

# ARGOWELD 52

## SECTION 1 – IDENTIFICATION (MATERIAL & SUPPLIER)

**Product Identifier** ArgoWeld 52

**Other Means of Identification** SDS Product Code PG23

**Chemical Formula Components** Ar, CO<sub>2</sub> & O<sub>2</sub>

**Recommended Use (of the Chemical and Restrictions on use)**  
An Argon, CO<sub>2</sub> & Oxygen mixture suited for MIG welding of mild steel.

### Details of Manufacturer or Importer

**Supplier Name:** PUREGAS  
**Address:** 12 Hanrahan Street, Thomastown, VIC 3074  
**Phone:** 1300 733 097  
**Fax:** 1300 815 397  
**Emergency:** BUSINESS HOURS TELEPHONE  
 No: 1300 733 097  
**EMERGENCY SERVICES:** 000  
**Email:** sales@puregas.com.au  
**Website:** www.puregas.com.au

**MSDS Date:** March 2017

## SECTION 2 – HAZARDS IDENTIFICATION

### Classification of the Hazardous Chemical

Compressed Argon is

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA but rather

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE.

### Hazard Class and Category Code Regulation EC 1272/2008 (CLP)

#### Physical Hazards

**Gases under Pressure** Compressed gas - Warning - (CLP : Press. Gas) -H280

**Classification EC 67/548 or EC 1999/45**

Not classified as dangerous substance/ mixture.

### Label Elements, including Precautionary Statements Labelling Regulation EC 1272/2008 (CLP)

#### Hazard Pictograms



**Hazard Pictograms Code** GHS04  
**Signal Word** Warning  
**Hazard Statements** H280 - Contains gas under pressure; may explode if heated.

**Precautionary Statements**  
**Storage** P403  
 Store in a well ventilated place.

**Other Hazards** None.

## SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

| Material       | Abbreviation    | Contents | CAS No.   | EC NO     |
|----------------|-----------------|----------|-----------|-----------|
| Argon          | Ar              | 93%      | 7440-37-1 | 231-147-0 |
| Oxygen         | O <sub>2</sub>  | 2%       | 7782-44-7 | 231-956-9 |
| Carbon Dioxide | CO <sub>2</sub> | 5%       | 124-38-9  | 204-696-9 |

## SECTION 4 – FIRST AID MEASURES

### 4.1. Description of First Aid Measures

#### First Aid Measures

**Inhalation** In high concentrations will cause asphyxiation. Symptoms may include loss of mobility/consciousness. The affected person may not be aware of asphyxiation. Remove the affected person to a ventilated & non contaminated area wearing Rescuers must be wearing & use self contained breathing apparatus (SCBA). Keep the affected person warm and allow to rest & recover.

The low concentration of carbon dioxide would cause increased respiration and headache but this would be overridden by the asphyxiate properties of the mixture as a whole. Call a doctor. Apply artificial respiration if breathing stopped.

**Skin Contact** No adverse effects expected.  
**Eye Contact** No adverse effects expected.  
**Ingestion** An unlikely route for adverse reactions.

### 4.2. Most important Symptoms and Effects, both Acute and Delayed

See section 11.

### 4.3. Indication of any immediate Medical Attention and Special Treatment needed

None.

**Swallowed:** Not applicable.  
**Skin:** Not applicable.  
**Eyes:** Not applicable.  
**Inhaled:** Remove the affected person from the Argon rich incident area to the nearest well ventilated & safe area by means of personnel wearing/using SCBA so as to avoid themselves becoming asphyxiated injury. Check the state of consciousness of the affected person and whether breathing. If not, perform artificial respiration preferably using an automated oxygen resuscitator. Keep the affected person's body warm and level. Dial 000 for medical assistance.

## SECTION 5 – FIRE-FIGHTING MEASURES

**Flammability** Non flammable.

**Fire and Explosion** Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot. Isolate gas flow where safe to do so.  
**Extinguishing** Use water fog to cool containers from protected area.  
**Hazchem Code** 2T  
 2 Fine Water Spray.  
 T Wear full fire kit and breathing apparatus.  
 Dilute spill and run-off.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

If possible prevent gas from discharging.

#### Personnel Precautions

Evacuate area.  
 Rescuers to wear SCBA when entering area unless atmosphere is confirmed safe.  
 Open windows or use fans to make sure that there is sufficient fresh air entering the affected area.

### 6.2. Environmental Precautions

None.  
 Try to stop release.  
 Prevent from entering low lying areas such as cellars, basements and work pits, or any such place where Argon accumulation & buildup would prove to be dangerous.

### 6.3. Methods and Material for Containment and Cleaning Up

None.

#### Clean Up Procedure

Ventilate area.

### 6.4. Reference to Subsequent Sections

See also sections 8 & 13.

## SECTION 7 – HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

Observe the following requirement of the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Observe the requirements of State Dangerous Goods (Storage and Handling) Regulations.

### 7.1 Storage and Handling

**Storage Temperature** Room Temperature  
**UN Class** 2.2 Non-Flammable, Non-toxic gas

# ARGOWELD 52 *continued*

Packaging Group Not assigned  
 UN Number 1956  
 EPG Number 2C1  
 Correct Shipping Name COMPRESSED GAS, N.O.S. (Argon 83%)

## 7.2 Storage Conditions (See Also AS4332 For Details)

Cylinders (Containers) are to be stored upright with their valve protective cap fitted, ideally outside of buildings or in a well ventilated area. Keep cylinders cool to minimise the pressure build up inside the cylinder (Container). i.e. Do not store the Cylinders (Containers) in direct sunlight.

Argon Cylinders (Containers) should be stored in areas not exceeding 45°C.

Observe safe manual handling of Cylinders (Containers) to avoid back or other injuries. Always move Cylinders (Containers) with cylinder dollies or portable racks; never roll or drag a bottle.

Store Argon Cylinders (Containers) in an area away from foot and vehicle traffic to reduce the risk of accidental damage or impact & make sure that they are secured to say a wall bracket with a strap or chain. For indoors, use a well-ventilated storage area.

For outdoors, use a storage area that's protected from weather and equipped with a lock to prevent theft or tampering.

## 7.3 Spills, Leaks, and Disposal

**CAUTION:** In the event of a cylinder (Container) rupture or uncontrolled release, evacuate all non-essential personnel from the immediate vicinity until the cylinder (Container) gas release has subsided & dissipated.

Use the necessary protective measures (i.e. Wear gloves and goggles) when approaching the discharged cylinder (Container). If in a confined or non ventilated space use a self-contained breathing apparatus.

Do not attempt to repair leaking BD's or cylinder valves but simply fit a secure tag & print whether the valve and/or BD are defective and leaking. If possible date and print your name & contact details.

Argon gas is non-flammable and does not support combustion.

Exposing the cylinder (Container) to intense heat or flame (e.g. a fire.) may cause the cylinder to vent rapidly and/or rupture violently.

To prevent the above happening, all Argon cylinder valves are fitted with a BD (Burst disc.)

This should in most cases prevent the Cylinder (Container) from rupturing.

The BD's act as a safety valve and are designed to vent the Argon gas when exposed to an elevated temperature of 65 degrees Centigrade.

If the cylinders have simply become hot and the BDs have not released any gas cool/spray with water from a hose until cooled to the ambient air temperature.

If the Cylinders (Containers) are in a fire call the emergency services or fire brigade to deal with the situation as they are trained & have the equipment to deal with the matter.

## 7.4 Decomposition Products

Argon None (Remains as Argon.)

In case of Small

Fire/explosion use: Water

In case of Major

Emergency

Hazchem Code: 2(T)

Extinguishing medium: Water fog or fine water spray

Danger of Violent

Reaction or Explosion: Not from the Argon gas decomposition or some chemical reaction.

**Protective Clothing:** For Cylinder handling & when using with gas regulators: Wear appropriate protective work gloves, safety shoes and safety glasses.

For rescue operations of people affected by Argon build up in a confined space, ensure rescuers are wearing & using self contained breathing apparatus (SCBA) to ensure that they do not suffer the risk of asphyxiation.

**Appropriate Measures:** Isolate the Argon leak & dilute the effect of the presence of Argon by increased ventilation by opening all doors & windows or by forced ventilation if available.

**Evacuate** All other personnel in the immediate vicinity of the incident area.

## 7.5 Other Information

Store and use compressed Argon in well ventilated areas.

Do not drop, tip, or roll Cylinders (Containers) on their sides.

Do not use oil and grease on Cylinders (Containers), cylinder valves or the threaded valve caps.

Connect the Equipment or Materials properly as detailed in the Manufacturer's instructions.

Only use regulators, interconnecting piping and equipment with the correct mating connections and that are designed to withstand the high pressures to be encountered.

## SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1. Control Parameters

**DNEL: Derived No Effect Level** None available.

**PNEC: Predicted No Effect Concentration** None available.

### 8.2. Exposure Controls

**8.2.1. Appropriate Engineering - Controls** Systems under pressure are to be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.

**8.2.2. Individual Protection** A risk assessment should be such measures as PPE conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk.

The following recommendations should be considered.

Wear safety glasses with side shields, leather safety gloves, safety shoes when manually handling cylinders.

**Personal Protection** Ensure adequate ventilation.

**8.2.3. Environmental Exposure Controls** Refer to local regulations for restriction of emissions to the atmosphere. See also section 13 for controls specific methods for waste gas treatment.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties Appearance

|                                       |  |
|---------------------------------------|--|
| Physical state at 20°C / 101.3kPa     | Gas.   |
| Colour                                | Colourless.  |
| Odour                                 | 3 Component odourless mixture.   |
| Odour threshold                       | Any odour threshold is subjective and inadequate to warn for overexposure. |
| pH value                              | N/A for gas mixtures.  |
| Molar mass [g/mol]                    | N/A for gases and gas-mixtures.  |
| Melting point [°C]                    | N/A for gas mixtures.  |
| Boiling point [°C]                    | N/A for gas mixtures.  |
| Critical temperature [°C]             | N/A for gas mixtures.  |
| Flash point [°C]                      | N/A for gas mixtures.  |
| Evaporation rate (ether=1)            | N/A for gas mixtures.  |
| Flammability range [vol% in air]      | Non flammable.   |
| Vapour pressure [20°C]                | N/A  |
| Partition coefficient n-octanol/water | N/A for gas mixtures.  |
| Viscosity at 20°C [mPa.s]             | N/A.   |
| Explosive Properties                  | N/A. (Inert)   |

## SECTION 10 – STABILITY AND REACTIVITY

### Reactivity

No reactivity hazard other than the effects described in sub-sections below.

Stability and reactivity: Stable.

### Chemical Stability

Stable.

### Possibility of Hazardous Reactions

None.

### Conditions to Avoid

None.

### Incompatible Materials

None.

### Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11 – TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

|                                     |   |
|-------------------------------------|---|
| <b>Toxicity Information</b>         | No known toxicological effects from this product. |
| <b>Acute Toxicity</b>               | No known toxicological effects from this product. |
| <b>Rat Inhalation LC50 [ppm/4h]</b> | No data available.                                |
| <b>Skin Corrosion/irritation</b>    | No known effects from this product.               |

# ARGOWELD 52 *continued*

|  |  |
|--|--|
| <b>Serious Eye Damage/Irritation</b>     | No known effects from this product.        |
| <b>Respiratory Or Skin Sensitization</b> | No known effects from this product.        |
| <b>Stot-Single Exposure</b>              | No known effects from this product.        |
| <b>Stot-Repeated Exposure</b>            | No known effects from this product.        |
| <b>Aspiration Hazard</b>                 | Not applicable for gases and gas-mixtures. |

## SECTION 12 – ECOLOGICAL INFORMATION

|                                    |                    |
|------------------------------------|--------------------|
| Toxicity                           | No data available. |
| Persistence degradability          | No data available. |
| Bioaccumulative potential          | No data available. |
| Mobility in soil                   | No data available. |
| Results of PBT and vPvB assessment | No data available. |

### Other Adverse Effects

### Ecological Effects Information

Contains greenhouse gas(es) not covered by 842/2006/EC

## SECTION 13 – DISPOSAL CONSIDERATIONS

|                         |   |
|-------------------------|---|
| Waste Treatment Methods | May be vented to atmosphere in a well ventilated place.<br>Do not discharge into any place where its accumulation could be dangerous. |
|-------------------------|---|

Refer to the code of practice of EIGA (Doc. 30/10 "Disposal of Gases, downloadable at <http://www.eiga.org>) for more guidance on suitable disposal methods.  
Contact supplier if guidance is required.  
General: Do not discharge into any place where its accumulation could be dangerous.  
May be vented to atmosphere in a well ventilated place.  
Contact supplier if guidance is required.

|                        |       |
|------------------------|-------|
| Additional information | None. |
|------------------------|-------|

## SECTION 14 – TRANSPORT INFORMATION

|                           |      |
|---------------------------|------|
| Un Number                 | 1956 |
| Labelling ADR, IMDG, IATA |      |



2.2: Non flammable, non toxic gas.

|                                 |  |
|---------------------------------|--|
| Land Transport (Adr/Irid)       |  |
| H.I. nr                         | 20   |
| UN Proper Shipping Name         | COMPRESSED GAS, N.O.S.<br>(Contains Argon)   |
| Transport Hazard Class(es)      | 2.2  |
| Classification Code             | 1 A  |
| Packing Instruction(s)          | P200   |
| Tunnel Restriction              | E Passage forbidden through tunnels of category E.   |
| HAZCHEM - Emergency Action Code | 2T<br>2 = Fine water spray.<br>T = Recommended personal protective equipment : Full fire kit and breathing apparatus.<br>Appropriate measures: Dilute. |

|                                     |  |
|-------------------------------------|--|
| Sea Transport (IMDG)                |  |
| Proper Shipping Name                | COMPRESSED GAS, N.O.S.<br>(Contains Argon) |
| Class                               | 2.2  |
| Emergency Schedule (EmS) - Fire     | F-C  |
| Emergency Schedule (EmS) - Spillage | S-V  |
| Packing instruction                 | P200                                       |

|  |  |
|--|--|
| Air Transport (ICAO-TI / IATA-DGR)               |  |
| Proper Shipping Name (IATA)                      | COMPRESSED GAS, N.O.S.<br>(Contains Argon) |
| Class  | 2.2  |
| Passenger and Cargo Aircraft                     | Allowed.                                   |
| Packing instruction - Passenger & Cargo Aircraft | 200  |
| Cargo Aircraft Only                              | Allowed.                                   |

|   |     |
|---|-----|
| Packing instruction - Cargo Aircraft Only | 200 |
|---|-----|

## Special Precautions for User

Avoid transport on vehicles where the load space is not separated from the driver's compartment.  
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting product containers:

Ensure there is adequate ventilation.  
Ensure that containers are firmly secured.  
Ensure cylinder valve is closed and not leaking.  
Ensure valve outlet cap nut or plug (where provided) is correctly fitted.  
Ensure valve protection device (where provided) is correctly fitted.

## Labelling ADR

2.2: Non flammable, non toxic gas.

## Other Transport Information

Before transporting product containers:  
Ensure that containers are firmly secured.  
Ensure cylinder valve is closed and not leaking.  
Ensure valve outlet cap nut or plug (where provided) is correctly fitted.  
Ensure valve protection device (where provided) is correctly fitted.  
Ensure there is adequate ventilation.  
Compliance with applicable regulations.

## SECTION 15 – REGULATORY INFORMATION

### Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture.

|                            |   |
|----------------------------|---|
| EU Legislation             | Not covered.  |
| Seveso Directive 96/82/EC  |   |
| National Legislation       | Ensure all national/local regulations are observed.     |
| Chemical Safety Assessment | A CSA does not need to be carried out for this product. |

## SECTION 16 – ANY OTHER RELEVANT INFORMATION

|                       |   |
|-----------------------|---|
| Indication Of Changes | Revised safety data sheet in accordance with commission regulation (EU) No 453/2010 |
|-----------------------|---|

### Training Advice

Receptacle under pressure.  
Asphyxiate in high concentrations.  
Keep container in a well-ventilated place.  
Do not breathe the gas.  
Ensure all national/local regulations are observed.  
The hazard of asphyxiation is often overlooked and must be stressed during operator training.

### List of Full Text of H-Statements in Section 3

H281 - Contains compressed gas; may cause cold burns when gas is expanding or injury.

### Further Information

Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.

**Note:** This Safety Data Sheet has been established in accordance with "Preparation of safety data sheets for hazardous chemicals" - code of practice

## DISCLAIMER OF LIABILITY

Details given in this document are believed to be correct at the time of issue. Although proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

Before using this product in **any new process or experiment**, a thorough material compatibility and safety study should be carried out.