



CONSERVATION BY DESIGN LIMITED

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TECHNICAL DATA

KLUCEL GF & EF (SY26)

Date of Issue: January 24th. 2000

Product Name:

KLUCEL GF & EF, Hydroxypropyl cellulose

Description

Klucel is a non - toxic cellulose ether with a remarkable combination of properties making it of great interest to the conservator. An odourless, light cream to white free flowing powder or granulate, it is soluble in cold water and insoluble in hot water. It is soluble in some solvents and insoluble in others. This makes it very useful as a ' barrier ' to protect sections of the item being worked on from processes being carried out elsewhere. Solutions are clear, smooth & exceptionally free from gels & fibres. Klucel is extremely flexible without plasticisers when used as a film or coating and is heat sealable and non - tacking at high humidity. The " P " suffix relates to it being of a purer, refined, food grade quality.

Technical Information

- Soluble in water below 38 °C
- Insoluble in water above 45° C
- Soluble in polar organic solvents such as : Methyl Alcohol • Ethyl Alcohol • Isopropyl Alcohol (95%) • Cellosolve etc.
- Insoluble in the following: Toluene • Xylene • 1,1,1 Trichloroethane etc.

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| pH value (1% solution): | pH 5.0 to 8.5 |
| Viscosity (Brookfield LVF | Klucel GF @ 2% solution 150 - 400 |
| Viscometer Spindle 2, speed 60): | Klucel EF @ 10% solution 150 - 700 |
| Moisture content: | 5% Max. |

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| Ash Content: (calculated as Na ₂ S ₀₄): | 0.5% Max, Silica Free |
| Particle Size: | 85% Min. through 30 Mesh (0.595 MM) 99% Min. through 20 Mesh (0.841 MM) |

Instructions for Use

To dissolve KLUCEL in either water or one of the polar organic solvents the following method must be used in order to avoid lumping during the preparation of solution.

The Klucel must be pre - slurried in a non - solvent such as hot water (50 - 60°C) or glycerin, prior to the addition of the main volume of water.

Prepare a high solids slurry by adding dry Klucel powder to 6 times 9 or more) its weight of well agitated hot water. N.B. Do not allow the temperature to exceed 60° C.

Stir the slurry for a few minutes before adding to the main body of cold water. This pre - soak results in a faster dissolving of the particles in the second step. Ensure that the slurry temperature does not fall below 50° C as this would result in the formulation of a gelatinous mass.

In the second step the hot slurry is diluted with cold water (room temperature or lower). Agitation is continued until all particles are dissolved and solution is completely free of gels. Do not agitate too briskly as this causes foaming and air entrainment. Dissolving periods of 10 minutes or more may be required depending on solution concentration and viscosity type being used. The lower viscosity (E) dissolves faster than the higher viscosity (G) grade.

Application tips from users

Used as a 4% solution in ethanol for leather consolidation, Klucel has been successfully used as an adhesive for paper repair and as a consolidant for parchment material. Badly stained wooden artifacts have been cleansed by using a 1:9 water to industrial methylated spirit (95% ethanol, 5% methanol) mix in Klucel G to produce a gel. The gel is applied locally to the damaged area and covered with a protective polythene layer. After 2 - 3 hours the gel is carefully removed manually. Reapplication may be necessary before the area is washed down using industrial methylated spirits. Increasing the water content may well effect the wood grain.

Health and Safety Information

No permanent effects on humans known from discontinuous short or long term exposure when used as directed. Wet floors on which this powder is spilt may become very slippery. This powder when dispersed in air represents an explosion hazard. Handle in a well ventilated, dry area. Earth all equipment. Keep away from heat, sparks and all sources of ignition. See main material safety data sheet leaflet.

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- See Main MSDS leaflet.

Order Details

- Product Code: SY26 = G • SY26E = E
- Pack size available: 1 & 5 kilo pots
- For further information call + 44 (0) 1234 853 555 or fax + 44 (0) 1234 852 334