Advanced Filling compounds for Fibre Optic Cables

vitagel

Adds life to your cable

The Vitagel range of optical cable filling compounds represents the latest technology in thixotropic gel production and has been specifically designed to meet the special demands of international fibre cable manufacturers and the long life requirements of system installers and operators.

Emphasis has been placed on quality control and product consistency to ensure ease of processing and minimise down-time during cable production. Thixotropic properties and yield values have been carefully balanced in each grade to give the cable maker maximum control of fibre over-length, tube diameter and wall thickness.

vitagel

All Vitagel grades are formulated using 'industry proven' raw materials that are fully compatible with optical cable polymers and sensitive fibre coatings.

Vitagel optical cable filling compounds are manufactured by Savita Polymers Limited and are fully supported by the laboratory and R&D facilities of the Savita Group which every year supplies thousands of tonnes of filling compound to the international telecom cable market.

Vitagels represent the latest technology in fibre optic filling compounds and are designed to meet the exacting processing requirements of cable makers and the long-life performance demanded by system operators worldwide.

Emphasis has been placed on quality control and product consistency to ensure ease of processing and maximum control of fibre over-length, tube diameter and wall thickness.

vitagel

Vitagels are formulated using 'industry proven' raw materials that are fully compatible with optical cable polymers and sensitive fibre coatings.

Vitagels are manufactured by Savita Polymers Limited and are fully supported by the laboratory and research facilities of the Savita Group which every year supplies thousands of tonnes of filling compound to the telecom cable market.

Grade selection

Vitagel optical cable filling and flooding gels are available in a range of grades and viscosities to suit varying production techniques and customer specifications.

Standard Vitagel grades are based on either mineral oils, synthetic oils, silicone oils or blends that combine the beneficial properties of each oil in one gel.

Normal grade selection is made on the basis of low temperature flexibility and high temperature drainage and oil separation. A quick identification chart is given below. It should be noted that the high temperature limit quoted below refers to the maximum temperature at which zero oil separation and cable drainage is obtained. All Vitagels will process safely at extrusion temperatures and will withstand momentary excursions to >200°C without adverse effect.

All standard Vitagel filling gels are supplied with a cone penetration of 400dmm at 25°C and with similar viscosities, yield values and thixotropy. This enables the cable maker to change grades with the minimum of adjustment at the extrusion line.

vitagel

VITAGEL GRADES

DESIGNATION	TEMPERATURE RANGE
M	−30°C to +100°C
MS	−40°C to +150°C
S	−45°C to +100°C
SL	−50°C to +100°C
F	−40°C to +150°C

Vitagel F is for flooding only. It cannot be filled into tubes or immediately adjacent to fibres.

ZERO OIL SEPARATION

Vitagel MS and Vitagel F grades have been modified to give zero oil separation at +150°C to meet the more stringent requirements of the latest Indian specification and are fully source-approved by the DoT.

All Vitagels have thixotropic properties which provide shear thinning during pumping and slow viscosity recovery for controlled processing.

PACKAGING

All Vitagel cable filling grades are supplied in corrosion resistant, lacquer coated steel drums. The drums are straight-sided (without rolling rims) to ensure that no air is incorporated into the gel from around the drum follower plate during pumping.

Drums are supplied strapped, wrapped and palletised to minimise damage and gel agitation during transit.

For further information contact our technical marketing team at the address below:

SAVITA POLYMERS LIMITED
66/67 Nariman Bhavan, Nariman Point,
P.O. Box No 11742, Mumbai 400 021, India.

Tel: 0091 22 288 3061/2055
Fax: 0091 22 202 9364
Telex: 0118-3829 Grams: SOLVO

Datagram

Cable Filling Gel for Fibre Optic Cables

Vitagel MS

DESCRIPTION

Vitagel MS cable filling compound is a soft thixotropic gel designed for stable processing and controlled overfeed of optical fibres for maximum strain relief in the cable package.

Vitagel MS has been especially formulated to meet the stringent requirements of the Indian DoT. It has zero oil separation at 150°C while maintaining total flexibility at low temperatures. This white translucent gel can be processed at ambient or after heating, according to the production system utilised.

CHARACTERISTICS

THIXOTROPIC FOR EASY PROCESSING
ZERO OIL SEPARATION
LOW TEMPERATURE FLEXIBILITY
DRUM TO DRUM CONSISTENCY

TYPICAL PROPERTIES

Relative density (g/cm^3)	0.87
Flash point, COC (°C)	242
Volatile loss, 24 hrs 150°C (Wt%)	0.19
Oxygen Induction Time 190°C (min)	32
Oil separation, 150°C 24hrs (Wt%)	Zero
Viscosity/Thixotropy (210/2000/210 s^{-1})	
at 210 s^{-1} 25°C (Pa.s)	5.10
at 2000 s^{-1} 25°C (Pa.s)	2.11
at 210 s^{-1} 25°C (Pa.s)	4.18
Yield Point 25°C (Pa)	43
Cone Pen. 150g at +25°C (dmm)	397
Cone Pen. 150g at −30°C (dmm)	217

vitagel

COMPATIBILITY

Vitagel Grade MS gels are compatible with most cable grade polymers. Tests on typical polymers used in the production of fibre optic tubes show no adverse reaction. Minimum oil extraction may occur when in contact with low density olefins although not excessive.

HANDLING

No special handling precautions are required. These soft gels are quickly and easily removed by wiping. A compatible solvent may assist in cable cleaning.

This data is given in good faith and correct to the best of our knowledge at publication. Values quoted are typical and are not a guarantee of performance. Savita reserves the right to make alterations and improvements without notice.

THIXOTROPY

Vitagel MS is formulated to give maximum thixotropy. It has a solid gel structure when static but when it is sheared the gel structure is temporarily broken and the compound becomes fluid. When the shear force is removed the compound progressively recovers its gel structure. Thixotropy is essential when processing fibres into cable and to minimise fibre attenuation during service life.

Manufactured by:

SAVITA POLYMERS LIMITED
66/67 Nariman Bhavan, Nariman Point,
P.O. Box No 11742, Mumbai 400 021, India.
Tel: 0091 22 288 3061/2055
Fax: 0091 22 202 9364
Telex: 0118-3829 Grams: SOLVO

Material Safety Data Sheet

TRADENAME:	VITAGEL
ProductCode:	MS

PRODUCT INDENTIFICATION

Chemical Type:	Aliphatic hydrocarbon
Form:	Thixotropic gel
Colour:	Clear white
Odour:	Minimal

PHYSICAL DATA

Density (^{0}C):	0.90 (15)
Vapour pressure, Pa (^{0}C):	<1000 (20)
Viscosity Pa.s / 200s-1 (^{0}C):	3.13 (25)
Solubility in water %wt (^{0}C):	Nil
Flash Point ^{0}C (PMCC):	>200

TRANSPORT Unregulated

vitagel

STORAGE AND HANDLING

Avoid extremely high temperatures and strong oxidizing agents.
Store bulk quantities in non-melt containers.

PERSONAL PROTECTION

Respiratory:	Not necessary under normal conditions.
Eyes:	Chemical goggles or face shield advisable.
Hands:	Gloves sensitive to chemical penetration advisable.

INDUSTRIAL HYGIENE Ventilation is recommended when handling material in bulk.

FIRE AND EXPLOSION

Unusual hazards:	None known
Extinguishing media:	Carbon dioxide, dry chemicals, foam, water spray (fog)
Respiratory protection:	Do not breathe fumes. Use self-contained breathing apparatus.
Hazardous decomposition products:	Oxides of carbon.

Material Safety Data Sheet – continued:
VITAGEL MS:

SPILLAGE/LEAKAGE

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Take up small spills with dry chemical absorbent.
Large spills may be taken up by pump or vacuum and finished off with dry absorbent.
Large areas of contaminated soil may require excavation.

FIRST AID

Eyes:	After contact, rinse immediately with plenty of water and seek medical advice.
Skin:	After contact, wash immediately with plently of soap and water.
Ingestion:	DO NOT INDUCE VOMITING.
Inhalation:	Remove to fresh air.

vitagel

TOXICITY

Ocular:	Not expected to be an irritant.
Dermal:	Not expected to be toxic or an irritant.
Inhalation:	Inhalation of mists or vapours at elevated temperatures may cause respiratory irritation.
Ingestion:	Not expected to be toxic.

Although the above information is presented in good faith and believed to be correct as of 1 April 1998 we make no representation as to the completeness or accuracy thereof. Information is supplied on the condition that persons receiving the same will make their own determination as to its safety and suitability for their purposes prior to use. On no account will we be responsible for damages of any nature whatsoever resulting from the use of or reliance upon this information. No representations or warranties either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which the information refers.

SAVITA POLYMERS LIMITED
66/67 Nariman Bhavan, Nariman Point,
P.O. Box No 11742, Mumbai 400 021, India.
Tel: 0091 22 288 3061/2055 Fax: 0091 22 202 9364
Telex: 0118-3829 Grams: SOLVO

Datagram

Vitagel F

Cable Flooding Gel for Fibre Optic Cables

DESCRIPTION

Vitagel F cable flooding compound is a thixotropic gel designed for cold processing and total interstitial filling and flooding over loose tubes. It will not drain at high temperatures.

Vitagel F meets the stringent requirements of the Indian Telecom. It has zero oil separation at 150°C and has full DoT source approval. Vitagel F can be pumped into cables at ambient temperatures without the usual shrinkage and contraction experienced with all hot melt jellies. Vitagel F is not designed for filling inside loose tubes or buffering bundled fibres.

CHARACTERISTICS

THIXOTROPIC FOR COLD FILLING
NON-DRIP AND NON-MELTING
CONSISTENT DRUM TO DRUM VISCOSITY
ZERO OIL SEPARATION

TYPICAL PROPERTIES

Relative density (g/cm^3)	0.86
Flash point, COC (°C)	>240
Cone pen. 150g at +25°C (dmm)	280
Volatile loss, 24 hrs 150°C Wt%	0.21
Oil separation, 150°C 24hrs Wt%	Zero
Viscosity/Thixotropy (210/2000/210 s^{-1})	
at 210 s^{-1} 25°C (Pa.s)	7.40
at 2000 s^{-1} 25°C (Pa.s)	1.27
at 210 s^{-1} 25°C (Pa.s)	3.64

vitagel

COMPATIBILITY

Vitagel Grade F gels are compatible with most cable grade polymers. Tests on typical polymers used in the production of fibre optic tubes show no adverse reaction. Minimum oil extraction may occur when in contact with low density olefins although not excessive.

HANDLING

No special handling precautions are required. These soft gels are quickly and easily removed by wiping. A compatible solvent may assist in cable cleaning.

This data is given in good faith and correct to the best of our knowledge at publication. Values quoted are typical and are not a guarantee of performance. Savita reserves the right to make alterations and improvements without notice.

THIXOTROPY

Vitagel F is formulated for maximum thixotropy. It has a solid gel structure when static but when sheared by pumping the gel structure is temporarily broken and the compound becomes fluid allowing it to be pressure filled into the cable without heat or shrinkage. When in the cable and the shear force is removed the compound progressively recovers its solid gel structure and forms a permanent water block.

Manufactured by:

SAVITA POLYMERS LIMITED
66/67 Nariman Bhavan, Nariman Point,
P.O. Box No 11742, Mumbai 400 021, India.
Tel: 0091 22 288 3061/2055
Fax: 0091 22 202 9364
Telex: 0118-3829 Grams: SOLVO

Material Safety Data Sheet

TRADENAME:	VITAGEL
ProductCode:	F

PRODUCT INDENTIFICATION

Chemical Type:	Aliphatic hydrocarbon
Form:	Thixotropic gel
Colour:	Transluscent amber
Odour:	Minimal

PHYSICAL DATA

Density (°C):	0.90 (15)
Vapour pressure, Pa (°C):	<1000 (20)
Viscosity Pa.s / 200s-1 (°C):	5.07 (25)
Solubility in water %wt (°C):	Nil
Flash Point °C (PMCC):	>200

TRANSPORT Unregulated

vitagel

STORAGE AND HANDLING

Avoid extremely high temperatures and strong oxidizing agents.
Store bulk quantities in non-melt containers.

PERSONAL PROTECTION

Respiratory:	Not necessary under normal conditions.
Eyes:	Chemical goggles or face shield advisable.
Hands:	Gloves sensitive to chemical penetration advisable.

INDUSTRIAL HYGIENE Ventilation is recommended when handling material in bulk.

FIRE AND EXPLOSION

Unusual hazards:	None known
Extinguishing media:	Carbon dioxide, dry chemicals, foam, water spray (fog)
Respiratory protection:	Do not breathe fumes. Use self-contained breathing apparatus.
Hazardous decomposition products:	Oxides of carbon.

SPILLAGE/LEAKAGE

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Take up small spills with dry chemical absorbent.
Large spills may be taken up by pump or vacuum and finished off with dry absorbent.
Large areas of contaminated soil may require excavation.

FIRST AID

Eyes:	After contact, rinse immediately with plenty of water and seek medical advice.
Skin:	After contact, wash immediately with plenty of soap and water.
Ingestion:	DO NOT INDUCE VOMITING.
Inhalation:	Remove to fresh air.

vitagel

TOXICITY

Ocular:	Not expected to be an irritant.
Dermal:	Not expected to be toxic or an irritant.
Inhalation:	Inhalation of mists or vapours at elevated temperatures may cause respiratory irritation.
Ingestion:	Not expected to be toxic.

SAVITA POLYMERS LIMITED
66/67 Nariman Bhavan, Nariman Point,
P.O. Box No 11742, Mumbai 400 021, India.
Tel: 0091 22 288 3061/2055 Fax: 0091 22 202 9364
Telex: 0118–3829 Grams: SOLVO