T E C H N I C A L D A T A S H E E T

Sofnolime® 1025

Non-Indicating Carbon Dioxide Absorber

A high performance carbon dioxide absorbent for use in compressed air breathing and industrial acid gas removal applications

Applications

Sofnolime® 1025 (non-indicating) is a high performance carbon dioxide absorbent, suitable for use in compressed air breathing and industrial acid gas removal applications.

Properties

Water Content	16 - 20%
Total Alkali Metal Hydroxide (as NaOH)	2.0 - 3.5% (nominal range)
Hardness	>80.0%
Activity (see Notes)	>67 minutes

Particle size

Retained on 2.80mm screen	1.0% Max
Retained on 2.00mm screen	30.0% Max
Retained on 1.40mm screen	Balance Min
Retained on 0.60mm screen	20.0% Max
Passing 0.60mm screen	1.0% Max

Colour Indicator

Sofnolime® 1025 contains no colour indicator.

Availability

Sofnolime® 1025 NI is available in 20kg and 2x4.5kg packs. Other options are available by request.

Notes

Activity is determined by passing air containing 4.76% carbon dioxide at a relative humidity of 90% at 20˚C through a sample of Sofnolime® with a total residence time of two seconds and measuring the time taken for the outlet carbon dioxide level to exceed 0.02%.

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

$$CO_{2(gas)} + H_2O \longrightarrow CO_{2\ (in\ solution)}$$

(ii) Bicarbonate formation

$$CO_{2(aqua)} + NaOH \longrightarrow NaHCO_3$$

(iii) Decomposition/regeneration of NaOH catalyst

$$NaHCO_3 + Ca(OH)_2 \longrightarrow CaCO_3 + NaOH + H_2O$$

The overall balanced equation being :-

$$CO_{2(g)} + Ca(OH)_{2(s)} \xrightarrow{H_2O\ /\ NaOH} CaCO_{3(s)} + H_2O_{(l)}$$

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 and 13485.

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Version 4, May 2021