# Carbon Dioxide Fact Sheet

Carbon dioxide is a colorless, odorless, tasteless, non-flammable gas. It can also be a solid, commonly known as dry ice.

## Sources of carbon dioxide:

Most man-made carbon dioxide is produced by burning fossil fuels or as a by-product of chemical reactions used in industrial processes. Praxair captures the carbon dioxide from these processes, purifies it, and then sells it.

Some carbon dioxide occurs in natural underground wells.

It is part of the air we breathe.

## Uses for carbon dioxide

For decades, Praxair has been safely delivering carbon dioxide for a wide variety of uses. The following are just a few examples:

**Beverages:** carbon dioxide puts the fizz in soft drinks.

**Food:** carbon dioxide is widely used to freeze and chill food in various stages of food processing.

**Water treatment:** carbon dioxide neutralizes industrial and municipal wastewater before it is discharged to the environment, replacing harsh acids.

**Plant growth:** carbon dioxide systems improve the growth rate and quality of plants in the greenhouse.


*Praxair delivers 20,000 tons per day of carbon dioxide in specially designed cryogenic trucks like this one. Carbon dioxide also is delivered by rail.*

**Solvent-free cleaning:** carbon dioxide dry-ice pellets, applied under pressure, are a safer, cleaner alternative to solvents and abrasive grit used to clean metal and other components. This process also eliminates dust and toxic chemical vapors and minimizes waste disposal.

**Fire fighting:** Carbon dioxide smothers fires without damaging or contaminating materials and is used to fight fires when water is ineffective or unavailable.

**Oil and gas production:** carbon dioxide is injected into oil or gas wells under pressure in order to increase the volume of oil or gas produced.

## Safety precautions:

High concentrations of carbon dioxide in an enclosed space must be avoided since it will displace oxygen required for breathing, causing a number of symptoms such as headache, dizziness, nausea and impaired judgment.

## Technical Information

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| **Formula** | $CO_2$ |
| **CAS Number** | 124-38-9 |
| **Specific Gravity** | 1.522 |
| **Molecular Weight** | 44.01 |
| **Sublimation Point at 1 atm** | -109.3° F (-78.5° C) |

| | |
|---|---|
| **Vapor Pressure at 70° F (21.1° C)** | 838 psig (5778 kPa) |
| **OSHA PEL** | 5,000 ppm |
| **ACGIH TLV-TWA (2004)** | 5,000 ppm |
| **Flammable Limits in Air** | Not applicable |
| **Flash Point** | Not applicable |

## Praxair's role in carbon sequestration

As a supplier with decades of experience in handling carbon dioxide, Praxair is lending its operational and technical expertise to a number of carbon-sequestration projects, including the field demonstration in Rabbit Hash, Kentucky. Praxair will deliver up to four tanker trucks per day of carbon dioxide to the site, and will assist with the injection process.

Praxair carries out similar activities in connection with oil and gas drilling operations throughout the Rocky Mountain areas of the U.S. and Canada.

Praxair is a founding member of the Gulf Coast Carbon Center which is actively exploring the feasibility of capturing, compressing and then storing man-made carbon dioxide in subsurface environments. In addition, we are participating members in four of the seven partnerships in the Department of Energy's Carbon Sequestration Program.

## About Praxair

Praxair, Inc. (NYSE:PX) is the largest industrial gases company in North and South America, and one of the largest worldwide, with 2005 sales of $7.7 billion. Praxair products, services and technologies bring productivity and environmental benefits to a wide variety of industries, including aerospace, chemicals, food and beverage, electronics, energy, healthcare, manufacturing, metals and others. More information on Praxair is available at www.praxair.com.

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