



# RELYON



## Application of RELYON for Oil and Gas industry

- **Pure Chlorine dioxide (CLO<sub>2</sub>) in a 0,76% solution.**
- **No hazardous disinfection by products.**
- **No free-chlorine.**
- **No explosion risk.**
- **100 % effective between ph 4 and 10.**
- **A stability of more then 30 days.**
- **Environmental friendly.**
- **Easy and safe to apply (no generator).**

### DISINFECTANT FOR BORES, WELLS AND FILTRATION SYSTEMS

#### Disinfection Control in Oil Wells and Petroleum Systems

**RELYON** is effective in the remediation of bacterial and sulfide contamination commonly found in oilfield production, injection and disposal fluids. Sulfides (S<sup>=</sup>) are formed by the metabolism of anaerobic, Sulfate reducing bacteria found in oil well water handling systems. These sulfides react with iron to form insoluble iron sulfide, which together with the bacterial biofilm act as plugging agents. The sulphides can also result in sour crude oil which is of lower quality and more expensive to refine.

#### RELYON is used for two purposes in this application:

1. As a chemical oxidant to oxidize the sulfides to sulfates, thus preventing the formation of colloidal sulfur or iron sulfide which can plug the well
2. As a biocide to kill the bacteria which produce the sulfides.

The performance of **RELYON** is unaffected by pH or by the presence of otherorganic materials.

#### Dosage Requirements

The required dosages will vary with process conditions. The application of **RELYON** may be applied continuously or intermittently to oil production water as it is separated from the oil, and before it is re-injected into the well. For continuous feed **RELYON** may be applied at the dosage slightly higher than sulfide's oxidative demand as determined by a demand study. For intermittent treatment **RELYON** should be applied at a shock dosage of 200-3000 ppm.

#### Method Of Dosing

**RELYON** should be fed where adequate mixing and uniform distribution can be accomplished. Multiple treatment points may be required in some cases. The feed point can be below the water level to prevent volatilization of **RELYON**.

#### Disinfection Control of Bores

Bores inevitably age and present their operators with many problems - including a build up of encrustations and slime which results in a decrease in the output quality and quantity and an increase in pumping costs. These encrustations usually consist of iron and manganese, which are caused by bacteria present in the bore water. The dissolved minerals in the ground water (particularly iron and manganese) are consumed by bacteria, which then use it as part of their metabolic process. Once utilized, the bacteria then excrete the minerals in solid form - resulting in encrustations forming in the bore. The bacteria utilizing iron and manganese form very significant slime deposits, which can also foul the bore.

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Attempts have been made to clean and disinfectant bores with chlorine. Although this helps to rid the bore of iron forming bacteria, it can cause problems by converting the dissolved iron to deposited iron, thus causing the formation of iron sludge and nodules. The use of chlorine as a disinfectant will also result in unpleasant tastes and odours in the water with the possibility of the formation of toxic by-products. **RELYON** is a powerful ecologically responsible disinfectant that is particularly effective against problem causing iron fixing bacteria. It has proven bactericidal, algicidal, fungicidal, sporocidal, and virucidal efficacy. Adding **RELYON** to the bore on a permanent dosage will ensure problem-causing bacteria are kept under control.

Just some of the benefits of using **RELYON** include:

- **RELYON** will eliminate iron-forming bacteria without the hazardous side effects of chlorine.
- **RELYON** does not form any harmful or toxic by-products. It is therefore friendly to you and your environment.
- **RELYON** eliminates obnoxious odors arising from putrefactive processes, yet leaves no residual odors of its own. At the recommended dose **RELYON** does not produce any undesirable tastes and odors.
- **RELYON** can be dosed directly into the water, it does not require expensive on site generation equipment.
- The **RELYON** bore regeneration process and maintenance program is unlike other chemical treatments, since it uses only environmentally responsible yet powerful products. The cleaning and regeneration result in a more efficient bore or well with increased production. A permanent maintenance dose of **RELYON** inhibits the re-growth of bacteria and hence greatly increases the time between cleaning of the bores and wells.

### Dosage Requirements For Bores

Before dosing **RELYON** the bores should be cleaned.

**Initial Dose:** Add **RELYON** to the bore water. Surge the pump several times to mix the product through the water column.

**Maintenance Dose:** Add a permanent dosage to the bore water.

### Dosage Requirements For Filtration Systems

The required quantity of **RELYON** is based on the total volume. After determining the required quantity of **RELYON** immediately apply this to the filter. It is not necessary to rinse off **RELYON**.

### RELYON Chlorine Dioxide Analysis

Residual **RELYON** chlorine dioxide concentrations must be determined by substantiated methods, which are specific for chlorine dioxide. Two suitable methods are published in *Standard Methods for the Examination of Water and Wastewater*:

4500- ClO<sub>2</sub> D DPD-Glycine Method

4500- ClO<sub>2</sub> E Amperometric Method II

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