

3 min read

Cleaning up Fracking's Act

Amid the controversial attitudes towards fracking practices emerges a solution that is an answer to one of the most raised concerns... water shortages.



Fracking is the high pressure injection of water, chemicals and sand into shale deposits of the earth to release the gas and oil trapped within the rock. Water management is a key challenge of the oil sands extraction process. A single frack job takes millions of gallons of water with 70-75% remaining stuck in the shale deposit. The 25-30% of recovered water flows back up the well as contaminated wastewater. Most of this recovered water is typically disposed of in deep injection wells.

"The oil sands accounted for **63% of Canada's oil production in 2019** or 2.95 million barrels per day. The oil sands have an estimated \$325 billion of capital investment to date, including \$10.2 billion in 2019."



Interesting Facts:

- Canada is the fourth largest producer and third largest exporter of oil in the world.
- 97% of Canada's proven oil reserves are located in the oil sands.
- In 2017, Alberta produced 80.5% of all crude oil in Canada.
- Canada produces more oil than it consumes and as a result, is a significant net exporter of crude oil.

Biocides are used as oxidizers to control the growth of bacteria that may be present from the drilling operation, for treatment of stored fresh and waste water, and the prevention of biofilms formation in the downhole to prevent clogging.

"Most of the biocides used in fracturing fluids are severe eye and skin irritants but have relatively low acute toxicity to mammals...certain biocides are suspected to possess developmental toxicity..."

"Most of the biocides used in fracturing fluids are severe eye and skin irritants but have relatively low acute toxicity to mammals. However, the same biocides tend to be acutely toxic to aquatic life at low concentrations, especially to Mollusca such as oysters, which are highly sensitive to pollutants.

Despite that the biocides are not to be considered highly acutely toxic, certain biocides are suspected to

possess developmental toxicity, carcinogenicity, mutagenicity, genotoxicity, and/or chronic toxicity."

Another potential hazard is the accumulation of hydrogen sulfide. Hydrogen sulfide is a colorless gas with the characteristic foul odor of rotten eggs. It is poisonous, corrosive, and flammable, and natural gas can contain up to 30%. Hydrogen sulfide is one of the leading causes of workplace gas inhalation deaths in the United States.

Whichever stance each of us has taken towards fracking, it is important to know that there have been developments to make it safer for the industry workers as well as for the lasting effects on the environment.

Hypochlorous Acid (HOCl) is the eco friendly solution that addresses these major controversies associated with fracking:

- **pollution of groundwater with toxic chemicals**
- **release of hydrogen sulfide that endangers oil field workers' lives**
- **excess wastewater**

HOCl is an excellent highly potent biocide. It has been approved for use as a disinfectant in hospitals in many countries. It effectively kills SARS-CoV-2, Salmonella, HIV, Anthrax, Listeria, E.coli, MERS, SARS, H1N1 just to name a few.

"HOCl is environmentally positive" per The SAFE Disinfectant Company

It is widely used to treat water for human consumption and is fish friendly! It poses no adverse effects on our environment. At the SAFE Disinfectant Company, we say HOCl is not merely environmentally neutral...in fact it is **environmentally positive** since it corrects many environmental problems such as rejuvenating waterways that impact ecosystems.



HOCl has also been recognized as a hydrogen sulfide "scavenger" being that it binds to the molecules that make up hydrogen sulfide and take it apart at an atomic level effectively neutralizing it. This makes a SAFER work environment for oil & gas workers.

"Endless Possibilities!"

The possibilities are seemingly endless for HOCl uses...join us in the HOCl awareness movement!

#oilandgas #fracking #watertreatment #cleanwater #watershortages #environmental #ecofriendly
#environmentimpact #cleaneearth #begreen #HOCl

<https://www.nrcan.gc.ca/science-data/data-analysis/energy-data-analysis/energy-facts/crude-oil-facts/20064>

https://digital.library.unt.edu/ark:/67531/metadc1093963/m2/1/high_res_d/5653842.pdf