

Oil Degradation Taking Microbial Help and Bioremediation: A Review

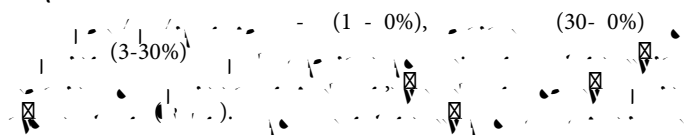
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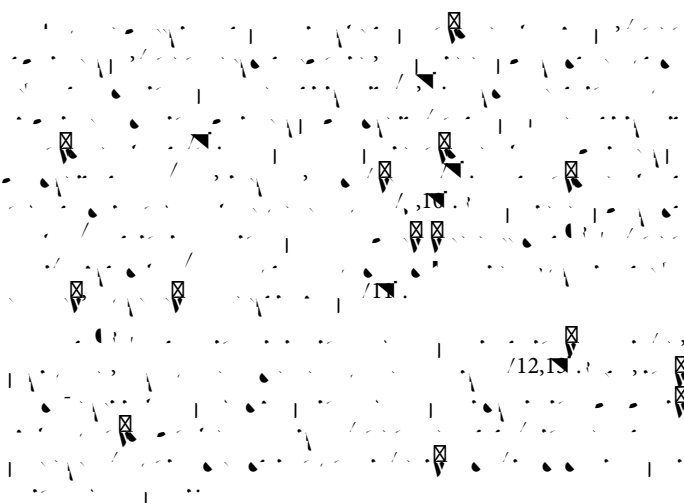
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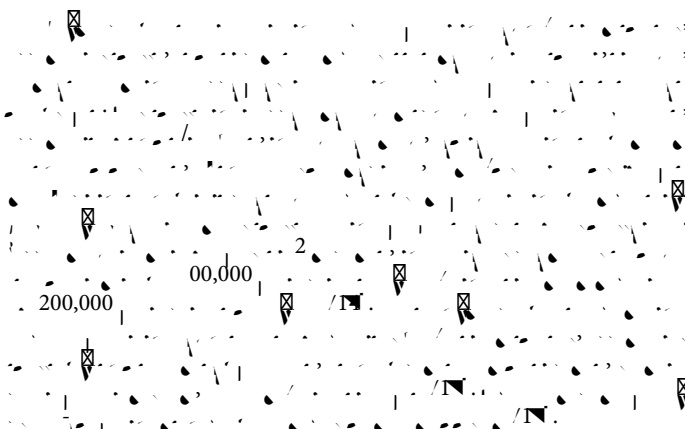
Petroleum and its hydrocarbons



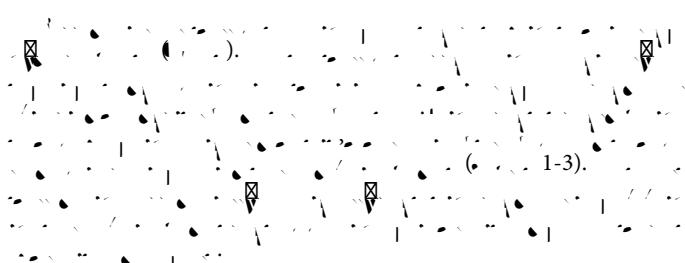
An eye on pollution petroleum hydrocarbons



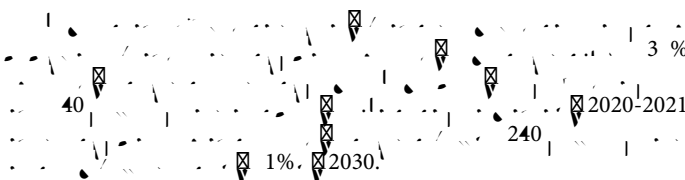
Origin of Oil Spills



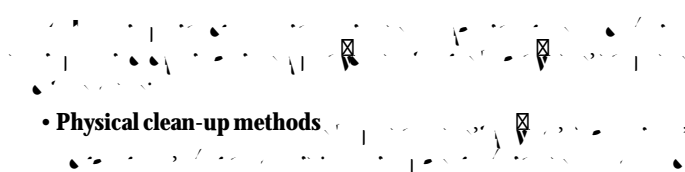
Sources of PHC Pollution



Indian Scenario



Di erent methods of clean up the oil spilled soil and water



Physical clean-up methods

Product	Lower Carbon Limit	Upper Carbon Limit	Lower Boiling Point (°C)	Upper Boiling Point (°C)	Lower Boiling Point (°F)	Upper Boiling Point (°F)
Refinery gas	C ₁	C ₄	-161	-1	-259	31
Liquefied petroleum gas	C ₃	C ₄	-42	-1	-44	31
Naphtha	C ₅	C ₁₇	36	302	97	575
Gasoline	C ₄	C ₁₂	-1	216	31	421
Kerosene diesel fuel	C ₈	C ₁₈	126	258	302	575
Aviation turbine fuel	C ₈	C ₁₆	126	287	302	548
Fuel oil	C ₁₂	>C ₂₀	216	421	>343	>649
Lubricating oil	>C ₂₀		>343		>649	
Wax	C ₁₇	>C ₂₀	302	>343	575	>649
Asphalt	>C ₂₀		>343		>649	
Coke	C ₈₀ ^a		>1000 ^a		>1832 ^a	

^aCarbon number and boiling point difficult to assess; inserted for illustrative purposes only.

Table 1: Classification of petroleum.

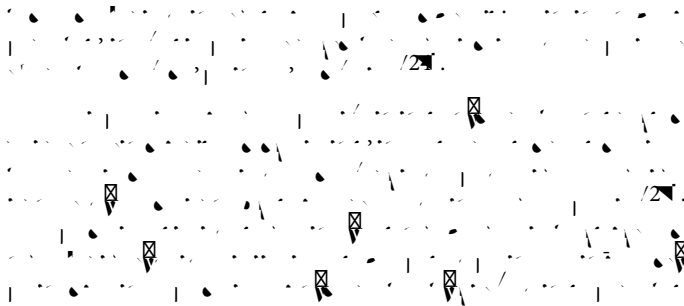
• Chemical methods

Biological method of clean up

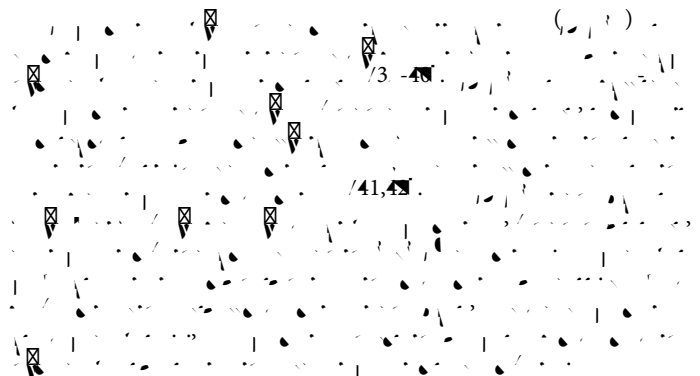
Bacterial Degradation

Bioremediation

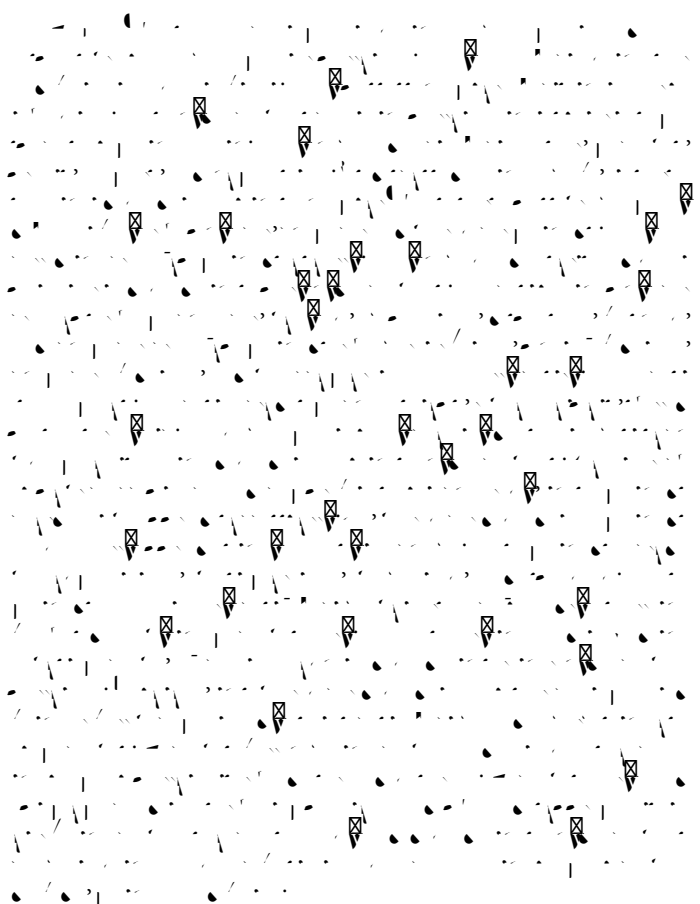
Constituents	Problems with soil	References	Problems with Microbes	References
Crude oil n alkanes	m5.43.378 0 Tdonbesu .,705 0 Td(Ref171.703 0 0 ISQ1 0 0 w 0 mwt5. jTT0ports)0.5Microbe 72.779pcm0e1a-66			



Current oil removal technologies available

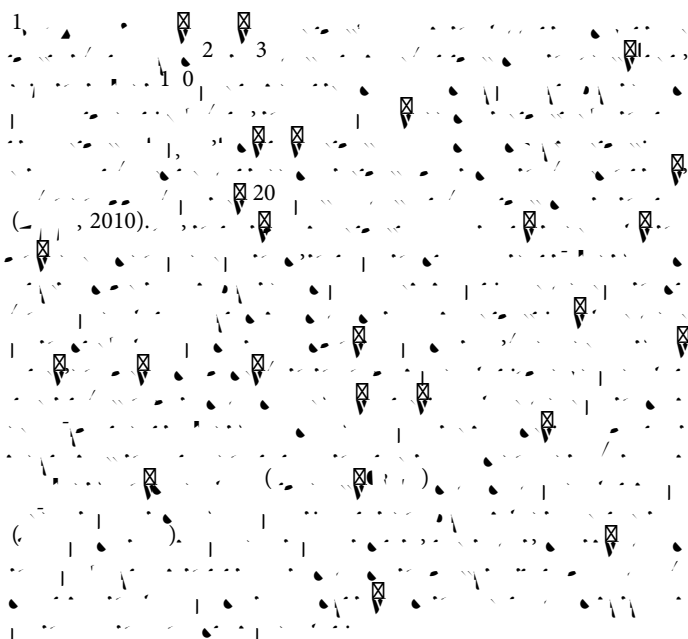


Future scope



Conclusion





References

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