# INTERNATIONAL STANDARD

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## **Refrigerants — Designation system**

Fluides frigorigènes — Système de désignation



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## Contents

Forewo	ordiv
1	Scope1
2	Terms and definitions1
3	Numbering of refrigerants
4 4.1 4.2	Designation prefixes
5	Refrigerant and refrigerant blend designations
Annex	A (informative) Isomer designation examples
Bibliog	A (informative) Isomer designation examples

### Foreword

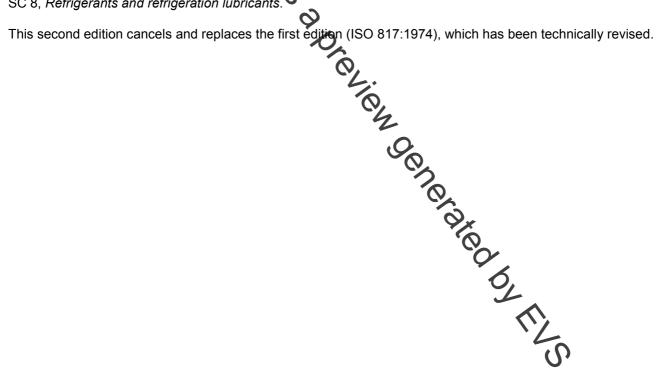
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## **Refrigerants — Designation system**

#### 1 Scope

This International Standard provides an unambiguous system for numbering and assigning composition-designating prefixes to refrigerants. Tables listing the refrigerant designations are included. It is intended to be used with other relevant safety standards such as ISO 5149, IEC 60335-2-24 and IEC 60335-2-40.

#### 2 Terms and definition

For the purposes of this document, the following terms and definitions apply.

#### 2.1

#### azeotrope

blend composed of two or more refrigurants whose equilibrium vapor and liquid phase compositions are the same at a given pressure, but may be different at other conditions

#### 2.2

#### blends

mixtures composed of two or more refrigerants

#### 2.3

#### compound

substance composed of two or more atoms chemically bopded in definite proportions

#### 2.4

#### cyclic compound

organic compound whose structure is characterized by a closed ring of atoms

#### 2.5

#### isomers

two or more compounds having the same chemical composition with differing molecular configurations

NOTE Isomers will have different physical properties.

EXAMPLE R-600 ( $CH_3CH_2CH_2CH_3$ ), with a boiling point of 0 °C and R-600a ( $CH_3CH_2CH_3$ ) with a boiling point of -12 °C. Both of these compounds contain 4 carbon and 10 hydrogen atoms.

#### 2.6

#### nominal composition

liquid phase composition of refrigerant blends

NOTE For the refrigerant blends, see Tables 2 and 3.

#### 2.7

#### refrigerant

fluid used for heat transfer in a mechanical refrigerating system, which absorbs heat at a low temperature and a low pressure of the fluid and rejects it at a higher temperature and a higher pressure of the fluid, usually involving changes of the phase of the fluid