

# Carbon Dioxide Absorption

## Sofnolime® for Commercial and Leisure Diving



Commercial and leisure diving grade Sofnolime® is a carbon dioxide absorbent, optimised for the removal of carbon dioxide from breathable gas in diving rebreathers.

### Applications

Diving grade Sofnolime® absorbs carbon dioxide ensuring a breathable atmosphere is maintained. It is optimised for the removal of carbon dioxide from recirculated air/nitrox/heliox in rebreathers and saturation dive systems.

- Commercial and leisure diving rebreathers
- Dive chamber / bell scrubbers / gas reclaim systems
- Dive gas conditioning units

### Properties

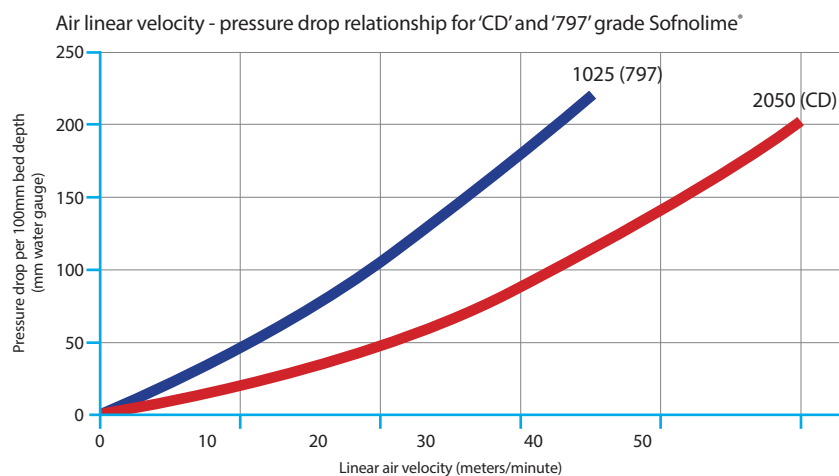
- High intrinsic carbon dioxide capacity
- Available with white to violet indicator
- Irregular shaped/sized granules for optimum packing
- High attrition resistance (low dust formation)

### Product Details

Two grades are available, 797 Grade and CD Grade. The main differences between the two grades are particle size and shape. CD Grade is a 2.0mm to 5.0mm extrudate with a D-shaped cross-section. The 797 Grade has a smaller particle size (1.0mm to 2.5mm) and has a triangular shaped cross-section, which combine to give a higher CO<sub>2</sub> absorption capacity compared with CD Grade.



### Typical Performance - Pressure Drop



These are typical values and can vary depending on the way the material is packed into the canister

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## Specification

Sofnolime®	797 Grade Shape ▲			CD Grade Shape D		
	Particle size	Specification	Typical Results	Particle size	Specification	Typical Results
Characteristics	1.0-2.5mm	1.0-2.5mm		2.0-5.0mm	2.0-5.0mm	
	>2.80mm	1% Max	Zero	>5.60mm	1% Max	Zero
	2.00-2.80mm	30.0% Max	9%	4.75-5.60mm	7.0%	Zero
	1.40-2.00mm	Balance	83%	2.00-4.75mm	Balance	94%
	0.60-1.40mm	20.0% Max	7%	0.60-2.00mm	15.0% Max	6%
	<0.60mm	1.0% Max	0.2%	<0.60mm	1.0% Max	0.2%
Moisture		16-20%	NA		16-20%	NA
Hardness		>80%	>90%		>80%	>95%
Typical Usable Capacity			150 litres/kg			110 litres/kg

## How it works

Sofnolime® removes carbon dioxide (and other acidic contaminants) from gas streams via an exothermic, water facilitated, base catalysed chemical reaction. The Sofnolime® 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) Reaction at aqueous layer



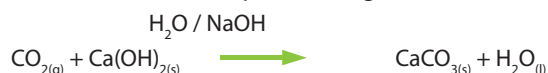
(ii) Bicarbonate formation



(iii) Decomposition/regeneration of NaOH catalyst



The overall balanced equation being :-



## Additional information

Pack Size	Number of packs/drums on pallet	Net weight of pallet (kg)	Gross weight of pallet (kg)	Dimensions of fully laden pallet (W x D x H)cm
9.0kg twinpack (2x4.5kg)	60	540	625	120 x 100 x 105
20kg keg	32	640	705	120 x 100 x 110

### Quality

Molecular Products Ltd's aim is to manufacture chemical products which satisfy completely the needs of our customers. All products are rigorously tested to ensure conformance to the specification. Our activities comply to the requirements of ISO 9001.

Sofnolime® grades without indicator passes testing based on NATO standard STANAG 1411.

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