

AQUAMAG[®]

Magnesium Hydroxide Slurry

Used for SO₂ Scrubbing

Background

Currently Caustic Soda is the most commonly used chemical in SO₂ scrubbers for pH control. With Caustic Soda price elevated, chemical manufacturing plants evaluate methods for Caustic Soda usage reductions. One Caustic Soda reduction and cost savings is the use of AQUAMAG[®] (Magnesium Hydroxide) in SO₂ Scrubbers.

Application

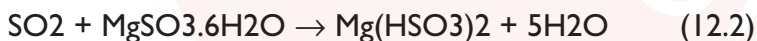
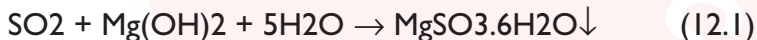
The typical AQUAMAG[®] addition point is the same location as the Caustic Soda addition point in the SO₂ Scrubber. With the use of AQUAMAG[®], chemical usage reductions are estimated at 30% on a dry basis.

The types of scrubbers that AQUAMAG[®] usage is advised are venturi and randomly packed.

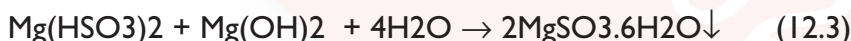


Chemistry

Here are three series of reactions which occur in the magnesia scrubbing-regeneration process. In the first series, the following reactions predominate. Sulfur dioxide absorption is represented by the formation of magnesium sulfite hexahydrate followed by its further reaction with sulfur dioxide to form magnesium bisulfite, see reactions 12.1-12.3:

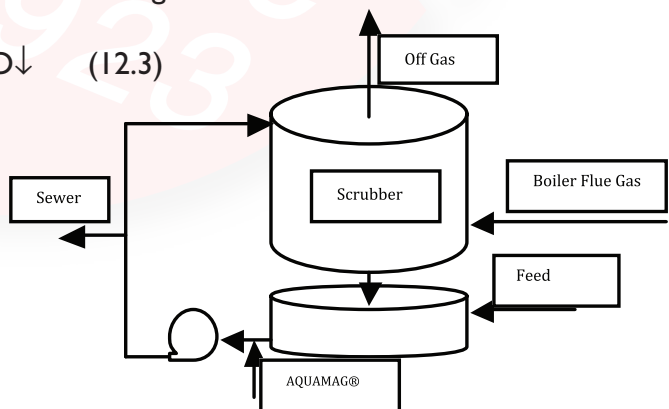


Magnesium bisulfite neutralization is represented by the following reaction:



Advantages

- 1) Stable Price.
- 2) Safe both for the environment and personnel.
- 3) Salts formed are soluble.
- 4) No Sulfate sludge.
- 5) Readily available.
- 6) Low freezing point.



For more information, please contact your local Hill Brothers representative.

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