

## **SUPPLY OF INDUSTRIAL GASES**

### **Introduction**

Maser Gas Berhad (MGB), a subsidiary of the MASER group of companies, focuses on activities related to trading and manufacturing of various gases, chemicals and chemical products for both domestic and export market. These include:

- Industrial gases like Argon, Oxygen, Nitrogen and Gas Mixtures.
- Energy-based products like Coal, LPG, Fuel Oil, Diesel, Crude Oil and Methanol
- Fertilizer products like Urea and Ammonia
- Specialty products like Refrigerant Gases (R134a, R22)

Currently we distribute Liquid Argon in specially-designed vacuum insulated transport tanks to local customers as well as clients in India, Thailand and Singapore. We also supply specialty gases and gas mixtures to local market. After establishing a joint venture company that deals industrial gases in India, we are on the verge of establishing our presence in Vietnam, Pakistan and Middle East Region.

Besides, we are currently undertaking the following:

- a) Finalising plans to invest in an ion exchange resins plant in Malaysia.
- b) Evaluating investments in a petrochemical plant in Malaysia valued at RM240 million.

## **Industrial Gas Specifications**

### **ARGON**

- the most abundant member in the rare gas family
- colourless, odourless, tasteless and rather soluble.
- commonly used as an inert gas shield during arc welding process.

#### ***Properties***

- Completely inert.

#### ***Specification***

- Normal Grade – 99.99% purity
- High purity grade – 99.999% purity

#### ***Applications***

- Inert atmosphere.
- Shielding gas mixture for welding.
- Stirring and decarburization of steel.
- Luminescent mixtures of light bulb.

#### ***Safety Handling***

- Handed by trained personnel.
- Used in well-ventilated areas.

#### ***Cylinder Description***

- Seamless high-pressure steel cylinder.

#### ***Valve Description***

- CGA No. 580
- BS 341 No.3

### **OXYGEN**

- colourless, odourless and tasteless.
- makes up 21% by volume of the atmosphere.
- used in many applications from medical to welding and cutting

#### ***Properties***

- Supports combustion and life.
- Chemical bleaching and oxidizing agent.

#### ***Specification***

- Normal Grade – 99.6% purity
- High purity grade – 99.8% purity

#### ***Applications***

- Iron and steel manufacturing.
- Medical (life support).
- Enhance fermentation.
- Fuel gas oxidant.
- Welding and cutting.
- Water oxygenation for wastewater treatment.
- Non-ferrous smelting and bricklaying.
- Odour control.

- Pulp and paper bleaching.

#### ***Safety Handling***

- All easily combustible materials must be kept from oxygen.
- Never use oxygen as a substitute from compressed air.
- Never attempt to mix gases in an oxygen cylinder.

#### ***Cylinder Description***

- Seamless high-pressure steel cylinder.

#### ***Valve Description***

- CGA No. 540
- BS 341 No.3

## **NITROGEN**

- colourless, odourless, non-toxic and non-flammable.
- makes up 78% by volume of the atmosphere.

#### ***Properties***

- It is relatively inert and non-combustible.
- It is intensely cold in liquid phase.

#### ***Specification***

- Normal Grade – 99.99% purity
- High purity grade – 99.999% purity
- Liquid Nitrogen – 99.999% purity

#### ***Applications***

- Gas and vapor displacement for explosion and fire suspension.
- Inert atmosphere for tanker and pipeline purging.
- Controlled environment for heat treatment.
- Freezing, chilling and transporting food.
- Tissue freezing and storing.
- Contraction of metals (shrink fitting)
- Cooling agent for moulding, film extrusion and process equipment.

#### ***Safety Handling***

- Keep sparks and flame away from the cylinder.
- To be handled by well-trained personnel.
- To be used in well-ventilated area.

#### ***Cylinder Description***

- Seamless high-pressure steel cylinder.

#### ***Valve Description***

- CGA No. 540
- BS 341 No. 8

## **CARBON DIOXIDE**

- non-flammable, colourless, odourless and slightly acidic.
- suitable for prevention and suppression of combustion and oxidization.

### ***Properties***

- Heavier than air.
- Freezes to become solid at atmospheric pressure.
- Liquefied under pressure.
- Does not support combustion.
- Chemically acidic and water-soluble.

### ***Specifications***

- Normal grade – 99.8% purity.

### ***Applications***

- Food freezing, chilling and refrigerant
- Fire suppression.
- Alkali neutralization, waste treatment.
- Mould setting.
- Inert gas pressurization.
- Beverage carbonation.
- Tobacco expansion.
- Oil well recovery.
- Plant growth.
- Carrier gas for deodorants, odorants, pesticides.
- Breathing stimulant.

### ***Safety Handling***

- To be handled well-trained personnel.
- To be used in well-ventilated area.

### ***Cylinder Description***

- Seamless high-pressure steel cylinder.

### ***Valve Description***

- CGA No. 320
- BS 341 No. 8

## **ACETYLENE**

- synthesis gas, produced from the reaction of water with Calcium Carbide.
- colourless and has a garlic-like odour.
- commonly used as a cutting agent with Oxygen in steel fabrication.

### ***Properties***

- High flammable

### ***Specifications***

- Normal grade – 99.5% purity.

### ***Applications***

- Chemical synthesis.
- Raw material in organic compound.
- Metal cutting and fabrication.
- Heat treatment.

***Safety Handling***

- Do not store Acetylene near Oxygen cylinder.
- Keep sparks and flame away from the cylinder.
- No contact between the cylinder and the electric welding apparatus and circuits.

***Cylinder Description***

- Cylinders of steel or wrought iron.
- Contains highly porous monolithic filler in which acetone or DMF (Dimethylformamide) is absorbed.

***Valve Description***

- CGA No. 510
- BS 341 No. 2

**HYDROGEN**

- lightest gas known.
- colourless odourless, tasteless, flammable and non-toxic.

***Properties***

- Flammable and can be an asphyxiant.

***Specifications***

- Industrial Grade - 99.995% purity
- Purified Grade - 99.999% purity

***Applications***

- Used by refineries, petrochemical and bulk chemical facilities for hydro treating, catalytic reforming and hydro cracking.
- Used in chemical, metallurgical, fats and oil, glass and electronics industries.

***Safety Handling***

- Keep away from sparks and flame.
- Should be handled by trained personnel.
- Use only cylinder that is approved for interstate transportation.
- Wear protective goggles when handling.

***Cylinder Description***

- Seamless high-pressure steel cylinder.

***Valve Description***

- CGA No. 350
- BS 341 No. 4

**MIXTURE GASES**

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- Cyclopropane and certain chemically active gases are used separately i.e. mixtures for anesthesia.