

Investigation and Possibility of Wastewater Derilling for Controlling of Environment Pollution

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Abstract : The aim of the present study was the environmental and health risk assessment of the oil contaminated soil in the Iranian tropic. By the experimental and consideration, using 16.9 Kg of polyaluminium chlorohydrate (PACl) can be separation of total solid dissolve in fluid drilling oil. The result showed the water of drilling has pureed from pollution.

Key words: polyaluminium chlorohydrate, drilling, oil contamination.

Introduction

Industrial development through imported technology and concentration of small, locally based industries in the developing countries, such as Iran, has led to the introduction of uncontrolled and unknown wastes into the environment in liquid, solid and gaseous forms¹⁻³. The countries are facing the dilemma of whether to pursue economic development irrespective of environmental destruction in order to catch up with the more advanced industrialized countries, or to pursue an ecologically sustainable industrial development that combines economics and ecology⁴⁻⁶. It is now widely acknowledged that developing countries are experiencing severe environmental problems and destruction that were unknown 20 or 30 years ago.

There is a large concentration of industries in the area along the eastern coast. Industrial countries have passed through three general stages of environmental management of industrial pollution: (i) unregulated waste disposal until the late 1960s; (ii) environmental protection via regulated end-of-pipe approaches, that is single-medium pollution control in the 1970s and 1980s; (iii) resource management based on waste recycling, pollution reduction and prevention, and energy efficiency from the mid- 1980s and into the 1990s. The second and third stages overlap. All concepts place primary focus on front-end approaches rather than on end-of-pipe controls⁷⁻¹².

In developing countries, environmental management has mainly been concentrated on the first and second stages. Should Iran and other developing countries continue to rely on uncontrolled waste disposal based on regulatory approaches, which they have not managed to utilize effectively, and on the outmoded concept of treatment after process completion that is medium specific, rather than prevention at source. What can developing countries learn from the mistakes made by industrialized countries at the 'treatment technology stage'.

This paper presents the Iranian oil industrial pollution and discusses prevention approaches from an eco-development point of view. In order to sketch the problems of industrial pollution, first a brief historical review of industrial scenarios is presented.

Material And Method

Reagents and solutions

All solutions were prepared with ultra pure water (obtained from HAMILTON, England) Laboratory glass was kept overnight in a 10% (V/V) HNO₃ solution and then rinsed with deionized water. All reagents were made from Merck.

Apparatus

A Hatch kit double beam atomic spectrophotometer Measurements were performed in the integration mode.

A centrifuge (Hettich) was used to accelerate the phase separation process. A Methrohm model 780 pH-meter was used for pH measurements. An electronic analytical balance (Jenway 3510) was used for weighting the solid materials. A thermostated water bath (Memert) was employed to maintain the experimental temperature.

Results And Discussion

For the first step drilling of the well was needed to construction of fluid as table1.

Table 1. The needed pocket of chemical for make of fluids

Starch	Barite	Bentonite	Polymer	Sodium chloride	Castic soda
116011	88290	156580	1434	43960	43978

After adding the chemical it means polyaluminium chloride, we measure the some parameters of water properties that shown in table 2. As its shown the parameters of water is very better and By the experimental and consideration, using 16.9 Kg of polyaluminium choloride (PACl) can be separation of total solid dissolve in fluid drilling oil.

Table 2. Water measuring parameters in 100 mL

Parameter	In drilling flued (mg/mL)	In dewatering water (mg/mL)
Suspend particle	25	2
Chloride	54	8
Calsium	32	1
Magnesium	43	1
Nitrate	24	2
Sulphate	13	0
Aluminium	21	0

Conclusion

Lack of information, equipment and scientific documentation on cleaner production concepts and technologies, and communication among scientific and industrial communities are the biggest problems facing the developing world. The methodology offers a simple, rapid, sensitive, low cost, and good efficiency.

Acknowledgements

The authors wish to acknowledge the support of this work by Shiraz Payame noor University Research council.

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