

文章摘要

吕福荣, 熊德琪, 张金亮, 公维民. 石油分散液对马粪海胆受精及胚胎发育的影响. 渔业科学进展, 2009, 30 (1):67-73

石油分散液对马粪海胆受精及胚胎发育的影响

Effects of petroleum hydrocarbon pollutants on fertilization and embryos development of Sea Urchin, *Hemicentrotus pulcherrimus*

投稿时间: 2007-10-14 最后修改时间: 2008-03-15

DOI:

中文关键词: [石油分散液](#) [海胆](#) [胚胎发育](#) [浮游幼虫](#) [毒性效应](#)

英文关键词: [Petroleum dispersion liquid](#)[Sea urchin](#)[Embryo development](#) [Larvae](#)[Toxic effect](#)

基金项目: 国家自然科学基金项目(40476046/D0608)资助

作者 单位

[吕福荣](#) ([1大连海事大学环境科学与工程学院, 116023](#)) ([2 大连大学环境与化学工程学院, 116622](#))

[熊德琪](#) ([1大连海事大学环境科学与工程学院, 116023](#))

[张金亮](#) ([1大连海事大学环境科学与工程学院, 116023](#))

[公维民](#) ([1大连海事大学环境科学与工程学院, 116023](#))

摘要点击次数: 203

全文下载次数: 203

中文摘要:

采用马粪海胆胚胎为试验材料, 研究了0#柴油、船用柴油和船用重质燃料油分散液(WAF)对卵细胞、精子及胚胎发育的毒性效应, 并通过色谱-质谱对3种油品分散液进行了组分分析。结果显示, 石油烃使精卵受精能力下降, 使整个受精过程完成的时间延后。马粪海胆精子对石油烃污染比卵细胞更为敏感, 可以作为海洋石油污染的指示生物。3种油品分散液使得胚胎发育至2细胞期、4细胞期、8细胞期、16细胞期和囊胚期的时间延后, 这种延后的现象随着发育进程和油品分散液浓度升高而愈发明显。可以推断种油品分散液对于海胆胚胎生长发育过程的毒性顺序为: 0号柴油>船用柴油>船用重质燃料油。

英文摘要:

The paper aims at the toxic effect of water accommodated fractions (WAFs) of petroleum hydrocarbon pollutants such as No.0 diesel oil, maritime diesel oil and maritime heavy fuel oil on eggs, sperms and embryos of sea urchin, *Hemicentrotus pulcherrimus* by adopting embryonic development technology. The results indicate that the fertilization rate decreased and time delayed with the increasing concentration of WAFs. The sperms were more sensitive to the three kinds of oil WAFs than the eggs, which can be taken as indicator organism. The three kinds of oil dispersions inhibited the development from fertilized eggs to 2, 4, 8, 16 cell and blastocyst stage. The effect increase along with the growth of embryos and oil concentration. Toxicity of the oils is in the order of No.0 diesel oil > maritime diesel oil > maritime fuel oil. And meanwhile an analysis on the components has been carried out by way of GC-MS.

[查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)