

Comparing Performance and Cost of “Museum-grade” silica gels

This table is designed to accompany the handout and notes from the Connecting to Collections Care webinar **Demystifying Silica Gel for Effective Microclimates** presented by Rachael Arenstein on January 22, 2019.

*Inclusion on this list does not imply endorsement.
Visit vendor/distributor websites for current specifications and pricing.*

			Relative quantity required for equivalent performance	Relative cost based on the same unit weight	Relative cost for equivalent performance
	M _H @ 40–60% RH	Quantity required for 1 m ³ based on M _H @40-60% RH			
RD (A) Gel	1.9	4.7 kg	2.8	Cassette: 0.76 Sachet: 0.34	Cassette: \$2.13 Sachet: \$0.9
Art Sorb	4.0	2.3 kg	1.4	1.45	\$2.03
PROSorb	5.4	1.7 kg	1.0	1.0	\$1.00
RHapid Gel	5.4*	1.7 kg	1.0	0.51	\$0.51
	M _H @ 20⇒30% RH	Quantity required for 1 m ³ based on M _H @20⇒30% RH			
RD (A) Gel	5.5	1.6 kg	0.8	Cassette: 0.76 Sachet: 0.34	Cassette: \$0.61 Sachet: \$0.27
Art Sorb	2.8	3.2 kg	1.6	1.45	\$2.32
PROSorb	4.4	2.0 kg	1.0	1.0	\$1.00
RHapid Gel	4.4*	2.0 kg	1.0	0.51	\$0.51

Notes:

The calculations were determined for the quantity of gel required per 1 m³:

$$\text{Temp } D \quad V \quad N \quad t \quad M_H \times F$$

$$(20.0 \times 0.1 \times 1 \times 1 \times 90) = 180 / () \times 20 = () \text{ kg/m}^3$$

F=20 for M_H @ 20-30 and M_H @ 40-60%

- Relative quantities and relative costs are calculated by normalizing all values, based on a ProSorb value of “1.0”.
- M_H values based on CCI Technical Bulletin 33, except for RHapid Gel.
- * The new M_H value listed in this table for RHapid Gel reflects the performance of the new version of RHapid Gel that will be available in 2019 (information provided by APS).
- ***The current prices were based on current vendor website information as of January 2019.***
 - ❖ Talas – ProSorb 950g Cassette - \$70/per cassette ($\$70/0.95 = \$74/\text{kg}$)
 - ❖ Art Sorb – 750g Cassette = \$80 ($\$80/0.75 = \$107/\text{kg}$)
 - ❖ Preconditioned Type A Cassette via University Products (500g Cassette = \$28; $\$28/0.5 = \$56/\text{kg}$)
 - ❖ Preconditioned Type A Sachet (\$25/kg)
 - ❖ RHapidGel - 300g sachet x4=1.2 kg; $\$45/1.2=\$37.50/\text{kg}$

Jean Tétreault and Paul Bégin. **Silica Gel: Passive Control of Relative Humidity** (Technical Bulletin 33)
 Canadian Conservation Institute, 2018. <https://bit.ly/2Uass2P>

