



NaturKarb Impregnated Activated Carbon

NaturKarb is a high quality impregnated activated carbon, researched and developed by Innovation Institute, PTT Public Company Limited.

This activated carbon manufactured from coconut shell raw materials and available in granular form, an enhanced microporosity makes it particularly well suited the removal of Hydrogen sulfide (H²S), Mercaptan, Sulfur dioxide and Volatile Organic Compounds (VOCs).

With an advance research and technology, NaturKarb offer the purification solution by eliminating over 99 % of H₂S and high tolerance with the concentration fluctuations. NaturKarb is ideally suited for treating vapor effluent from wastewater and environmental applications.

Features and Benefits

- Microporous structure
- Maximum hardness
- Excellent adsorption capacity
- Highly Effective removal of Hydrogen Sulfide (H₂S)
- High tolerate with Hydrogen Sulfide (H₂S) concentration
- Effective in air treatment activity

Specification

Parameter	Method	Unit	Specification
Particle size 4x8 Mesh	ASTM Mesh	mm	90% min
Hardness Number	ASTM 3802-79	%	95% min.
Moisture	ASTM D2867-09	%w/w	15% max.
Apparent Density	ASTM D2854-09	g/cc	0.58 min.
Ash	ASTM D2866-94	%w/w	12% max.
Iodine Number (Base impregnation)	AWWA B604	mg/g	1150 min.
CTC Adsorption (Base impregnation)	ASTM 3467-88	%	60% min.
H ₂ S Chemisorption Capacity	ASTM D6646-03	g/cc	0.12 min.
Benzene Adsorption Capacity *	-	%w/w	12% min.

Standard Packaging



- 25 kg paper sack (55 lb)
- Bag style: Outer packing –3 paper layers, Inner packaging – 1 plastic layer
- Shelf life 5 years in tightly sealed bag

* Other packaging types are available upon request

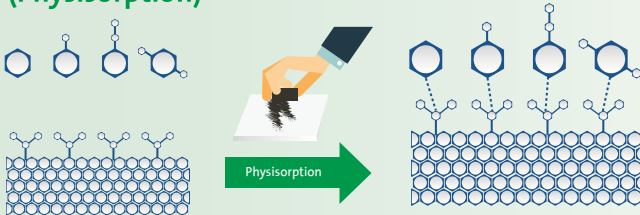
Adsorption Capacity

The adsorption capacity of the activated carbon is measured in term of the dynamic adsorption capacity when the adsorbate (H₂S/VOCs) is flowing through the activated carbon at the design flow rate, temperature, and pressure. The adsorption capacity is calculated based on the values taken from the adsorption experiments which generate the breakthrough curves. It is calculated by taking the amount of H₂S/VOCs adsorbed on the activated carbon at the time reaching 10% breakthrough dividing it by the mass of the activated carbon bed.

NaturKarb Adsorption Mechanism

Adsorption process is divided into two type

1. Physical Adsorption (Physisorption)



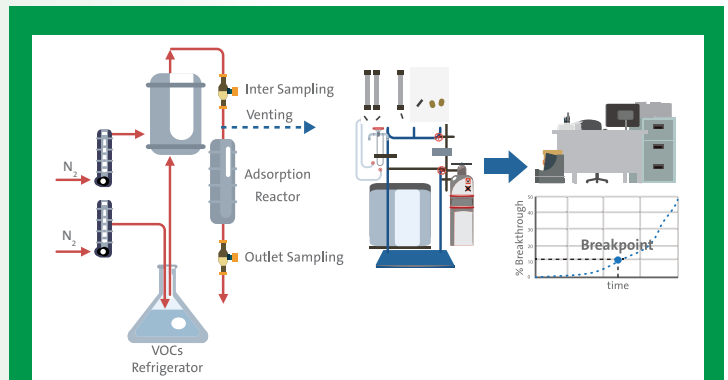
- Molecular bonding force or van der Waals force will absorb in the volatile organic compounds (VOCs)

2. Chemical Adsorption (Chemisorption)

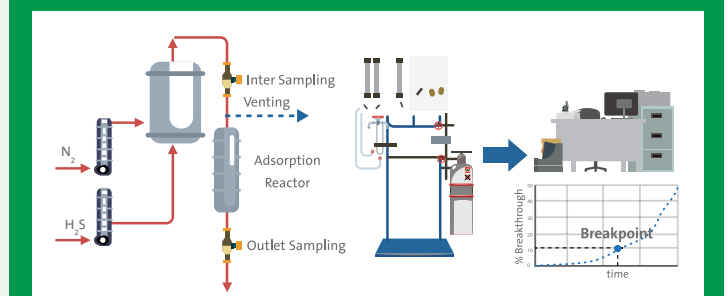
Bonding force related to an exchanging of electron co-efficiency and will generate for chemical bonding between the molecules of absorbent in the inorganic compound. (Hydrogen sulfide, H₂S)



Note : M = Alkali Metal (group 1)



VOCs Adsorption Capacity Testing



H₂S Adsorption Capacity Testing

Contact Us

INSEE Ecocycle Company Limited

A subsidiary of Siam City Cement Group

Head office

Column Tower 3rd, 10th, 12th floor

199 Ratchadapisek road, Klongtoey, Bangkok 10110 Thailand

Hotline: 1732 press 6

Tel: + 66 2 797 7000

Email: inseeecocycle@siamcitycement.com

www.inseeecocycle.com