INTERSURGICAL®
COMPLETE RESPIRATORY SYSTEMS
Quality, innovation and choice

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TECHNICAL DATA:
Spherasorb 4 to 8 mesh Indicating and Non-indicating soda lime.

Product names: Spherasorb 408 NI (non-indicating)
Spherasorb 408 WV (indicating)

Spherasorb 408 is comprised of 3 mm cylindrical granules and has been produced to achieve the maximum carbon dioxide absorption and optimum physical properties.

Chemical composition: Intersurgical tests.

	Spherasorb 408 NI	Spherasorb 408 WV
Calcium Hydroxide	93.5 %	93.5 %
Sodium Hydroxide	1.5 %	1.5 %
Zeolite	5 %	5 %
Ethyl Violet	NIL	0.03 %

Note, these figures represent the dry constituents. The product will additionally contains 14 % to 18 % water.

Physical properties: Intersurgical tests

	Spherasorb 408 NI and WV Typical data	Specification
Particle size		
Over 5.60 mm	0 %	1 % max
4.75 to 5.60 mm	0 %	7 % max
2.00 to 4.75 mm	Balance	Balance
0.600 to 2.00 mm	0.4 %	15 % max
Under 0.600 mm	0.2 %	1 % max
Moisture content	16 %	14 % to 20 %
Hardness (% Retained on 2.5mm screen)	97 %	75 % minimum
Resistance to flow *	0.8 mbar unused 1.0 mbar used	

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*40 L/min, absorber 10 cm diameter, 12.5 cm height, volume 1 litre.

Carbon Dioxide absorption: Intersurgical tests

	Spherasorb 408 NI and WV Typical data	Specification
Time to 0.5 % CO_2 **breakthrough (minutes)	73 minutes	60 minimum
CO_2 capacity L/kg	128 L/kg	100 L/kg minimum

** 105 ml absorbent in 30 mm diameter tube.
Challenge gas: 3.0 L/min air containing 5 % CO_2.
Humidity 100 %
Temperature 20^{o}C

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Chemical reaction for carbon dioxide removal.

Spherasorb 408 removes carbon dioxide (and other acidic contaminants) from gas streams via an exothermic, water facilitated, base catalysed chemical reaction. Spherasorb 408 contains a carefully controlled level of water which aids the reaction. Water is also formed as a by-product of the reaction.

The reaction proceeds in 3 stages:-
(i) $CO_2 + H_2O \rightarrow H_2CO_3$

(ii) $H_2CO_3 + 2NaOH \rightarrow Na_2CO_3 + 2H_2O$

(iii) $Na_2CO_3 + Ca(OH)_2 \rightarrow CaCO_3 + 2NaOH$

Quality
All products are rigorously tested to ensure conformance to specification. Our production and quality procedures comply to the requirements of ISO9001.

12th October 2010
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