

Mercury Removal from Natural Gas

Pure Water. Clean Air. Better World.



LNG Liquefaction and Export Facility

Why is Mercury a Problem?

The presence of elemental mercury in wellhead natural gas has been well documented. Mercury-induced corrosion of LNG aluminum alloy cryogenic exchangers has led to many instances of equipment failure, and mercury present in a hydrogen, syngas or hydrocarbon gas stream shortens the useful lives of many precious metal catalysts. From both worker safety and environmental perspectives, mercury removal may be necessary. The U.S. Occupational Safety and Health Administration (OSHA) has set exposure regulations for inorganic mercury compounds, which are also regulated as an air toxin under the Clean Air Act Amendments. In many cases, it is important to remove mercury from the source to minimize process emissions.

The Activated Carbon Solution

Calgon Carbon Corporation has been defining system requirements and supplying HGR activated carbon products for mercury removal to natural gas plants for more than 40 years using an extensive performance database produced from both lab and field studies. Our products and technologies are proven to be effective, and continue to be the benchmark of performance for natural gas applications under most treatment conditions.



Activated Carbon Solutions

- Calgon Carbon supplies two versions of sulfur impregnated carbon for mercury removal, HGR® and HGR®-P; HGR® carbon is a granular carbon material in a 4x10 US Mesh and HGR®-P is a 4 mm diameter pellet
- In operation, the sulfur impregnant reacts with mercury to form a mercury sulfide that is fixed in the high energy adsorption pores of the activated carbon
- Both HGR® and HGR®-P effectively remove elemental and organic mercury if present in hydrocarbon gas streams
- Adsorption systems using either product can be designed to reduce mercury concentrations as low as 0.01 µg/Nm³ or lower in treated gas
- HGR®-P is compatible with systems designed to use Calgon Carbon Type HGR® granular activated carbon; HGR®-P will result in a lower pressure drop compared to HGR®



Activated Carbon Equipment Systems

- The experience and expertise to help engineering firms properly design and size Hg removal carbon systems
- More than 40 years of experience designing and manufacturing systems in multiple configurations ranging from 1 to 10,000s cfm



Field Service

- Carbon delivery
- Disposal assistance of spent carbon
- Installation and set up



Technical Support

- On site mercury measurements in treated and untreated natural gas streams
- Experts are available to train lab personnel in the techniques of mercury measurement in natural gas streams
- The Calgon Carbon R&D group, Applications Engineers and Technical Sales Group, provide initial and ongoing problem solving



R&D and Engineering

- Determine the right activated carbon solution
- Assist in the design and optimization of the system



Calgon Carbon Corporation

400 Calgon Carbon Drive
Pittsburgh, PA 15205
Toll Free: 800-4CARBON
Phone: 412 787-6700
Fax: 412 787-6676
Info@calgoncarbon-us.com

European Operations
Chemviron Carbon
Zoning Industriel C de Feluy
B-7181 Feluy, Belgium
Phone: +32 (0) 64 51 1811
Fax: +32 (0) 64 54 1591
info@chemvironcarbon.com
www.chemvironcarbon.com

Asian Operations
Calgon Carbon Asia Pte Ltd.
9 Temasek Boulevard
#26-02 Suntec Tower Two
Singapore 038989
Phone: +65 6221 3500
Fax: +65 6221 3554
singapore@calgoncarbon-as.com

Japanese Operations
Calgon Carbon Japan
Headquarters & Sales Office
Central Building 8F, Kyobashi 1-1-5,
Chuo-ku, Tokyo 104-0031, Japan
Phone: 81-3-5205-0664

Hyde Marine Ballast
Water Treatment
2000 McClaren Woods Drive
Coraopolis, PA 15108
1.800.422.7266
sales@hydmarine.com
hydmarine.com