

# Oilfield Production Chemicals

## ▶▶ Sulfaflux™ Sulfide Controller

Uk Industrial Chemical Manufacturer Specialising in  
Upstream & Downstream Oilfield Chemical Solutions.



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**Chemiphase**   
advanced chemistry

# Sulfaflux™ Sulphide Controller

Highly Effective Range of Hydrogen Sulphide H<sub>2</sub>S Scavenger's Soluble in Oil / Water Phase  
Outperforms Conventional H<sub>2</sub>S Scavengers on the market



## Features of Sulfaflux

Sulfaflux are a mixed amines based range of H<sub>2</sub>S scavenger's that are completely soluble and highly effective in either the oil phase or water phase or a combination of both. Sulfaflux has been proven to outperform conventional chemical solutions and has shown to be a cost effective method of treatment for H<sub>2</sub>S in crude oil or gas.

To achieve an effective H<sub>2</sub>S Scavenger it will depend on the product dissolves and the time taken to react. Sulfaflux H<sub>2</sub>S Scavengers have been shown to quickly dissolve into the fluid containing the offending H<sub>2</sub>S and then very quickly react with the scavenger molecules. It is this calculation that is used by Chemiphase when designing a H<sub>2</sub>S Scavenger.

When determining the correct Sulfaflux Treatment by the Chemiphase Technical Team, the following parameters will be assessed :

- ◇ Design of system and typical flow rates.
- ◇ Operating Temperatures
- ◇ Contact Time & Mixing Available
- ◇ Analysis of Carrying Fluid

## Benefits of Sulfaflux

- Sulfaflux will not increase the corrosion rates of the fluids it is used in when combating H<sub>2</sub>S levels.
- Sulfaflux has been shown not create Calcium Scale Deposits when applied which is unlike conventional water based H<sub>2</sub>S Scavengers Solutions.
- Sulfaflux will not create increased levels of foaming when administered. Sulfaflux is a very stable and is easy to apply.
- Sulfaflux has a very high stable temperature profile which allows Sulfaflux to be used in either the Oil Phase or Water Phase. Sulfaflux can be used in treatment systems up to 150°C without the product destabilising and beginning to decompose.
- Sulfaflux H<sub>2</sub>S Scavenger's can be either 100% Water Soluble or 100% Oil Soluble or Soluble in both phases. The correct Sulfaflux product is determined by the Chemiphase Technical Team when assessing the treatment parameters.
- Sulfaflux H<sub>2</sub>S Scavenger's are compatible with the following materials : Carbon Steel, Mild Steel, Stainless Steel 304 & 316. No significant changes with HD PE & PP, PTFE, VITON & EPDM.

# Sulfaflux™ Sulphide Controller

Highly Effective Range of Hydrogen Sulphide H<sub>2</sub>S Scavenger's Soluble in Oil / Water Phase

Outperforms Conventional H<sub>2</sub>S Scavengers on the market

Product	Product Type	Area of Application	Product Features
Sulfaflux CT-C21-01	H <sub>2</sub> S Scavenger	Suitable for Water & Oil Treatment	Universal Application & No Calcium Scale
Sulfaflux CT-C21-02	H <sub>2</sub> S Scavenger	Suitable for Water & Oil Treatment	Universal Application & No Calcium Scale
Sulfaflux CT-C21-03	H <sub>2</sub> S Scavenger	Suitable for Oil Phase Treatment Only	High Temperature Crude Oil H <sub>2</sub> S Scavenger
Sulfaflux CT-C21-04	H <sub>2</sub> S Scavenger	Suitable for Oil Phase Treatment Only	High Temperature Crude Oil H <sub>2</sub> S Scavenger
Sulfaflux CT-C21-05	H <sub>2</sub> S Scavenger	Suitable for Oil Phase Treatment Only	High Temperature Crude Oil H <sub>2</sub> S Scavenger
Sulfaflux CT-C21-06	H <sub>2</sub> S Scavenger	Suitable for Water Phase Treatment	Produced Water H <sub>2</sub> S Scavenger, Economical
Sulfaflux CT-C21-07	H <sub>2</sub> S Scavenger	Suitable for Water Phase Treatment	Produced Water H <sub>2</sub> S Scavenger, Economical
Sulfaflux CT-C21-08	H <sub>2</sub> S Scavenger	Suitable for Oil Phase Treatment Only	High Temperature Crude Oil H <sub>2</sub> S Scavenger
Sulfaflux CT-C21-09	H <sub>2</sub> S Scavenger	Suitable for Water & Oil Treatment	Universal Application & No Calcium Scale
Sulfaflux CT-C21-10	H <sub>2</sub> S Scavenger	Suitable for Water & Oil Treatment	Universal Application & No Calcium Scale
Sulfaflux CT-C21-11	H <sub>2</sub> S Scavenger	Suitable for Water & Oil Treatment	Universal Application & No Calcium Scale
Sulfaflux CT-C21-12	H <sub>2</sub> S Scavenger	Suitable for Water & Oil Treatment	Universal Application & No Calcium Scale
Sulfaflux CT-C21-13	H <sub>2</sub> S Scavenger	Suitable for Water & Oil Treatment	Produced Water H <sub>2</sub> S Scavenger, Economical
Sulfaflux CT-C21-14	H <sub>2</sub> S Scavenger	Suitable for Water Phase Treatment	Produced Water H <sub>2</sub> S Scavenger, Economical
Sulfaflux CT-C21-15	H <sub>2</sub> S Scavenger	Suitable for Oil Phase Treatment Only	High Temperature Crude Oil H <sub>2</sub> S Scavenger
Sulfaflux CT-C21-16	H <sub>2</sub> S Scavenger	Suitable for Oil Phase Treatment Only	High Temperature Crude Oil H <sub>2</sub> S Scavenger
Sulfaflux CT-C21-17	H <sub>2</sub> S Scavenger	Drilling Mud Powder Treatment	Used in Drilling, Powder Formulation
Sulfaflux CT-C21-18	H <sub>2</sub> S Scavenger	Drilling Mud Powder Treatment	Used in Drilling, Powder Formulation



# Case History 1 - Sulfaflux CT21-03

**Sampling point:** After Cooler (crude oil before H<sub>2</sub>S scavenger treatment)

**Temperature:** 60°C

**Nature of crude oil:** Sour crude oil

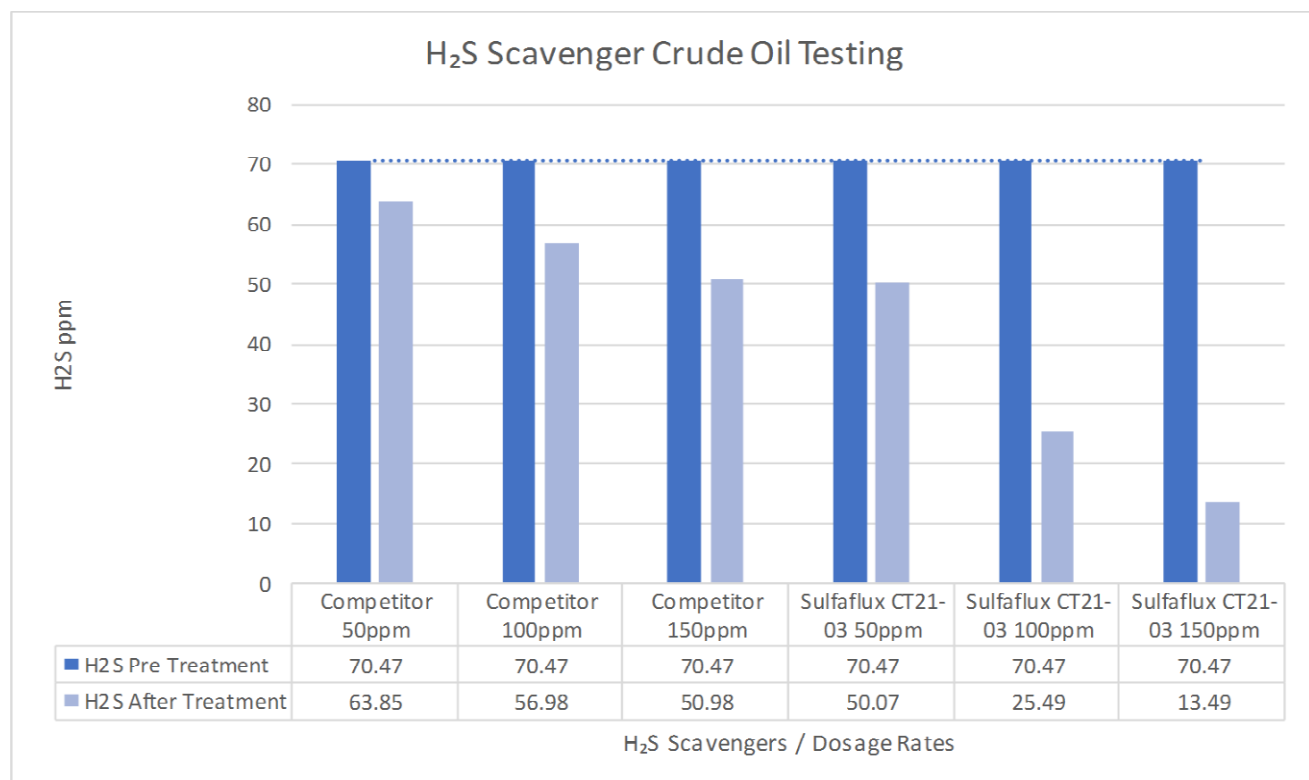
**API:** 15-16 (as given)

**Density:** 0,967 g/mL (as given)

**Test method:** Spurge method

**Water cut:** Less than 1% at sampling point (as given)

H <sub>2</sub> S Scavenger	Dosage Rate (ppm)	H <sub>2</sub> S amount after treatment (ppm)	H <sub>2</sub> S Reduction (ppm)	Effectivity (ppm Scavenger / ppm H <sub>2</sub> S)
Blank	Blank	70.47	Blank	Blank
Competitor X	50	63.85	6.62	7.55
Competitor X	100	56.98	13.49	7.41
Competitor X	150	50.98	19.49	7.69
Sulfaflux CT21-03	50	50.07	20.04	2.4
Sulfaflux CT21-03	100	25.49	44.98	2.2
Sulfaflux CT21-03	150	13.49	56.98	2.6



The acceptable efficiency rate for H<sub>2</sub>S scavengers is **4-5 ppmv Scavenger / ppmw H<sub>2</sub>S** at maximum value. The results show that the **Competitor** Product, while somewhat effective, is above this value (**7,55**). On the other hand, the product **Sulfaflux CT21-03** has an average efficiency value of **2,30**, which is well below the acceptable threshold.

In other words, the **Sulfaflux CT21-03** effectiveness is much higher than the acceptable performance.

## Case History 2 - Sulfaflux CT21-09

**Tested Product(s):** Sulfaflux C21/09 H<sub>2</sub>S Scavengers

**Testing Method:** Bottle test (Spurge Method)

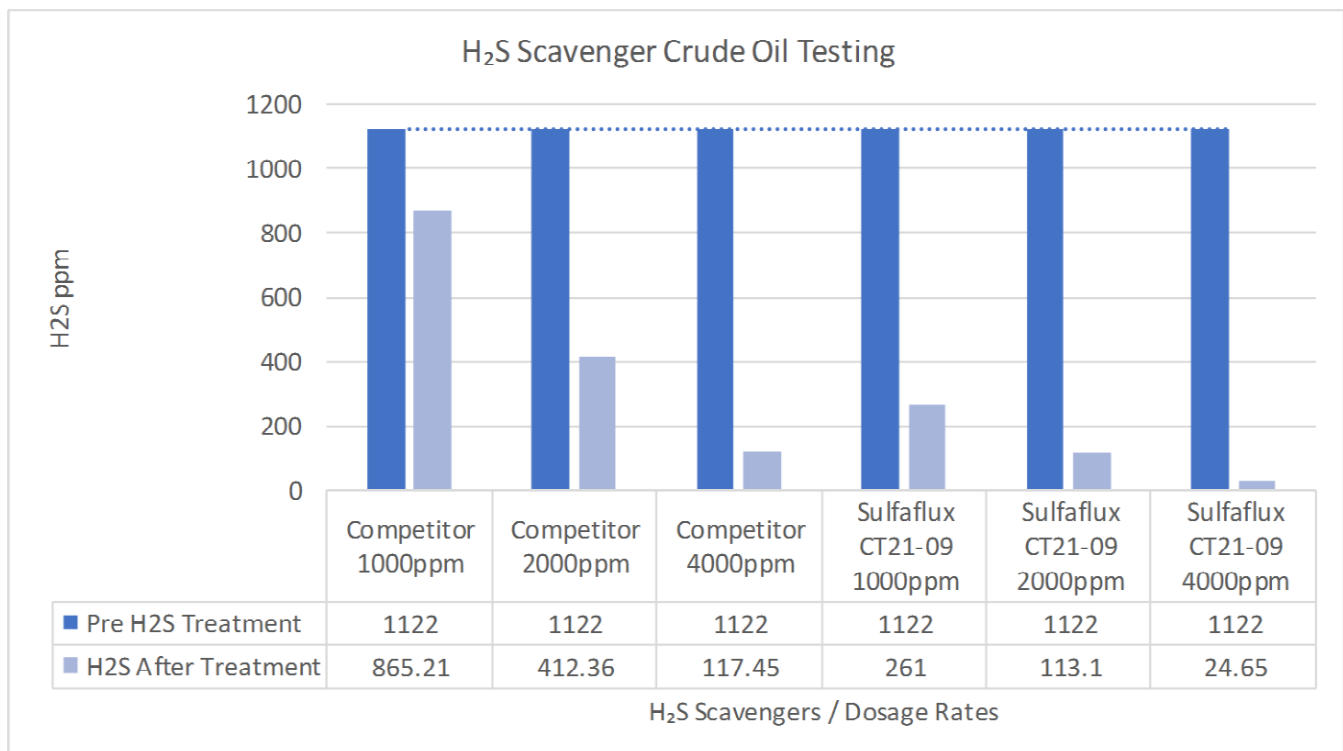
**Testing Duration:** 30 min. for each product (Total duration)

**Measuring Apparatus:** Dräger Tube (H<sub>2</sub>S by percentage)

**Sample type:** Produced water

**Sampling Point:** Heat Exchanger's High Pressure Outlet (prior to chemical treatment)

H <sub>2</sub> S Scavenger	Dosage Rate (ppm)	H <sub>2</sub> S amount after treatment (ppm)	H <sub>2</sub> S Reduction (ppm)	Effectivity (ppm Scavenger / ppm H <sub>2</sub> S)
Blank	Blank	1122	Blank	Blank
Competitor X	1000	865.21	256.79	3.90
Competitor X	2000	412.36	709.64	2.82
Competitor X	4000	117.45	1044.55	3.98
Sulfaflux CT21-09	1000	261.00	861.00	1.16
Sulfaflux CT21-09	2000	113.1	1008.90	1.98
Sulfaflux CT21-09	4000	24.65	1097.35	3.64



The acceptable efficiency rate for H<sub>2</sub>S scavengers is **4-5** ppmv Scavenger / ppmw H<sub>2</sub>S at maximum value. The results show that the **Competitor** Product, while somewhat effective, averages **3.57**. On the other hand, the product **Sulfaflux CT21-09** has an average efficiency value of **2,26**, which is well below the acceptable threshold.

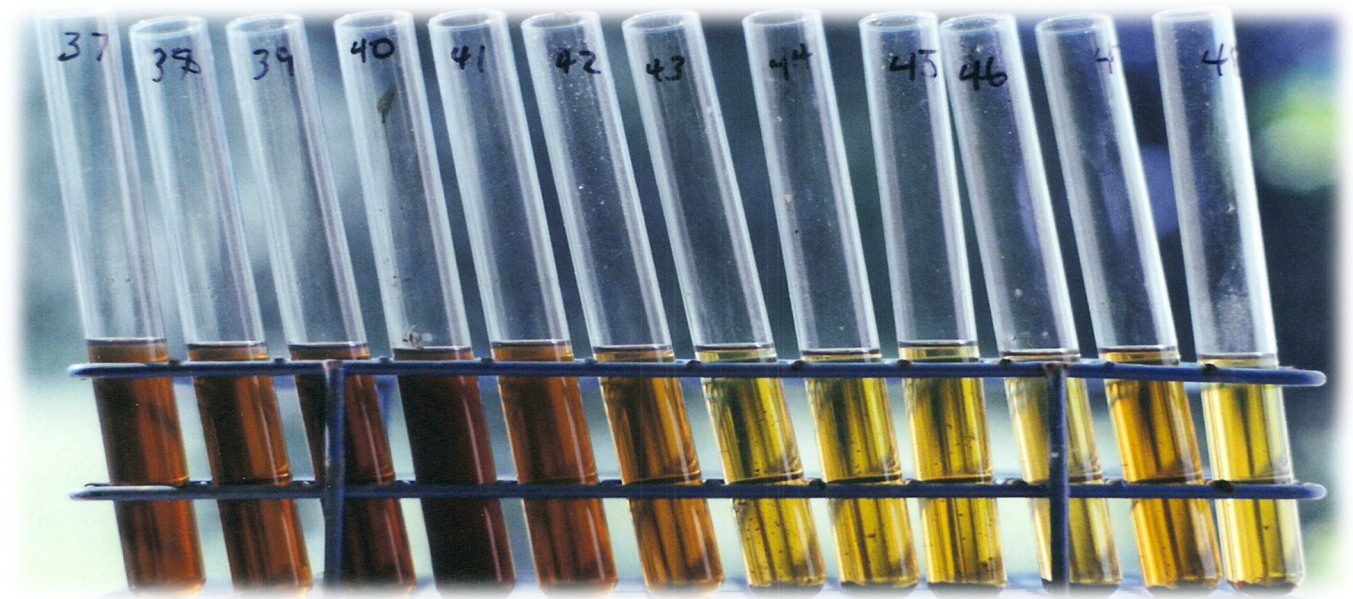
In other words, the **Sulfaflux CT21-09** effectiveness is much higher than the acceptable performance.

# Oilfield Production Chemicals

## ➤ Sulfaflux™ Sulfide Controller

### The Chemiphase Treatment Procedure & Safety Commitment

- ⇒ On site analysis usually bottle testing & then fully re-analyse back in the laboratory to ensure that the product that Chemiphase recommend is the best possible fit, highly effective, safe & cost effective.
- ⇒ Once a product has been recommended we offer on-site technical assistance for the product dosage rates and application points. This will include regular monthly site visits to ensure customer satisfaction.
- ⇒ This on-site technical service will continue to ensure that the product remains the best solution as the oilfield changes over the years.
- ⇒ At Chemiphase we take great pride in offering green, environmentally sustainable chemical solutions and as such all the products in the range are produced using environmentally friendly methods and where possible, are formulated to be fully biodegradable.
- ⇒ All our chemical ranges are formulated by our highly trained and vastly experienced chemists and are put through rigorous in house testing in our purpose built research and development laboratory. We subject our chemical ranges to the most stringent of testing to make sure our customers receive the best products, whilst also satisfying our need for constant product improvement.



### Chemiphase Oilfield Chemical Solution's

- ◇ Oilfield Emulsifier's & Demulsifier's
- ◇ Oilfield H<sub>2</sub>S Scavenger's
- ◇ Oilfield Corrosion Inhibitor's
- ◇ Wax & Paraffin Treatment Regimes for Oilfield Applications
- ◇ MEOR- Enhanced Oil Recovery Techniques
- ◇ Biocide & Scale Management
- ◇ Environmental Drilling Fluids



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