Deactivating Glass Surfaces with Dimethyldichlorosilane (DMDCS)

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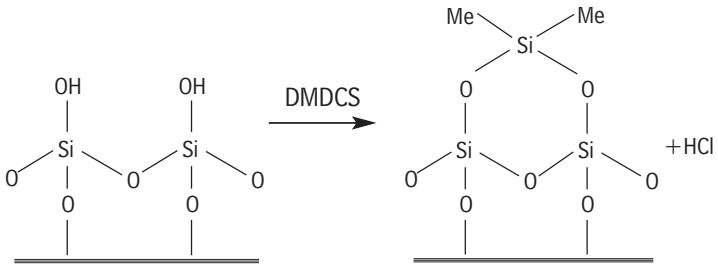
- ✔ Convenient 20mL ampuls.
- ✔ Unopened ampuls have long shelf life.
- ✔ Detailed deactivation procedure available on request.

Although glass is widely thought of as an "inert" material, glass surfaces are, in fact, slightly acidic and highly adsorptive, due to the presence of silanol groups (SiOH). These reactive groups interact via hydrogen bonding with amine (-NH), carboxylic acid (-COOH), hydroxyl (-OH), or thiol (-SH) functional groups, and compounds containing these groups adsorb to untreated glass surfaces. To minimize adsorption in sample preparation glassware and in the GC sample pathway, and prevent chromatographic tailing or loss of sensitivity at low sample concentrations, it is important to eliminate or mask the reactive silanol groups.

One popular way to deactivate glass surfaces is to chemically bond a non-adsorptive molecule to the active silanol groups (Figure 1). This typically is accomplished using dimethyldichlorosilane—DMDCS. The procedure is suitable for most analyses that involve concentrated samples and non-active matrices. It can be followed to clean and deactivate glass GC inlet liners, derivatization vials, and all glassware used for preparing analytical reference materials. Restek now offers DMDCS in 20mL ampuls, for analysts who wish to deactivate their glassware themselves.

Figure 1 Dimethyldichlorosilane deactivates silanol groups on a glass surface.



Alternative Surface Treatments

An alternative procedure, polymeric deactivation, provides maximum coverage of glass surfaces and should be used to treat inlet liners for critical analyses involving very low concentrations of highly active compounds (e.g., endrin, DDT, drugs). All liners supplied by Restek undergo polymeric deactivation.

For **ultimate inertness**, and most accurate data for trace levels of reactive analytes, we recommend Siltek™ deactivation. Siltek™ deactivated guard columns, inlet sleeves, and other glassware are listed in the Restek catalog. For other items, ask our Technical Service chemists or your Restek representative about deactivation.

Dimethyldichlorosilane (DMDCS)

Neat, 20mL/ampul

Each	5-pk.
31840	31840-510

Searching for the Perfect Solution?

Let Restek create the perfect reference mixture—to your exact specifications. Contact the Technical Service Team or visit us online at **www.restekcorp.com/solutions**