moisture. Store container in a well ventilated place.

Minimum temperature allowed during storage and transportation: 0 °C

Maximum temperature allowed during storage and transportation: 50 °C

7.3Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1Control parameters

Maximum airborne concentrations at the workplace:

CAS No.	Substance	Type	mg/m^3	ppm	Dust fract.	Fibre/m^3
	Aerosol - inhalable fraction		10,0			

-

The aerosol limit specified is a recommendation should aerosol be formed during processing.

8.2 Exposure controls

8.2.1 Exposure in the work place limited and controlled

General protection and hygiene measures:
Observe standard industrial hygiene practices for the handling of chemical substances. Do not inhale gases/vapours/aerosols. Use with adequate ventilation. Avoid contact with eyes and skin. Preventive skin protection recommended. Remove contaminated, soaked clothing immediately. Clean work areas regularly. Provide emergency shower and eye-bath. Do not eat, drink or smoke when handling. Keep away from foodstuff, drink and feedingstuff.

Personal protection equipment:

Respiratory protection

If inhalative exposure above the occupational exposure limit cannot be excluded, adequate respiratory protection equipment must be used. Suitable respiratory equipment: Respirator with a full face mask, according to acknowledged standards such as EN 136. Recommended Filter type: Gas filter type ABEK (certain inorganic, organic and acidic gases and vapors; ammonia/amines), according to acknowledged standards such as EN 14387

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. Suitable respiratory equipment: Respirator with a full face mask, according to acknowledged standards such as EN 136.
Recommended Filter type: Combined filter type ABEK-P2 (certain inorganic, organic and acidic gases and vapors; ammonia/amines; particles), according to acknowledged standards such as EN 14387

Observe the equipment manufacturer's information and wear time limits for respirators.

Eye protection

tight fitting protective goggles .

Hand protection

Gloves are required at all times when handling the material.

Recommended glove types: Protective gloves made of butyl rubber
thickness of the material: > 0,3 mm
Breakthrough time: > 480 min

Recommended glove types: Protective gloves made of nitrile rubber
thickness of the material: > 0,4 mm
Breakthrough time: 10 - 30 min

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Note that, due to the numerous external influences (such as temperature), a chemically resistant protective glove in daily use may have a service life that is considerably shorter than the measured break through time.

Skin protection

If handled uncovered: Chemical protective clothing, full-body liquid-tight protection if necessary. Please observe the instructions regarding permeability time which are provided by the supplier.

8.2.2 Exposure to the environment limited and controlled

Prevent material from entering surface waters, drains or sewers and soil.

8.3 Further information for system design and engineering measures

Observe information in section 7. Observe national regulatory requirements.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property:	Value:	Method:
Appearance		
Physical state	liquid (> -50 °C / 1.013 hPa)	
Colour	colourless dark	
Odour		
Odour	amine like	
Odour limit		
Odour limit	no data available	
pH-Value		
pH-Value	6,0 - 10,0 at 25 °C (0,96 - 0,98 g/l H_2O)	
Melting point/freezing point		
Melting point / melting range	no data available	
Initial boiling point and boiling range		
Boiling point / boiling range	not applicable	
Flash point		
Flash point	108 °C	(-)
Evaporation rate		
Evaporation rate	no data available	
Upper/lower flammability or explosive limits		
Lower explosion limit (LEL)	not applicable	
Upper explosion limit (UEL)	not applicable	
Vapour pressure		
Vapour pressure	not applicable / 25 °C	
Solubility(ies)		
Water solubility / miscibility	insoluble at 20 °C	
Vapour density		
Relative gas/vapour density	No data known.	
Relative Density		
Relative Density	0,98 (25 °C; 1013 hPa) (Water / 4 °C = 1,00)	
Density	0,98 g/cm³ (25 °C; 1013 hPa)	
Partition coefficient: n-octanol/water		
Partition coefficient: n-octanol/water	No data known.	
Auto-ignition temperature		
Ignition temperature	420 °C	(DIN 51794)
Viscosity		
Viscosity (dynamic)	700 - 1300 mPa.s at 25 °C	(Brookfield)
Molecular mass		
Molecular mass	no data available	

9.2 Other information

pH Value: Product displays basic reaction with water.

SECTION 10: Stability and reactivity

10.1 – 10.3 Reactivity; Chemical stability; Possibility of hazardous reactions

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

Relevant information can possibly be found in other parts of this section.

10.4 Conditions to avoid

moisture , Heat, open flames, and other sources of ignition.

10.5 Incompatible materials

Reacts with: water , basic substances and acids . Reaction causes the formation of: methanol .

10.6 Hazardous decomposition products

By hydrolysis: methanol . Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C (302 °F) through oxidation.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

11.1.1 Acute toxicity

Assessment:

Inhalable aerosols containing aminofunctional polysiloxanes may cause harmful effects in the lung in animal experiments. Due to the large number of influencing parameters (e.g. amine function, degree of substitution, viscosity, composition) an estimation of the toxicological effect on the lung is not possible for untested products of this category. In such cases exposure to inhalable aerosols must be prevented by adequate technical measures.

Product details:

Route of exposure	Result/Effect	Species/Test system	Source
Oral	LD50: > 2000 mg/kg	Rat	test report
dermal	LD50: > 2000 mg/kg	Rat	Conclusion by analogy

11.1.2 Skin corrosion/irritation

Product details:

Result/Effect	Species/Test system	Source
irritating	Rabbit	Conclusion by analogy

11.1.3 Serious eye damage / eye irritation

Product details:

Result/Effect	Species/Test system	Source
irritating	Rabbit	Conclusion by analogy

11.1.4 Respiratory or skin sensitization

Product details:

Route of exposure	Result/Effect	Species/Test system	Source
dermal	not sensitizing	Guinea pig; Maximisation Test	test report OECD 406

11.1.5 Germ cell mutagenicity

Product details:

Result/Effect	Species/Test system	Source
negative	mutation assay (in vitro) bacterial cells	Conclusion by analogy OECD 471

11.1.6 Carcinogenicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.7 Reproductive toxicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.8 Specific target organ toxicity (single exposure)

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.9 Specific target organ toxicity (repeated exposure)

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.10 Aspiration hazard

Assessment:

For this endpoint no toxicological test data is available for the whole product.

SECTION 12: Ecological information

12.1 Toxicity

Assessment:

For the product as a whole, no test data is available. According to current knowledge adverse effects on water purification plants are not expected.

12.2 Persistence and degradability

Assessment:

Silicone content: biologically not degradable. Elimination by adsorption to activated sludge.

Product details:

Biodegradation:

Result	Test system/Method	Source
Good elimination.	DOC - decrease	Conclusion by analogy OECD 302B

12.3 Bioaccumulative potential

Assessment:

Polymer component: Bioaccumulation is not expected to occur.

12.4 Mobility in soil

Assessment:

Generates no stable films on surface of water, is absorbed by floating particles. Separation by sedimentation.

12.5 Results of PBT and vPvB assessment

The product contains substances >= 0.1% that have been subjected to the SVHC process according to REACh regulation (EC) No 1907/2006 Art. 57 as fulfilling the PBT and/or vPvB criteria according to REACh regulation (EC) No 1907/2006 Annex XIII.

12.6 Other adverse effects

none known

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Material

Recommendation:
Material that cannot be used, reprocessed or recycled should be disposed of in accordance with Federal, State, and local regulations at an approved facility. Depending on the regulations, waste treatment methods may include, e.g., landfill or incineration.

13.1.2 Uncleaned packaging

Recommendation:
Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations. Uncleaned packaging should be treated with the same precautions as the material.

SECTION 14: Transport information

14.1 – 14.4 UN number; UN proper shipping name; Transport hazard class(es); Packing group

Road ADR:
Valuation ..... : Not regulated for transport

Railway RID:
Valuation ..... : Not regulated for transport

Transport by sea IMDG-Code:
Valuation ..... : Not regulated for transport

Air transport ICAO-TI/IATA-DGR:
Valuation ..... : Not regulated for transport

14.5 Environmental hazards

Hazardous to the environment: no

14.6 Special precautions for user

Relevant information in other sections has to be considered.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Bulk transport in tankers is not intended.

SECTION 15: Regulatory information

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

National and local regulations must be observed.

For information on labelling please refer to section 2 of this document.

15.2 Details of international registration status

Relevant information about individual substance inventories, where available, is given below.

Japan ..... : **ENCS** (Handbook of Existing and New Chemical Substances):
This product is listed in, or complies with, the substance inventory.

Australia ..... : **AICS** (Australian Inventory of Chemical Substances):
This product is listed in, or complies with, the substance inventory.

China ..... : **IECSC** (Inventory of Existing Chemical Substances in China):
This product is listed in, or complies with, the substance inventory.

Canada ..... : **DSL** (Domestic Substance List):
This product is listed in, or complies with, the substance inventory.

Philippines ..... : **PICCS** (Philippine Inventory of Chemicals and Chemical Substances):
This product is listed in, or complies with, the substance inventory.

Taiwan ..... : **TCSI** (Taiwan Chemical Substance Inventory):
This product is listed in, or complies with, the substance inventory. General note:
The Taiwanese chemicals regulation requires a phase 1 registration for TCSI-listed or TCSI-compliant substances if imports to Taiwan or manufacturing in Taiwan exceed the trigger quantity of 100 kg/a (for mixtures to be calculated per each ingredient). It is the duty of the importing/manufacturing legal entity to take care of this obligation.

European Economic Area (EEA) ..... : **REACH** (Regulation (EC) No 1907/2006):
General note: the registration obligations for substances imported into the EEA or manufactured within the EEA by the supplier mentioned in section 1 are fulfilled by the said supplier. The registration obligations for substances imported into the EEA by customers or other downstream users must be fulfilled by the latter.

South Korea (Republic of Korea) ..... : **AREC** (Act on Registration and Evaluation of Chemicals; “K-REACH”):
General note: in case of registration obligations for substances or polymers imported into Korea or manufactured within Korea these are fulfilled by the supplier mentioned in section 1. The registration obligations for substances or polymers imported into Korea by customers or other downstream users must be fulfilled by the latter.

SECTION 16: Other information

16.1 Material

The details in this document are based on the state of our knowledge at the time of revision. They do not constitute an assurance of the described product properties in terms of statutory warranty requirements.

The providing of this document to a recipient does not relieve the recipient of his or her responsibility toward compliance with all laws and stipulations applicable to the product. This applies in particular to the further sale or distribution of the product or substances or items containing the product, in other jurisdictions and with regard to the protection of third-party intellectual property rights. If the described product is processed or mixed with other substances or materials, the details stated in this document cannot be conferred to the resultant new product unless this has been expressly mentioned. If the product is repackaged, the recipient is obligated to additionally provide the required safety-related information.

16.2 Further information:

Commas appearing in numerical data denote a decimal point. Vertical lines in the left-hand margin indicate changes compared with the previous version. This version supersedes all previous versions.

- **End of Safety Data Sheet -**