



# PolyLC INC.

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## Instructions for SDS Removal Javelin® Guard Cartridges

**Application:** Peptide sequencing labs frequently use sodium dodecyl sulfate (SDS) to solubilize peptides and proteins in electrophoresis gels. Unfortunately, the SDS in the samples often ruins subsequent runs by reversed-phase HPLC (RPC), as shown in the example below. In automated peptide sequencers, SDS can lead to bubble formation in the sample uptake lines, which blocks further sample uptake. SDS can also accumulate on the PVDF membranes used for sequencing, washing off at an inconvenient time. All in all, it's a good idea to get it out of your samples.

Our SDS guard cartridges are 5- $\mu$ m, wide-pore materials packed into various dimensions. They selectively remove SDS from peptide mixtures, and are used as guard cartridges with RPC columns. No tools or holders are necessary to connect them. The example below demonstrates their application. Chromatogram A) shows an SDS-free sample run by RPC. In Chromatogram B), added SDS has ruined the resolution. In Chromatogram C), a J2SDS cartridge has replaced the RPC guard cartridge. Notwithstanding the presence of SDS in the sample, the complexity of the original chromatogram has been regained.

When a guard cartridge is used with an RPC column, conventional TFA/acetonitrile gradients can be used. Accumulated SDS is reportedly washed off the guard by levels of acetonitrile higher than 70%.

### Directions:

The guard cartridges are shipped in methanol. They should be flushed with deionized water before use with aqueous mobile phases:

10 x 1.0mm	1mL @ 0.05mL/min	20 x 1.0mm	2mL @ 0.05mL/min
10 x 2.1mm	2mL @ 0.25mL/min	20 x 2.1mm	4mL @ 0.25mL/min
10 x 4.0mm	4mL @ 1mL/min	20 x 4.0mm	8mL @ 1mL/min

We recommend that a new guard cartridge be conditioned by eluting with a strong salt solution for one hour prior to its initial use. Example: 0.2 M monosodium phosphate + 0.3 M sodium acetate.

### Connections to 1/16" tubing:

Use a plastic finger-tight nut/ferrule combination or else CPI-detail metal nuts and ferrules.

### Storage:

Store the guard cartridge in water; refrigerate for long-term storage. Storage in 100% acetonitrile is acceptable, but may necessitate a repetition of the high salt buffer conditioning step thereafter. Plug the ends to prevent the packed bed from drying out.

Javelin® is a registered trademark of Thermo-Keystone Scientific, Inc. (U.S. Patent 5,582,723).