

# R1270 Refrigerant Grade Propene (Propylene)

High quality natural refrigerant



# Cool by nature. Meet environmental regulations with R1270 refrigerant grade propene.

As a world renowned company with far-reaching technical expertise, Linde is ideally positioned to make a valuable contribution to the protection of our environment. We have therefore committed ourselves to the responsible use of natural resources, the development of clean technologies and the replacement of harmful substances with more eco-friendly alternatives.

Whether your application is air conditioning, commercial refrigeration, process chilling or heat extraction, we can help you meet environmental regulations.

Our high quality, low moisture content R1270 refrigerant grade propene can provide you with a cost efficient solution that perfectly suits your requirements. It's a natural choice.

## Introduction

R1270 is the common name for high purity propene/propylene ( $C_3H_6$ ) suitable for use in the refrigeration and air conditioning industry. It is also known as CARE<sup>®</sup> 45.

Linde has been a leading supplier of refrigerants for over 40 years, operating in 40 countries in 5 continents. We have long experience working with natural refrigerants including hydrocarbons, and can provide technical and product stewardship support. Our industrial gases heritage provides extensive experience in logistics and a wide product range including leak detection, cutting and welding gases.

The product typically is at least 97.5% pure with minimal levels of critical impurities including moisture and saturated hydrocarbons. This makes it ideal for use in all types of refrigeration systems. Linde R1270 – Cool by nature.

## Background

Along with other natural refrigerants, hydrocarbons such as R1270 were used in refrigeration from the mid 1800s through to the 1930s. Due to its low environmental impact, R1270 has been regaining popularity since the 1990s, and is now a common alternative to fluorocarbons in a number of applications.

## Advantages of R1270

- Zero ozone depletion potential
- Very low global warming potential (<2)\*
- Excellent thermodynamic properties leading to high energy efficiency
- Good compatibility with system components
- Low charges allowing smaller heat exchangers and piping dimensions

## Common applications

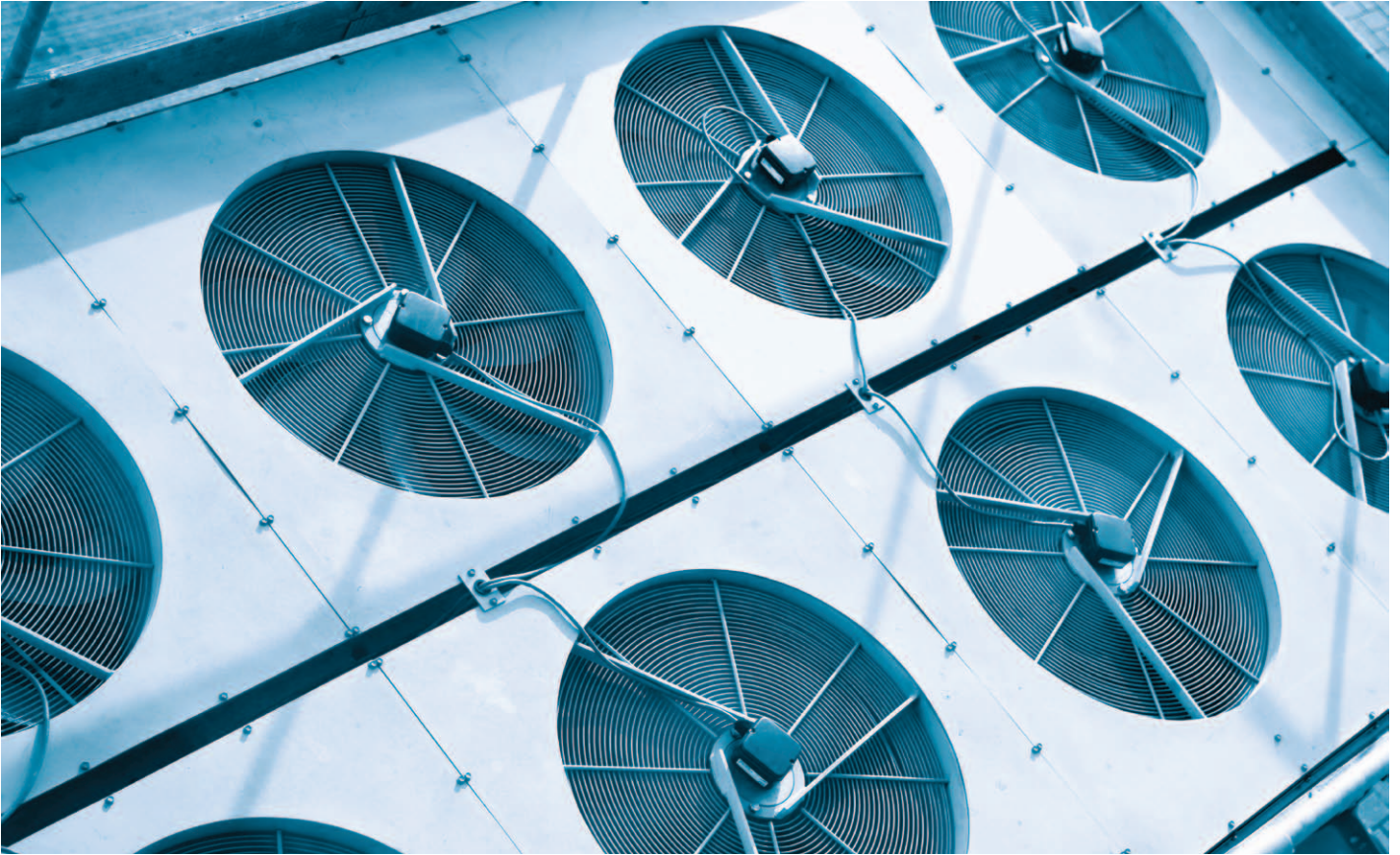
R1270 has a number of applications. This includes commercial refrigeration, chill cabinets, cold storage and food processing, industrial refrigeration, small air conditioning systems and large air conditioning and chiller systems.

## Product safety

R1270 has some different chemical properties than fluorocarbon refrigerants; the primary difference is its classification as extremely flammable.

Therefore the handling and use of R1270 requires adequate safety measures. This is especially true if a system is being considered for retrofitting – replacing a non-flammable fluorocarbon refrigerant with R1270. Our highly experienced experts are available to provide advice on how to handle and use our products in the safest way.





R1270 – used in industrial refrigeration and air conditioning systems.

## Purity

Impurities such as other hydrocarbons can impact the vapour pressure of the refrigerant gas, lowering overall system efficiency. Sulphur can cause corrosion, and saturated hydrocarbons can react with system components. Moisture leads to hydrolysis, corrosion and compressor failure. Therefore it is critical to ensure that the system uses the correct grade of product.

## Linde advantage: high quality R1270

Linde can provide you an assured level of quality. Our R1270 is at least 97.5% pure with minimal levels of critical impurities including moisture (typically<sup>†</sup> <10ppm), saturated hydrocarbons (typically <0.5%) and sulphur. This makes it ideal for use in refrigeration and air conditioning systems.

## Product specifications

R1270 is commonly available in a variety of sizes of packages to meet your needs. This includes returnable cylinders and drum tanks. R1270 is also available in larger packages in some countries.

### Typical specifications<sup>†</sup>

Purity	>97.5%
Moisture	<10ppm (weight)
Contents (kg)	
Cylinders	3–50 kg
Drum tanks	300–500 kg
Bulk supply	

## Further information

For local specifications, or to order, please contact your local Linde supplier. You can also visit us at [www.linde-gas.com/refrigerants](http://www.linde-gas.com/refrigerants)

<sup>†</sup> Exact specifications vary locally please refer to your local Linde supplier.

# Getting ahead through innovation.

With its innovative concepts, Linde is playing a pioneering role in the global market. As a technology leader, it is our task to constantly raise the bar. Traditionally driven by entrepreneurship, we are working steadily on new high-quality products and innovative processes.

Linde offers more. We create added value, clearly discernible competitive advantages and greater profitability. Each concept is tailored specifically to meet our customers' requirements – offering standardised as well as customised solutions. This applies to all industries and all companies regardless of their size.

If you want to keep pace with tomorrow's competition, you need a partner by your side for whom top quality, process optimisation and enhanced productivity are part of daily business. However, we define partnership not merely as being there for you but being with you. After all, joint activities form the core of commercial success.

**Linde – ideas become solutions.**

## Linde AG

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