

### DESCRIPTION

O'B HIBIT is a modern dry powder inhibitor to thoroughly control the corrosive effects of all solid scale removers and some liquid scale removers. O'B HIBIT incorporates a unique filming agent which provides a protective coating to the metal guarding it against attack by the acid. At the same time, it has little or no effect in regard to impairing the efficiency of the acid action.

O'B HIBIT is a combination of chemical agents including a dispersant and wetting agent which when applied to the acids listed below will reduce the severe acid attack on common metals to a negligible amount. In a number of instances, inhibition from 99 1/2% to 100% has been achieved. O'B HIBIT is especially effective in protecting stainless steel, iron, bronze and admiralty metal.

The acids for which O'B HIBIT is particularly suited are as follows:

Sulfamic acid	Tartaric acid
Sodium Acid Sulfate	Citric Acid
Phosphoric acid	Sulfuric acid
Oxalic acid	Formic acid

One of the most outstanding advantages of O'B HIBIT, unlike most inhibitors when used with granular grades of sulfamic acid, is that it will not evolve acidic gases. These gases are very injurious if inhaled and are especially destructive to all electrical equipment and any material with which it comes in contact. O'B HIBIT, when added to sulfamic, sulfuric, phosphoric, oxalic and other acids, does not bring about this reaction so that it is much safer to use not only in regard to equipment, but also in regard to personnel handling the acid. However, it is recommended that all acid cleaning jobs be vented at all times. Careful consideration should be given to the selection of inhibitors in regard to this corrosive problem.

### DISSOLUTION RATE OF CALCIUM CARBONATE

O'B HIBIT, when in combination with sulfamic acid, does not increase to any great extent the dissolution rate of calcium carbonate scale like many other inhibitors.

The following test procedure consisted of dropping 0.5 gram pellets of calcium carbonate in a large excess of 10% sulfamic acid solution at 140 F°, containing O'B HIBIT and noting the time for dissolution. This was done also with a control and with Inhibitor A and Inhibitor B. As can be seen by the following test, the results of this procedure were quite outstanding in regard to O'B HIBIT when in combination with the acid and shows the O'B HIBIT has very little effect on the time involved.

	<u>Percent Inhibitor by Wt. with Sulfamic</u>	<u>Time Required for Complete Dissolution as % of Control</u>
Control	----	100%
O'B HIBIT	1%	122%
Inhibitor A	1%	250%
Inhibitor B	1%	260%

### PHYSICAL CHARACTERISTICS

A white to tan, fine granular compound. Constant exposure or humidity may cause caking or the mixture to turn a brownish color which does not impair the chemical properties or the efficiency of the inhibitor.

### SOLUBILITY

O'B HIBIT is found to be soluble in water to .88% at 70°F.; 1.96% soluble at 140°F. In a 10% by weight acid solution using sulfamic acid, it is 3.3% soluble at 70°F.; 7.8% soluble at 140°F.

O'B HIBIT when used at 5% by weight with sulfamic acid in a 10% by weight total solution for cleaning is approximately 2.5%, therefore, it does not come close to exceeding the solubility in an acid solution even at room temperatures.



#### USE REQUIREMENTS

O'B HIBIT may be used in concentration of 3% to 5% by acid weight. Average use is 4% - 4 lbs., of O'B HIBIT to 100 lbs. of sulfamic acid. For special applications in regard to different acids, temperatures and strengths of acid, consult our Bulletin No. 135.

O'B HIBIT may be used in the following concentrations under most circumstances with sulfamic, sodium bisulfate or tartaric at temperatures of 160°F.

<u>O'B HIBIT By Weight</u>	<u>Acid Concentrations</u>
<u>With Acid</u>	<u>By Weight</u>
3%	5%
4%	10%
5%	15%

NOTE: O'B HIBIT has outperformed all other inhibitors, liquid or dry in tests on an equivalent basis of material added in pounds or percent by weight in the various acids listed in this bulletin. Savings of 35% to 50% on Inhibitor cost are possible using O'B Hibit.