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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 18420.1-2009

**Biological toxicity for pollutants from marine petroleum
exploration and exploitation - Part 1: Grading**

海洋石油勘探开发污染物生物毒性 第1部分：分级

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Foreword

All the technical contents in this Part are mandatory. Biological Toxicity for Pollutants from Marine Petroleum Exploration and Exploitation is divided into two parts. - Part

1 Scope

GB 18420.1-2009 is the Chinese national standard on biological toxicity for pollutants from marine petroleum exploration and exploitation - part 1: grading, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 11 March 2009 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 November 2009. Classification: ICS 13.030.20, CCS Z17. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Part specifies the frequency and limit of biological toxicity test in different sea-areas of some pollutants that are used or generated during the marine petroleum exploration and exploitation operation; and are discharged into the ocean. And it puts forward the requirements to test methods and result judgments of the samples. This Part applies to biological toxicity grading of drilling fluid, base fluid, drilling cuttings, and produced water that are used or generated AND discharged into the ocean, during the marine petroleum exploration and exploitation operation. For those pollutants not defined in this Part, the biological toxicity grading may reference to this Part for the use.

2 Normative references

The articles contained in the following documents have become part of this Part when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Part. For the undated documents so quoted, the latest editions shall be applicable to this Part.

GB/T 18420.2 Biological toxicity for pollutants from marine petroleum exploration and exploitation - Part

3 Terms and definitions

For the purpose of this Part, the following terms and definitions shall apply.

3.1 Pollutant from marine petroleum exploration and exploitation Any substance that is used or generated AND discharged into the ocean during marine petroleum exploration and exploitation operation; and that may have an impact on the marine ecological environment.

3.2 Biological toxicity grading of pollutants According to the influence degree of pollutants from marine petroleum exploration and exploitation on marine organisms, the different grades that are adopted to divide the biological toxicity of pollutants.

3.3 Operation of marine petroleum exploration and exploitation The operation activities such as marine petroleum exploration, exploitation, production, storage, and pipeline transportation.

3.4 Drilling fluid The circulating fluid that is used in drilling process and that has the effects such as lubrication and cooling drill bit, carrying drill cuttings, balancing formation pressure. It includes water-based drilling fluids, oil-based drilling fluids, and synthetic-based drilling fluids.

3.4.1 Water-based drilling fluid The drilling fluid of which the suspension of solid particles is water soluble - i.e., the solid particles are suspended in water or in salt-water; the oil can be emulsified into water; and the water is in continuous phase.

3.4.2 Oil-based drilling fluid The drilling oil of which the continuous phase is diesel, mineral oil or some other oils that do not contain synthetic substance.

3.4.3 Synthetic-based drilling fluid The drilling oil of which the continuous phase is certain synthetic organic compounds (e.g. plant ester, poly α -olefins, internal olefins, Linear α -olefin, ethyl ether, linear alkylbenzene etc.); or the drilling oil of mixture of these synthetic organic compounds.

3.5 Base fluid The continuous phase in the formula of oil-based drilling fluid or synthetic-based drilling fluid.

3.6 Drill cuttings The debris that is generated from the drilling stratum operation and is

discharged with drilling fluids, during the marine petroleum exploration and exploitation. It is divided into water-based drill cutting, oil-based drill cutting, and synthetic-based drill cutting.

3.7 Produced water The water separated from the oil-water mixed fluid that is from the stratum in exploitation of oil reservoir. It includes oil-reservoir water, process water and chemical substances added in oil-water separation.

3.8 Biological toxicity limit The biological toxicity limit that is allowed to be discharged into the sea-area by the pollutants from marine petroleum exploration and exploitation.

3.9 Test frequency During a certain period of time, the number of biological toxicity test of pollutants, from marine petroleum exploration and exploitation, discharged in different sea-areas.

3.10 Biological toxicity test Under the condition, it refers to a test method that pollutants are imposed on organisms, so as to determine the generated toxicity effect of pollutants ON the organisms.