



Technical Data Sheet

H₂S Scavengers

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Subsidiary Companies





H₂S Scavengers

One of the most serious problems of oil and gas producing and refining companies is the contamination of products with hydrogen sulfide and light mercaptans. Hydrogen sulfide is an explosive and toxic substance, poisoning with which can cause serious damages to respiratory system and nervous system, and in increased in concentration it may even cause death. High corrosiveness of hydrogen causes the failure of equipment and pipelines.

Therefore, hydrogen sulfide control is one of the key safety issues for the operation of oil and gas production and processing facilities. Such solutions for this issue as alkaline washing, oxidation, hydrotreating, and blowing off followed by absorption cleaning are economically viable only at high concentrations of hydrogen sulfide and require large capital expenditures. When the concentrations of hydrogen sulfide are of moderate level of or the object of purification is a complicated one, for example, heavy fuel oil, the most effective solution is to use chemical cleaning methods, that is the use of hydrogen sulfide scavengers (neutralizers). This type of chemicals, when reacting with hydrogen sulfide, binds it irreversibly to form some inert and non-volatile compounds, minimizing its negative impact.



Chemicals and technologies for H₂S mitigation in oil and gas production, transportation and refinery:

1. H₂S scavengers of PS and THIOBLOCK brands.

The choice of H₂S scavenger and the technique of its application depends on the medium to be treated, on the initial level of H₂S content and the desired level of H₂S content in the medium, on the temperature of treatment, and on some other factors.

Chemical	Description	Purpose of Application	Area of Application	Comments	
PS-1 Type 1 Type 2	H ₂ S scavenger	Free formaldehyde free H ₂ S and mercaptans scavengers	Commercial oils purification	Liquid. Soluble in crudes, crude products, refinery products as well as in water-based media. High boiling temperature (up to 115°C)	
			Killing of oil and gas wells for maintenance and repair works in cases where wells are complicated with H ₂ S showing		
			Purification of formation waters containing H ₂ S and mercaptans		
			Treatment of bottom waters to be injected into formation		
PS-2	H ₂ S scavenger	Formaldehyde free H ₂ S and mercaptans scavenger	Purification of oil-water emulsion (fluids showing oil-gas and water)	Liquid. Water-alcohol solution. High H ₂ S absorption rate in water-based media	
			Killing of oil and gas wells for maintenance and repair works in cases where wells are complicated with H ₂ S showing		
			Purification of formation waters containing H ₂ S and mercaptans		
			Treatment of bottom waters to be injected into formation		
PS-3	H ₂ S scavenger	Formaldehyde free H ₂ S and mercaptans scavenger	Killing of oil and gas wells for maintenance and repair works in cases where wells are complicated with H ₂ S showing	Liquid. The product is ecologically friendly, almost odorless. Wide range of operating pH is achievable	
			Purification of formation waters containing H ₂ S and mercaptans		
			Treatment of bottom waters to be injected into formation		
PS-4 Type 1 Type 2	H ₂ S scavenger	Formaldehyde-based H ₂ S and mercaptans scavenger	Killing of oil and gas wells for maintenance and repair works in cases where wells are complicated with H ₂ S showing	Liquid. Conventional solution based on nitrogen and oxygen containing aldehyde reaction products	
			Purification of formation waters containing H ₂ S and mercaptans		
			Treatment of bottom waters to be injected into formation		
PS-4 Type 3	H ₂ S scavenger	Free formaldehyde free H ₂ S and mercaptans scavenger	Commercial oils purification	Liquid. Product has high scavenging properties	
			Killing of oil and gas wells for maintenance and repair works in cases where wells are complicated with H ₂ S showing		
			Purification of formation waters containing H ₂ S and mercaptans		
			Treatment of bottom waters to be injected into formation		
THIOBLOCK grade P	H ₂ S scavenger	H ₂ S scavenger	Killing of oil and gas wells for maintenance and repair works in cases where wells are complicated with H ₂ S showing	Solid non-organic product	
			Purification of formation waters containing H ₂ S and mercaptans		
THIOBLOCK grade K	Complex chemical – H ₂ S scavenger	Complex chemical based on nonorganic matters	Treatment of bottom waters to be injected into formation	Solid non-organic product	
			Landfill filtrate purification from heavy metals and other foreign matters		
			Solid municipal waste flammability reduction		



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