

# Argon (Ar)

## What is it and where does it come from ?

Argon occurs naturally and is all around us in the air we breathe.

### Properties of Argon:

Elemental Symbol	Ar
% in the atmosphere	0.93%
Boiling Point	-186°C
Density (Air = 1)	1.38
Atomic Mass	18
Molecular Mass	40
Discovered by: Sir William Ramsey (1894)	

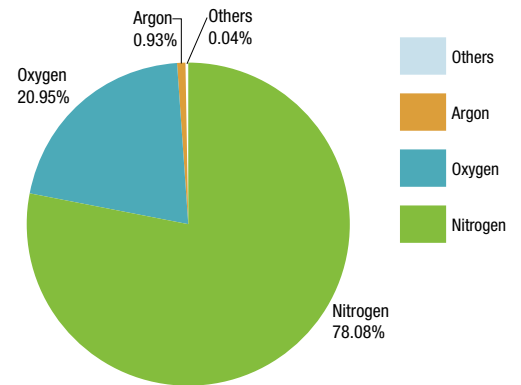
### Characteristics:

- One volume of liquid argon expands to produce 840 volumes of gaseous argon
- It is colourless – you can not see it
- It is odourless – you can not smell it
- It is tasteless – you can not taste it
- It is not toxic or flammable
- It is completely inert – it does not react with any other elements

### Interesting facts about Argon:

- It is heavier than air
- It does not support life
- It does not support combustion
- It does not form any known chemical compounds
- Argon belongs to a family of very rare elements known as the noble gases. This family includes helium, krypton, neon and xenon. Many of these gases are used in the production of light bulbs – often to produce different colours. The noble gases are also used in many different laser applications

### The air we breath



## **Argon (Ar)**

### **What can we use it for?**

Argon is extremely inert and is used where very pure atmospheres are needed for manufacturing processes.

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#### **Welding**

- Argon is used in most welding gas mixtures to exclude oxygen and protect the welding joint. Oxygen reacts with metal and can weaken a welded joint resulting in defects

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#### **Fibre Optic Cables**

- Argon is one of the gases used to create a high temperature fluid known as “plasma.” This is used to spray special coatings onto very fine hollow cables. Digital information travels at the speed of light down fibre optic cables – much faster than that in electrical cables. They are used widely for communication and the internet would not be possible without them

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#### **Light Bulbs**

- Argon is used to fill light bulbs as it does not react with the hot light bulb filament

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#### **Double Glazing**

- Argon is used to fill the space between sheets of glass in high efficiency double glazing panels. It is a better insulator than air, which is used in normal glazing, and can help to reduce heat loss



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