



**International  
Standard**

**ISO 8943**

**Refrigerated light hydrocarbon  
fluids — Sampling of liquefied  
natural gas — Continuous and  
intermittent methods**

*Hydrocarbures liquides légers réfrigérés — Échantillonnage de  
gaz naturel liquéfié — Méthodes en continu et par intermittence*

**Third edition  
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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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This document was prepared by Technical Committee ISO/TC 28, *Petroleum and related products, fuels and lubricants from natural or synthetic sources*, Subcommittee SC 5, *Measurement of refrigerated hydrocarbon and non-petroleum based liquefied gaseous fuels*.

This third edition cancels and replaces the second edition (ISO 8943:2007), which has been technically revised.

The main changes are as follows:

- an overview of gasified LNG sampling has been added;
- a CP/FP sample holder has been introduced;
- a multiple shore transfer pipeline has been considered;
- a stable flow rate has been specified;
- an approach to find an outlier of online analysis results has been introduced;
- an example of a sampling report has been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

In the custody transfer of liquefied natural gas, hereinafter referred to as LNG, it is common practice to determine the quantity transferred on a calorific-content basis. The total calorific content of the quantities of LNG quoted in the custody transfer is determined by the liquid volume, liquid density and gross calorific value of the LNG delivered.

Knowledge of the composition of LNG is required to calculate its density and calorific content. Therefore, precise sampling is a prerequisite for precise analysis.

LNG is a complex mixture of low-molecular-weight hydrocarbons with nitrogen as a principal inert impurity. Typically, methane is the major component. Minor-component concentrations vary with the source of the raw gas, the liquefaction pre-treatment, the liquefaction process and the storage conditions.

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