

GRACE SODASORB[®] HP



SODASORB[®] HP

CO₂ Absorbent

Soda Lime USP

High Performance Grade

DESCRIPTION

SODASORB[®] consists essentially of hydrated lime (CA(OH)₂) and small quantities of sodium hydroxide (NaOH) and potassium hydroxide (KOH). Mixed by a special method, with carefully controlled moisture content and porosity to maximize absorptive capacity.

US PHARMACOPOEIA

SODASORB[®] HP complies fully with the specification of soda lime carbon dioxide absorbent Pharmacopoeia of the United States.

USES

In underwater diving... absorbs carbon dioxide in helium-oxygen breathing systems, hyperbaric chambers and scuba apparatus.

In Industry... absorbs acid gases, aids purification, Aldol Condensation catalyst

In Rebreathers... absorbs CO₂ and acid gases in personnel rebreathers for mine, fire and other safety systems

TYPES

Regular SODASORB[®] and Indicator SODASORB[®] containing ethyl violet which changes in color from white to purple as its capacity for absorption is exhausted. The clearly observable color change signals a clinical point of exhaustion and need for replenishment.

MESH SIZE

The mesh size most commonly used in rebreathing systems is 4-8 Tyler, 4-88 USS. A finer 6-12 Tyler (USS) mesh material is available for special uses.

MOISTURE GRADES

High Moisture (14-19%) and Low Moisture (0-7%). High moisture is suitable for diving applications and low for industrial use.

SODASORB PACKAGES

Container	Moisture Grades	Volume	Net Weight
Plastic Pail	High	5 Gallon	37 lbs
Drum	High/Low	55 Gallon	365 lbs

CHEMICAL ACTION

SODASORB® has a 3 way chemical reaction with carbon dioxide which results in longer life and greater efficiency per weight used. The carbon dioxide first reacts with the moisture in SODASORB® to form carbonic acid [$\text{CO}_2 + \text{H}_2\text{O} = \text{H}_2\text{CO}_3$]. The carbonic acid then reacts with the sodium and potassium hydroxides in SODASORB® to form sodium and potassium carbonate and regenerate water [$2\text{H}_2\text{CO}_3 + \text{NaOH} + 2\text{KOH} = \text{Na}_2\text{CO}_3 + \text{K}_2\text{CO}_3 + 4\text{H}_2\text{O}$]. The caustic alkalis draw the acid gas out of the passing mixture and hold it. The sodium and potassium carbonates then react with the hydrated lime, forming calcium carbonate and regenerating sodium hydroxide and potassium hydroxide [$\text{Na}_2\text{CO}_3 + \text{K}_2\text{CO}_3 + 2\text{CA}(\text{OH})_2 = 2\text{CACO}_3 + 2\text{NaOH} + 2\text{KOH}$].

PHYSICAL FORM

SODASORB® HP is specially processed into porous, coral-like granules in order to expose the greatest area of absorbent surface. In a canister, these knobby granules permit free inter-granular circulation of gases. They have no flat surfaces to stack and block, and their hardness makes them highly resistant to powdering and breakage in packing, shipping and handling.

GREATER EFFICIENCY

A refinement of Grace's proven medical absorbent, SODASORB® HP was developed specifically for undersea and industrial applications. Proven up to twice as efficient as medical grade product, independent tests have shown SODASORB® HP to be more effective than competitive carbon dioxide absorbents, even at low temperatures.

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Determination of the suitability of the material for any use contemplated by the user and the manner of such use is the sole responsibility of the user, who must assure himself that the material as subsequently processed meets the needs of his particular product or use.

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