

SCIENTOMETRIC ANALYSIS OF BRAZILIAN SCIENTIFIC PRODUCTION ON THE ECOTOXICITY OF PETROLEUM-DERIVED HYDROCARBONS

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INTRODUCTION: The oil industry, through its stages of exploration, transportation, and refining, has significantly contributed to environmental degradation in Brazil. The dependence on fossil fuels, combined with shortcomings in environmental oversight, increases the risk of pollution. In this context, there is growing interest in understanding the ecotoxicological effects of released pollutants, especially hydrocarbons. In response, national scientific production has intensified, seeking to assess these impacts and identify priority areas for action and prevention. **MATERIALS AND METHODS:** The data collection was conducted using the Web of Science database with the keywords “hydrocarbons,” “toxicity,” and “Brazil,” resulting in 464 publications. After refinement by two reviewers, 142 studies were selected. The extracted data (including hydrocarbon type, environment, classification, toxicity test, endpoint, sample type, and research area) were organized in Excel, allowing for the standardization and analysis of results through pivot tables. **RESULTS:** The analysis revealed that polycyclic aromatic hydrocarbons are the most studied group of contaminants, representing 51.4% of the selected studies, followed by petroleum-derived hydrocarbons (12%) and crude oil (8.5%). Most studies focused on aquatic environments, with marine (62) being the most represented, followed by terrestrial (32) and freshwater (31) environments. Regarding the organisms tested, vertebrates were the most frequently studied group, especially fish (34 studies), indicating an emphasis on aquatic vertebrates. Acute toxicity tests were the most common (43), followed by chronic tests (30) and combined acute and chronic tests (23). Among the evaluated endpoints, mortality was the most observed (14), followed by biomarkers (11) and genotoxicity (9). As for sample type, 57% of the studies used chemical compounds, while 43% analyzed the presence of hydrocarbons in environmental samples. The predominant research areas were Environmental Sciences and Ecology, often associated with Toxicology and Marine Biology. **CONCLUSION:** The analysis highlighted the predominance of studies focused on polycyclic aromatic hydrocarbons, especially in marine environments, with emphasis on vertebrates and acute toxicity tests. The recurrence of endpoints such as mortality and biomarkers underscores the importance of lethality studies in hydrocarbon exposure assessments.

KEYWORDS: Environmental toxicology; Persistent organic; Review

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