

Pelletised hydrogen sulfide scavenger FerroSorp[®] S

The problem

Hydrogen sulphide in digester gas, landfill gas and biogas when used thermally leads to environmental pollution and corrosion problems in pipes and internal-combustion engines.

The solution

A pelletised absorption compound that is based on iron-hydroxide chemically binds the hydrogen sulphide and thus removes it from the gas. The matter is continuously regenerated by adding aerial oxygen. This achieves high loading rates of more than 30 matter %.

The procedure

The H₂S-containing sewage and biogas is channelled through a tower-shaped or a similar desulphuriser that contains the pelletised hydrogen sulfide scavenger.



A chemical reaction between the gaseous hydrogen sulphide and the iron hydroxide in the desulphurisation pellets produces solid iron sulphide. It is common practice to add aerial oxygen, which results in a continuous regeneration of the absorption media by forming elemental sulphur.

Applications

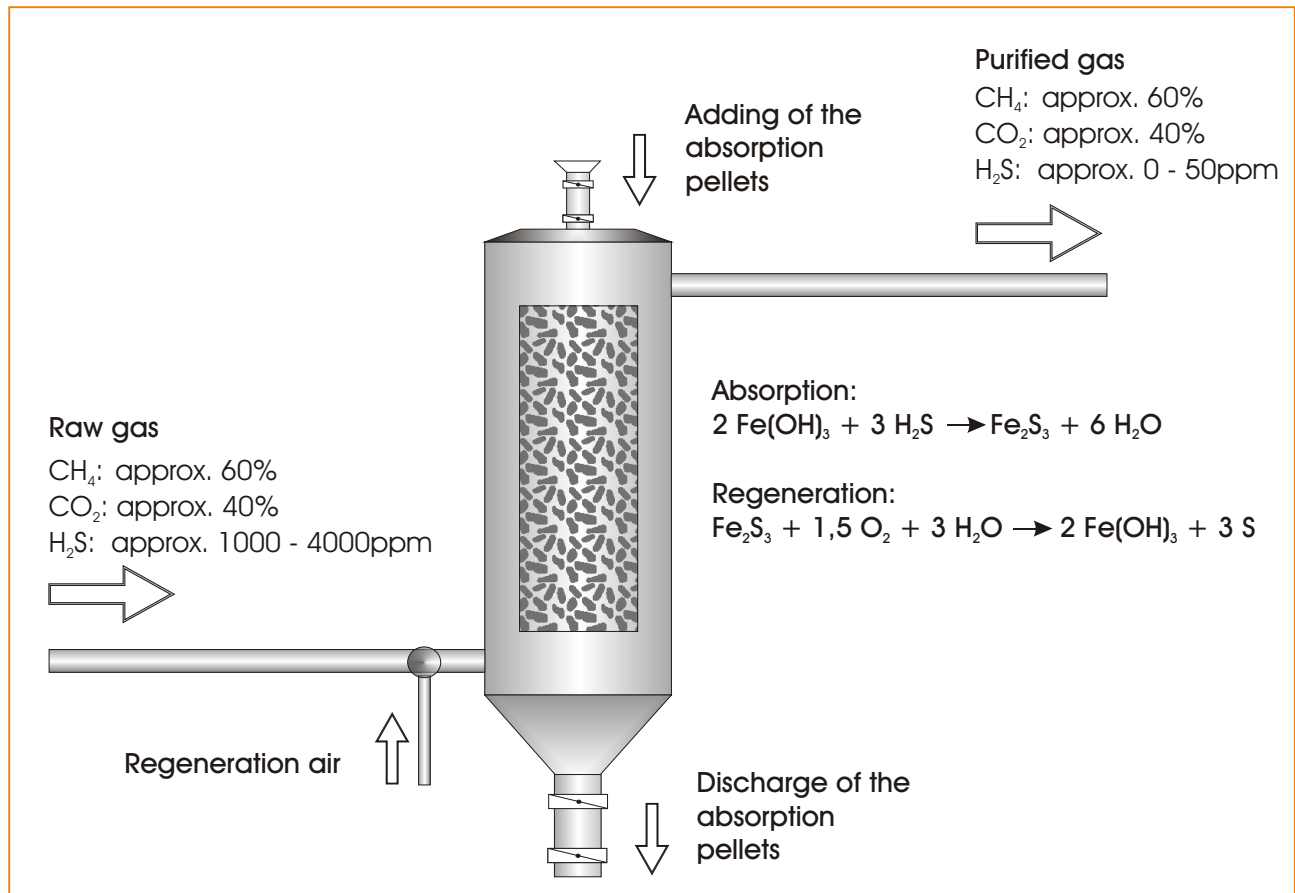
The pelletised hydrogen sulfide scavenger FerroSorp[®] S can be of particular benefit when used for the following gas treatment procedures:

- Desulphurisation of:
- sewage gas in municipal sewage treatment plants
 - agricultural biogas
 - gas from anaerobic industrial waste water treatment
 - landfill gas
 - mechanical fuel gas and synthesis gas
 - biogas from fermented waste
 - coke oven gas

Any siloxane compounds also will be removed.

The reactions

The equations for the chemical processes that take place during loading and regeneration of the desulphurisation pellets can be found in the following scheme:



Overview of benefits:

Safe procedure, used and tested for decades

High cleaning performance at low cost

High loading rates due to simultaneous regeneration

Good fine-cleaning because of the high activity level of the absorption pellets

Low pressure-loss due to optimised pellet shape

Easy and cost-effective disposal of spent matter



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