

# Cherishmet Inc.

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Ningxia Guanghua-Cherishmet Activated Carbon Co., Ltd.

Unique Odor Control Media – HiCOR

US Patent No. 7,241,430

## 1.) Introduction:

HiCOR, unlike any other odor control media on current marketplace, is one kind of carbon media combining with premium quality bituminous coal and selected active ingredients produced by the special manufacturing technology. It gives HiCOR extraordinary high H<sub>2</sub>S breakthrough capacity. This odor control media is not impregnated and therefore, does not suffer the serious problem associated with alkali-impregnated carbons during handling, transportation and waste material disposal. The ignition temperature of HiCOR is closed to the regular coal based carbon (>450°C ).

HiCOR is one kind of microporous carbon with large surface area, well developed pore structure. “Non – impregnated” HiCOR means all of pore volume and surface area can be used to absorb Sulfur element during the process of catalytic and oxidative to H<sub>2</sub>S.

## 2.) Features and Benefit:

- 1.>Exceptionally high H<sub>2</sub>S loading capacity
- 2.>Longer bed life with fewer service interruptions and lower O&M costs.
- 3.>High ignition temperature.
- 4.>Safer for handling than impregnated carbon. Non-impregnated, Non-corrodible.
- 5.>No dangerous pH problems when spent.
- 6.>Low-pressure drop.
- 7.>Technical support & Analysis / Test Method

## 3.) Applications:

HiCOR can be successfully used in any application where impregnated or other odor control carbons are currently used. The content of CO<sub>2</sub> will not affect the loading capacity of H<sub>2</sub>S and other Acidic gases. The uniformity of 4mm pellet shape provides

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the lower pressure drop, the higher hardness result fewer crushed powder during the operation.

- 1.> Odor control
- 2.> Sewage treatment plants
- 3.> Refineries and pulp/paper mills
- 4.> Acidic gases such as HCL and SO<sub>2</sub>
- 5.> Volatile Organic Compounds (VOC)

#### 4.) Technical Index Standard:

Model No.		HiCOR-10	HiCOR-20	HiCOR-30
<b>Moisture</b>	<b>% max.</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>
<b>Hardness</b>	<b>% min.</b>	<b>90.0</b>	<b>90.0</b>	<b>90.0</b>
<b>CTC No.</b>	<b>min.</b>	<b>60.0</b>	<b>65.0</b>	<b>70.0</b>
<b>Apparent Density</b>	<b>g/l</b>	<b>500 +/- 30</b>	<b>470+/- 30</b>	<b>410+/- 30</b>
<b>Bulk Density</b>	<b>lb./cu. Ft</b>	<b>29-36</b>	<b>27-34</b>	<b>24-30</b>
<b>Mean Particle Diameter</b>	<b>mm</b>	<b>3.5 - 4.0</b>	<b>3.5 - 4.0</b>	<b>3.5 - 4.0</b>
<b>H<sub>2</sub>S Capacity</b>	<b>g/cc min.</b>	<b>0.10</b>	<b>0.20</b>	<b>0.30</b>

Remark: H<sub>2</sub>S capacity is measured by ASTM D6646-01 Test Method.

Testing procedure: Adjust H<sub>2</sub>S/N<sub>2</sub> and air flow rates to generate a 1.0% H<sub>2</sub>S stream at rate of 1450cm<sup>3</sup>/min at one-inch diameter adsorption tube packed with carbon sample of 9 inch height. H<sub>2</sub>S analyzer set 50 ppmv breakthrough. The result is reported as grams of H<sub>2</sub>S adsorption per CC of carbon.