

CRUDE OIL SPILL IN SEA WATER: AN ASSESSMENT OF THE RISK FOR BATHERS CORRELATED TO BENZO(a)PYRENE EXPOSURE

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SUMMARY

In the spring of 1991, there was a shipwreck of the oil tanker "Haven" off the Ligurian coast of Italy. This resulted in the spillage of a very large amount of crude oil, some of which was burned off by fire. The accident caused several serious problems (sea and air pollution, damage to the marine fauna, risk of human exposure, etc.).

In this context, an assessment was carried out at the Istituto Superiore di Sanità with the aim of determining any possible risks to humans which might derive from bathing activities during the following summer season.

The whole evaluation carried out after the accident demonstrated that the impacts induced were not serious enough to require bathing restrictions in the coastal areas involved. Assuming a benzo(a)pyrene (BaP) concentration in sea water of $1 \mu\text{g}/\text{m}^3$ cancer risk is in the order of 10^{-6} and in the case of a 10-kg child, a 10^{-6} risk level correspond to about $0.18 \mu\text{g}/\text{l}$ of BaP in sea water.

Key words: risk assessment, oil spillage, sea pollution, benzo(a)pyrene, PAH

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