Innovative solutions / biochemistry methods and reagents from Interchim

■ Surface Treatment - Silanylation

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<td>attaches a short-chain silane polymer to make the surface inert or polymerizes to create an inert film. (SurfaSil, DMDCS, HMDS…)</td>
<td>attaches the silane polymer, octadecyltrialkosilane, to make the surface inert or polymerizes to create an inert film. (AquaSil)</td>
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Surface treatment with SurfaSil or AquaSil Siliconizing Fluids can reduce sample losses caused by nonspecific interactions with reaction vessels and containers, which can be significant when working with small amounts of protein.

● AquaSil Fluid forms silanol polymers in solution that react with the silanols (Si-OH) on the glass surface. Covalent bonds are formed among the hydroxyls on the glass and the silicon from the siliconizing agent.

● SurfaSil Fluid directly reacts with polar groups on the object's surface and results in a hydrophobic surface that resists nonspecific binding.

The silanol bonds formed by these two reagents are able to withstand autoclaving conditions. Materials that can be siliconized include glass, plastics, and many metal surfaces, which is useful for preventing protein loss on glass columns, containers and other equipment. SurfaSil and AquaSil Siliconizing Fluids are applied by wipe-on or immersion methods. AquaSil Siliconizing Fluid is especially useful for protein chemistry applications because its working solution is prepared in water and does not require dilution in hazardous non-polar organic solvents.

Water-Soluble Siliconizing Fluid (AquaSil)

AquaSil - Water-Soluble Siliconizing Fluid

TS-42799, 120mL

attaches the silane polymer, octadecyltrialkosilane, to make the surface inert or polymerizes to create an inert film.

● Easy-to-use silane monomer solution

● Greater resistance to base hydrolysis than other surface treatments

AquaSil Siliconizing Fluid is an amber-colored monomeric octadecylsilane derivative supplied as a 20% solution by mass in a mixture of diacetone alcohol and tertiary butyl alcohol [ t-butanol (CAS # 75-65-0) and 4-hydroxy-4-methyl-2-pentanone (CAS # 123-42-2) ]. All three materials are flammable. See TechnicalSheet

Hydrocarbon-Soluble Siliconizing Fluids

SurfaSil - Hydrocarbon-Soluble Siliconizing Fluid

TS-42800, 120ml  TS-42801, 420ml  TS-42855, 5x1ml ampules

attaches a short-chain silane polymer to make the surface inert or polymerizes to create an inert film.

● Soluble in organic solvents

● Excellent for modifying metals, glass, ceramics and fiber optics

● Can be used for certain plastic surfaces

● Well-suited for treatment of GC injection port liners
a polymeric silicone fluid consisting primarily of dichlorooctamethyltetrasiloxane (CAS # 2474-02-4)
Specific Gravity: 1.00-1.03 ; Flash Point: 87°C
SurfaSil Fluid is flammable, corrosive and moisture-sensitive, before film is formed, and HCl fumes are generated in its application so care should be taken to avoid corrosion of metal that comes into contact with the liquid. After application, the surface is neutral.
When applied to glass, quartz or similar materials, the unhydrolyzed chlorines present on the chain react with surface silanols to form a neutral, hydrophobic and tightly bonded film over the entire surface.

**Dimethyl dichlorosilane (DMDCS)**  
TS-83410, 100g
Si-C2(CH3)2 ; MW: 129.06
Attach the silane polymer octadecyltriaalkoxysilane on glass and plastics to make the surface inert or can polymerize to create an inert film.
Water dispersable. Greater resistance to base hydrolysis than other agents.

**Hexamethyldisilazane (HMDS)**  
TS-84770, 25g  TS-84769, 100g
NH-(Si(CH3)3)2 ; MW: 161.4
Attach a small silane to make the surface inert.
Water dispersable. Greater resistance to base hydrolysis than other agents.

**3-Aminopropyltriethoxysilane**  
TS-42800, 120mL
NH2(CH2)3Si-(O-C2H5)3 ; MW: 221.37
Attach a primary amine functional group to the surface. Subsequently, crosslinking agents such as BS3 or EDC or SMCC can be used to immobilize proteins, peptides, aminated DNA, etc… to the treated surface.
Coat certain plastic surfaces non covalently to create a reactive film.

Store siliconizing fluids at room temperature.

**Related products lines**
Interbiotec - BioSciences innovation – proposes a complete range of products for protein biochemistry.

- **Derivatization reagents**
- **Innovative and remarkable chemistries, conjugation methods, labeling and functionalisation**
  - Standard Click Chemistry reagents
  - Copper-free Click Chemistry reagents (DBCO reagents)
  - Staudinger reaction (effective conjugations/chemical modification)
  - PEGylation reagents (conjugation reagents, linkers and building blocks)
  - SAM reagents (Self-Assembled Monolayers for surface modification)
  - SDA reagents (effective photo reactions)
  - STELLA labeling (azo cycloaddition reactions)
  - Gold nano-particles and materials
  - Carbone nanotubes
  - ITO slides

- **FluoProbes labeling agents**
- **Desalting tools** – CelluSep tubings, SpectraPor tubings, GebaFlex, FloatALyser, SlideALyser,...

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