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"MICROBIAL DEGRADATION AND DEHALOGENATION  
OF HALOGENATED HYDROCARBONS"  
Abstract  
Acknowledgements

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For the characterisation of hydrocarbon utilising bacteria

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A B S T R A C T

Micro-organisms capable of utilizing dihalogenated hydrocarbons were isolated from soil using enrichment culture. The selected hydrocarbons were disubstituted aliphatics with the halogen groups attached to the terminal position and others were disubstituted aromatics which contain the halogen group in ortho, para or meta position in the benzene ring. In total 23 bacteria were isolated.

Less than 50% of the isolated organisms were able to grow on each substrate tested as their sole source of carbon and energy, but most of the organisms were able to dehalogenate and oxidize the substrates providing evidence that a co-metabolic process is occurring in the natural environment.

To determine the bacterial degradation growth tests, halide release and oxidation tests were employed. Two species of Pseudomonas isolated from soil were able to grow on 1,9 dibromononane and another isolated Pseudomonas sp was able to grow on 1,6 dichlorohexane as a sole source of carbon and energy. It was observed that diphenyl compounds such as 4 bromobiphenyl which did not serve as a growth substrate for the organisms showed an appreciable Oxygen uptake and a small amount of halide release by some organisms providing evidence that even recalcitrant molecules could be degraded by co-metabolic processes.