NexoSolutions

Nexo Solutions provides comprehensive technical services and products for gas processing with the objective of improving performance, sustainability & profitability

## Iron Sulfide Deactivators

Filters, separators and many processes equipment often suffer from iron sulfide contamination. This material is known to be pyrophoric and can ignite when exposed to air and hydrocarbons. Hydrogen sulfide, (H<sub>2</sub>S) often present in Oil & Gas facilities will react with iron or iron oxides to form various sulfides including mackinawite (FeS), greigite (Fe<sub>3</sub>S<sub>4</sub>), and pyrite (FeS<sub>2</sub>). The tendency for these compounds is to react with oxygen present in air to generate large amounts of heat. This evolved heat can ignite hydrocarbon residues in the liquid or gas phase. This ultimately will lead to fires or explosions. The two (2) main chemical equations for the reaction of iron sulfide with oxygen are indicated below.

 $4 \operatorname{FeS} + 3 \operatorname{O}_2 \rightarrow 2 \operatorname{Fe}_2 \operatorname{O}_3 + 4 \operatorname{S} + \operatorname{Heat}$ 

4 FeS + 7 O<sub>2</sub>  $\rightarrow$  2 Fe<sub>2</sub>O<sub>3</sub> + 4 SO<sub>2</sub> + Heat

## Nexo Solutions Iron Sulfide Deactivator Products

- NX85F: Inorganic-based oxidant product
- NX88F: Organic-based chelating product
- NX89F: Organic-based chelating product + H<sub>2</sub>S scavenger

## Features of Amine Optimization Iron Sulfide Deactivators

- Complete and effective deactivation of iron sulfides
- Lower overall costs of filter deactivation
- Lower overall cost of vessel cleaning
- Reduced danger of toxic gas release
- Reduced danger of fire or explosion
- Visual indication when reaction is complete (NX85F)
- No pH adjustment necessary
- Safe water-based products
- Safer employee working conditions
- Spent solution can be discharged safely
- No special materials of construction needed
- H<sub>2</sub>S scavenging capabilities (NX85F and NF89F)
- Available in 55-gallon drum or 330-gallon totes

For more information on our products and services, please visit our website www.NexoSolutions.com



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