

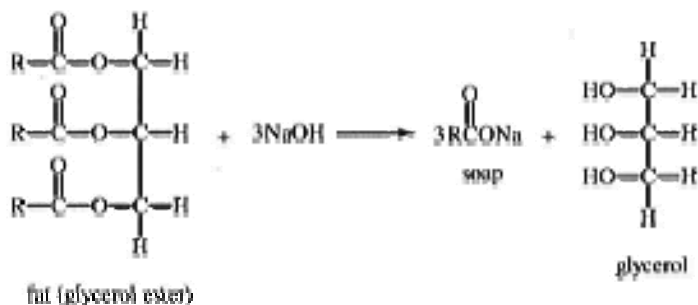
Thioguard[®] Magnesia Control of FOG (Fats, Oils and Grease)

Addition of Thioguard magnesia to municipal sanitary sewers offers a wide range of benefits to wastewater professionals. Thioguard provides effective control of hydrogen sulfide and other acid gasses. This in turn greatly reduces odor and corrosion and substantially prolongs sewer life. We encourage entities dealing with these problems to routinely measure, record and chart the surface pH of sewer structures. This simple procedure is an inexpensive and accurate means to monitor and forecast infrastructure condition.

It has been variously estimated that blockages due to grease account for nearly forty percent of all sanitary sewer overflows (SSO's) in the U.S. Legislation intended to eliminate SSO's is becoming more restrictive and penalties for SSO violations, more severe. Coagulation of fats, grease and heavy oils can be dramatically reduced by the implementation of a Thioguard treatment strategy.

Thioguard is a strong base and moderate pH adjuster which adds non-carbonate alkalinity to the wastewater. Fats, oils and grease are converted to glycerin and crude soap. The chemical reaction responsible is called saponification. Fats are large molecules essentially made of four smaller molecules. The smallest of these components is glycerin, an alcohol with three hydroxyl (OH) groups.

Thioguard slowly combines with three fatty acids which may be identical or different molecules. The base attaches to the fat molecule where the component molecules were joined to produce one molecule of glycerin and three molecules of modified fatty acid or crude soap.



The practical effect on municipal wastewater systems is a dramatic reduction in fat, oil and grease buildup or retention within the collection, transport and treatment structures. In systems with heavy FOG deposits Thioguard should be slowly introduced over a period of several days to reduce foaming at the treatment plant. Once the system is purged, Thioguard dose can be increased with no adverse impact to the plant.

The effect is readily apparent in systems with FOG deposits. Below are before and after photographs taken of a wet well. The structure required cleaning with a vacuum truck once per week prior to the introduction of Thioguard. Following the first week of treatment, periodic cleaning was no longer required.

Thioguard is a safe and effective treatment strategy for proactive municipalities interested in eliminating fats, oils and grease while addressing odor, corrosion and enhanced treatment. Interested professionals should also investigate the many benefits of magnesia to the treatment process.

Effect on fat, oils and grease deposition from Thioguard



Grease Blanket Before Treatment



No Grease During Treatment

Visit our website at <http://www.premierchemicals.com> for more information, or contact us at 800-227-4287.