International Standard

ISO 5149-1

Refrigerating systems and heat pumps — Safety and environmental requirements —

Part 1: Vocabulary

Systèmes frigorifiques et pompes à chaleur — Exigences de sécurité et d'environnement —

Partie 1: Vocabulaire

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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 document 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).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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This document was prepared by Technical Committee ISO/TC 86, *Refrigeration and air-conditioning*, Subcommittee SC 1, *Safety and environmental requirements for refrigerating systems*.

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This second edition cancels and replaces the first edition (ISO 5149-1:2014), which has been technically revised. It also incorporates the Amendments ISO 5149-1:2014/Amd 1:2015 and ISO 5149-1:2014/Amd 2:2021.

The main changes are as follows:

— the entire technical content has been moved to ISO 5149-3, keeping only the vocabulary in this document.

A list of all parts in the ISO 5149 series can be found on the ISO website.

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.

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Introduction

This document defines terms for the ISO 5149 series, the purpose of which is to specify requirements for the safety of persons and property involved with refrigerating systems, heat pumps and the recovery of refrigerants. The ISO 5149 series also provides guidance for the protection of the environment. The series establishes procedures for the following items as regards refrigerating systems, heat pumps and the recovery of refrigerants:

— design;

— construction;

— testing;

— marking and documentation;

— installation;

— operation;

— maintenance;

— repair;

— refrigerating system disposal.

The ISO 5149 series is applicable to:

a) refrigerating systems, stationary or mobile, of all sizes, except vehicle air conditioning systems covered by a specific product standard, e.g. ISO 13043 and SAE J 639;

b) secondary cooling or heating systems;

c) the location of the refrigerating systems;

d) parts replaced and components added if they are not identical in function and capacity.

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Refrigerating systems and heat pumps — Safety and environmental requirements —

Part 1: Vocabulary

1 Scope

This document defines terms used in the specification, design, manufacture, construction, installation, commissioning, maintenance and decommissioning of refrigerating systems with regard to safety and environmental requirements.

The term "refrigerating systems" includes heat pumps and air conditioners.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

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ISO and IEC maintain terminology databases for use in standardization at the following addresses:

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— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Terms and definitions

3.1.1 Terms related to refrigerating systems

3.1.1.1
sorption system
refrigerating system in which refrigeration is achieved by evaporation of a refrigerant, the vapour then being absorbed or adsorbed by an absorbent or adsorbent medium respectively, from which it is subsequently expelled at a higher partial vapour pressure by heating and then liquefied by cooling

Note 1 to entry: Absorption systems and adsorption systems are covered in this definition.

3.1.1.2
cascade system
two or more independent refrigerant circuits where the condenser of one system rejects heat directly to the evaporator of another

3.1.1.3
indirect system
system with more than one degree of separation from the occupied space

3.1.1.4
limit-charged system
refrigerating system in which the internal volume and total refrigerant charge are such that, with the system idle, the allowable pressure will not be exceeded if complete evaporation of the refrigerant charge occurs

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