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# **Petroleum and natural gas industries — Offshore platforms handling streams with high content of CO<sub>2</sub> at high pressures**

*Industries du pétrole et du gaz naturel — Plates-formes en mer  
traitant des courants à fort teneur en CO<sub>2</sub> à haute pression*



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## Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*.

## Introduction

In recent years, the oil industry has been facing challenges in developing and operating high-CO<sub>2</sub> content offshore fields. The CO<sub>2</sub>-rich streams, separated from the produced natural gas, can be injected to enhance oil recovery from the reservoirs. Even in cases where the oil recovery increase is not so significant, operators have to consider the CO<sub>2</sub>-rich stream compression and injection, in order to avoid its venting to the atmosphere.

Main concerns comprise surface safety system and material selection areas, which lack specific standards and regulations for this scenario. The commercial tools available, for instance, to model the dispersion of gases, need to be validated for CO<sub>2</sub> and CO<sub>2</sub>/hydrocarbon mixtures, which have distinctive thermodynamic behaviour. This will affect the choice of materials and plant design.

This International Standard addresses concepts and criteria for processing CO<sub>2</sub>-rich streams, as a supplement to existing standards for offshore installations.