

HISTORY OF MICROBIAL TREATMENT OF HYDROCARBON WASTES

Since 1952, we have manufactured and applied on a world wide basis more than 5,000,000 lbs. of various dessicated microbial cultures for the treatment of sanitary and industrial liquid/solid wastes.

Our hydrocarbon decomposition (HYDEC) cultures were first used in sanitary sewage plants that received large quantities of oil that either completely killed or impeded normal biological activity. Applications of our hydrocarbon (HYDEC) decomposition cultures are made in various petrochemical and refinery effluents to eliminate both oil and various specific organic compounds, as well as increasing the oxygen content and reduction of BOD. About five years ago we developed a method of treating oil contaminated bilges on mine sweepers of the U.S. Navy, Pacific Fleet, based in San Diego, California. As a result of the treatment, ships were able to pump an oil free bilge over the side without leaving an oil film on the surface.

About the same time we also conducted some other work with a major oil company on the West Coast using our HYDEC cultures to clean tankers while at sea that carried black oil. This work was never fully completed and at the time it was stopped, results were marginal and required additional development.

An eighteen year period of experience in development, manufacture and use of dessicated cultures on a world wide basis has shown the relative safety of these products. Our company and others that we are familiar with whose employees have been in daily contact with these products have had no problems in health resulting from daily contact with mixed groups of microbial families. The organisms in these cultures are saprophytes and under most circumstances are generally not invaders of the human body or considered causative agents of human disease. In world wide use by mostly unskilled people, no evidence of human disease has ever been attributed to the use of the products of this type of manufacture.

Each gram of our HYDEC culture contains more than two billion ecologically balanced hydrocarbon utilizing organisms together with various component nutrients and some wetting agents that we have used over a 15 year period so that the organisms can more effectively break down the hydrocarbons at the oil/water interface.

Many of the organisms in our HYDEC cultures are adjusted for oceanic environments. Also, many areas in oceanic environments contain indigenous microfloral which can utilize complex hydrocarbons. However, where large oil spills occur, all of the life systems involved in the chain of events that utilize crude oil, are overcome because of the sudden and overwhelming amount of a substance that can only be used in minute amounts.

One of the other factors connected with the problem of pollution is the tremendous expansion of off-shore drilling operations. For the most part, the major oil companies operating on a worldwide basis have taken many precautions to prevent contamination of the areas in which they operate. However, on occasion accidents beyond their control do occur resulting with the release of substantial quantities of crude oil. Off shore drilling operations were formerly concentrated in the Gulf area and have now moved to the West Coast of the United States. Further expansion of off-shore operations will soon take place in some of the Great Lakes and the Eastern Coast of the United States. Off-shore drilling on the East Coast has already started in the neighboring waters to the north of us off the coast of Newfoundland. Petroleum geologist who have been studying the formations off that area believe that it continues down to the Bahama Islands. We may therefore anticipate petroleum production encircling practically all the coasts of the United States within the foreseeable future, say within the next five years.

Based on the preceeding information, you can see the vital necessity for implementing a research and development program designed either to alleviate or eliminate the economic consequences of massive accidental oil pollution on the Coast of the United States as well as it's Great Lakes, inland water ways, and inland lakes. The techniques require study and research to be made efficient and routine so that when such catastrophes occur, the information and methods of approach for alleviating the problem will be readily available.

We will appreciate any assistance your office may render to us. Congressman Blatnik, in obtaining federal funds so that we may continue to further the work that we have started and developed over so long a period of time.

Sincerely yours,

A. J. KRELL, *President.*