Hubbard-Hall NOx Down

Product Code: 2900057
Revised Date: 11/15/2007

Hubbard-Hall NOx Down

Hubbard-Hall NOx Down is a proprietary blend of reducing agents used in wet fume scrubbing systems for the removal of NOx (nitrogen oxide) fumes. It offers simplicity and high efficiency while eliminating the concerns over toxic or flammable gases that may be emitted when using hazardous sulfide chemistries in lower pH conditions.

The use of **Hubbard-Hall NOx Down** can result in gains in efficiency of 30% or greater while eliminating the need for multiple chemistries and associated mixing and storage tanks. It also eliminates the need for an additional hydrogen sulfide polishing scrubber ahead of multiple NOx absorption scrubbers. **Hubbard-Hall NOx Down** is used as a direct replacement for more hazardous reducing agents used in existing NOx wet fume-scrubbing systems.

SYSTEM REQUIREMENTS

In order to insure that the proper amount of **Hubbard-Hall NOx Down** is added to neutralize and reduce the NOx stoichiometricaly (to insure maximum efficiency) it is required that it be added on a pH and ORP (oxidation reduction potential) measured control basis. A chemical metering / proportioning pump is required to insure the proper addition of **Hubbard-Hall Nox Down.**

INITIAL SET UP

Existing systems should be drained and all liquids, sludge, and solids should be removed from the scrubber sump. The sump should then be charged at the ratio of one gallon of **Hubbard-Hall NOx Down** for every six gallon of water. pH and ORP meter controllers are then used for the addition of **Hubbard-Hall NOx Down** as required. If acids are present in the fume stream or if the NOx concentration is very high, sodium hydroxide will be required to supplement the Hubbard-Hall NOX Down. If this is the case then **Hubbard-Hall NOx Down** additions will be controlled by an ORP controller and sodium hydroxide solution additions will be controlled by a pH meter.

The pH controller should be set to maintain a pH of 9 and the ORP controller should be set for –125 mV (milivolts) when using only **Hubbard-Hall NOx Down**. When the use of sodium hydroxide solution is required the pH controller should be set to maintain a pH of 10-12. Actual set points will be dictated by factors such as fume contaminates and water quality. **Hubbard-Hall NOx Down** is effective at a pH of 7 or greater.

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The ORP measuring probe should be conditioned for at least thirty (30) minutes by immersing it in the sump solution to insure proper readings. Do not allow air movement through the scrubber system or circulate solution through the scrubber during this conditioning step. Once conditioning has been completed the system may be operated in a normal fashion.

The by-products of the NOx reduction are mainly sodium nitrate and sodium sulfate. The dissolved solids concentration of the scrubber solution should be kept at 10% or less for systems operating at 70 degrees and at lesser concentrations if the system is operating at colder temperatures. Solution removed or bled from scrubber must be discharged in accordance with all federal, state and local environmental regulations.

WARRANTY

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.

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