

TOWARDS BETTER UNDERSTANDING THE EFFECT OF OIL SPILL ACCIDENT IN KOREA: FINGERPRINTING APPROACH

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Every year more than two million tons of petroleum hydrocarbons are introduced into the marine environment. The pollution of the marine, coastal and harbor environments by these products continues to be an issue around the globe. Since 1995 when super tanker *Sea Prince* spilled 5000 tons of crude oil into the south coast of Korea, full-scale environmental risk assessment of the oil spill accident has been initiated. Fingerprinting of spilled oil covering source identification and allocation has become essential research area. During developmental stages, only 16 or 24 kinds of PAHs were measured. Strict fingerprinting approaches comprised of several steps and requires a lot of chemical parameters. Recently full step fingerprint method were set up and applied to small scale spill accident. It revealed lots of case specific fingerprint and concluded that spilled and source oil were in probable match.

Government has also given a lot of attention to oil pollution via enactment of legislation and supporting research projects. Ministry of Maritime and Fisheries (MOMAF) supports 10-year project which will set baseline for scientific risk assessment of oil spill accident. Now database for alkane and PAHs contents in crude and some of refined oil were made and baseline contamination status of area of concern were also integrated into database. Marine pollution act has compulsory articles which enforce survey of marine pollution impact caused by oil spill accident exceeding 50 kl spillage. Recently first survey according to that law was launched for T/V *Jung Yang* spill accident. This survey will cover natural environment, living environment and socio-economic fields, but the main focus will be on the fingerprint study.

Key words: oil spill, fingerprint, database, marine pollution act