

This is the way to remove H₂S safely and cheaply

Getting rid of hazardous chemical compounds from water is a headache for oil and gas firms. THIScavenger from **Total Hazardous and Integrated Solutions** is an inorganic, aqueous additive that targets hydrogen sulphide and mercaptans cheaply and effectively, leaving only harmless sulphate salts behind.

Increased hydrogen sulphide (H₂S) content and high levels of sour water are common issues facing the oil companies in today's markets. The presence of the colourless, but foul-smelling chemical compound in hydrocarbons poses a major challenge to drilling, production, refining, shipping and trading firms. H₂S gas is toxic: at certain concentrations it can cause major health concerns and is often fatal. The compound is so corrosive that it can degrade and destroy installations and process equipment at an alarming rate and, of course, high levels of mercaptans and H₂S reduce the value of hydrocarbon products.

Total Hazardous and Integrated Solutions (THIS) is able to assist the oil and gas industry in its fight against H₂S and mercaptans with a remarkable new chemical additive that can significantly reduce the cost, treatment time and waste generated by more traditional methods.

Water way to go

Its premier product, THIScavenger, is a water-based, targeted additive designed to remove the malodorous compounds in one go. It is a second-generation chemical that has been developed for treating H₂S. Unlike most rival offerings it is not triazine/formaldehyde-based and, despite what its name might imply, is not a scavenger at all, chemically speaking. THIScavenger, which works in water, gas, condensate, crude or naphtha, is a blend of inorganic compounds in an aqueous solution that is extremely fast and effective in converting H₂S and mercaptans into H₂O and soluble sulphate salts (SO₄), which are non-hazardous and have a very low chemical oxygen demand (COD).

The reaction is stable, non-corrosive and irreversible, and does not impact on oil, gas or fuel quality. The required injection rate is a fraction of that associated with more conventional scavenger products, and this offers an economic, as well as logistical, advantage.

Typically, triazine/formaldehyde-based scavengers are used to encapsulate H₂S molecules in a process that is prone to breaking down, allowing the H₂S to reform. Caustic washes are often an effective means of removing mercaptans, meanwhile, though any corrosive substances must then be treated before they can be safely disposed of, which creates additional costs. With THIScavenger, the reaction is stable and irreversible, and the by-product is easily disposed of.



Inject THIScavenger to rid water, gas, condensate, crude or naphtha of corrosive contaminants without any fuss.

Capital idea

Water treatment – including water and sewage plants, and water-based drilling – is one very active area for the product. It is often cheaper to simply inject THIScavenger to remove hydrogen sulphide than it is to run sour water strippers. This also avoids the capital costs of constructing the strippers, or the daily costs of running the heat exchanges. THIScavenger can also be injected at the source, which eliminates the need to pipe H₂S-contaminated water over long distances to the treatment plant. Plants without sulphur recovery units will typically flare the H₂S into the atmosphere.

A recent trend has seen new refining and processing facilities that service high H₂S fields being built with sulphur recovery units, but often oil and gas companies just want to get rid of the H₂S quickly and safely. As the primary task is producing oil and gas, why not simplify the procedure with a powerful, cost-effective treatment that does the job straight away, every time, and without concern for compound breakdown later in the process? We mean it when we say that THIS is the solution. ■

Further information

Total Hazardous and Integrated Solutions
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