Performance and Composition of Competing Absorbents

Product Name	Form	Molecular Sieve Free[4]	Permanent Color Change	Eliminates Dust	Eliminates Channeling	Pass Ca Fish Test[5]	Eliminates Agent Degradation[1]			PERFORMANCE[2] Time per 100ml of product for $FICO_2$ to reach 0.5%	
							Carbon Monoxide	Compound A	Formaldehyde	Minutes	CV[3] (%)
LoFloSorb	Granular	6.5% Silica	NO	NO	NO	NO	YES	YES	YES	50	5
Amsorb Plus	Granular	YES	YES	NO	NO	?	YES	YES	YES	56	6
Litholyme	Granular	YES	NO	NO	NO	?	YES	YES	YES	59	5
Dragersorb Free	Granular	YES	NO	NO	NO	?	YES	YES	YES	69	4
Spherasorb	Granular	4% zeolite	NO	NO	NO	NO	NO	NO	NO	70	1
Sodasorb	Granular	YES	NO	NO	NO	NO	NO	NO	NO	78	5
Medisorb	Granular	YES	NO	NO	NO	NO	NO	NO	NO	88	5
Dragersorb 800+	Granular	YES	NO	NO	NO	NO	NO	NO	NO	91	1
SpiraLith®CA	Solid	YES	YES	YES	YES	YES	YES	YES	YES	95	1

SpiraLith®Ca's unique composition and superior performance provide the opportunity to achieve significant reductions in overall cost of anesthesia delivery, while simultaneously improving patient safety and reducing environmental footprint:

- Far superior CO_2 absorption efficiency without performance variation (see table above).
- Elimination of dust problems and channeling, along with fewer product changes reduces utilization of clinician, technician, engineering, and nursing time and efforts, especially related to biomed service calls and surgery rescheduling due to anesthesia machines failing their pre-use tests.
- Reduction in anesthesia costs due to ability to utilize low flows for extended periods of time without worries of Compound A, Carbon Monoxide, or Formaldehyde production.
- Permanent, reliable, consistent color change increases user confidence and decreases waste.
- Significant reductions in environmental footprint and waste; far fewer canisters are discarded and those that are have a much higher percentage of their chemical contents reacted than traditional granular absorbents, which will have remaining absorption capacity ranging from 13.5% to 73.3%, with a mean of 44.8%.[6] Additionally, SpiraLith®Ca satisfies California State's strict requirements for disposal as non-hazardous waste.[5]

REFERENCES AND FOOTNOTES

1. Independently published scientific literature.

2. Jiang Y, Bashraheel MK, Liu H, et al. In vitro efficiency of 16 different Ca(OH)2 based CO2 absorbent brands. J Clin Monit Comput. 2019;33:1081–1087.

3. CV: Coefficient of variation is used to calculate the consistency and uniformity of data. Higher numbers represent greater volatility and variability, while lower numbers represent greater consistency and reliability. SpiraLith®Ca users can expect superior performance each and every single time.

4. Olympio, M. Carbon Dioxide Absorbent Desiccation Safety Conference Convened by APSF. The Official Journal of the Anesthesia Patient Safety Foundation. Volume 20, No. 2, 25-44. Summer 2005. www.apsf.org.

5. CCR Title 22 - Fathead Minnow Hazardous Waste Screen Bioassay (Polisini and Miller 1988)

6. Franklin V. Cobos II, M.D., Max T. Baker, Ph.D., John H. Tinker, M.D. Department of Anesthesiology, Nebraska Medical Center, Omaha, Nebraska. Discarded Soda Lime; Economic & Practice Implications. Anesthesiology 2004; 101: A567

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