

BOC Limited
ABN 95 000 029 729
10 Julius Avenue
NORTH RYDE NSW 2113
Tel + 61 131 262
Fax + 61 132 427

Product Name ARGOSHIELD 52 (BOC AUS)

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name BOC LIMITED (AUSTRALIA)
Address 10 Julius Avenue, North Ryde NSW, 2113, AUSTRALIA
Telephone +61 131 262, (02) 8874 4400
Fax +61 132 427 (24 hours)
Emergency 1800 653 572 (A/H) (Australia only)
Synonyms BOC ARGOSHIELD 52, PRODUCT CODE: 070.
Uses SHIELDING GAS.

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA
CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	Conc.	CAS No.
CARBON DIOXIDE	CO ₂	25%	124-38-9
ARGON	Ar	75%	7440-37-1

4. FIRST AID MEASURES

- Eye** Hold eyelids apart and flush continuously with water. Continue until advised to stop by the Poisons Information Centre, a doctor, or for at least 15 minutes. Keep patient calm.
- Inhalation** Remove from area of exposure immediately. If assisting a victim avoid becoming a casualty, wear an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. If victim is not breathing apply artificial respiration and seek urgent medical attention. Give oxygen if available. Keep warm and rested.
- Skin** Not applicable.
- Ingestion** Ingestion is considered unlikely. However, if ingestion occurs, drink large volumes of water. Seek medical attention. For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.
- Advice To Doctor** Treat symptomatically.

5. FIRE FIGHTING MEASURES

- Flammability** Non flammable.
- Fire and Explosion** Non flammable. Temperatures in a fire may cause cylinders to rupture. Call fire brigade. Cool cylinders exposed to fire by applying water from a protected location. Do not approach cylinders suspected of being hot.

Colour Rating
AMBER

BOC Limited
ABN 95 000 029 729
10 Julius Avenue
NORTH RYDE NSW 2113
Tel + 61 131 262
Fax + 61 132 427

Product Name ARGOSHIELD 52 (BOC AUS)

5. FIRE FIGHTING MEASURES cont.

Extinguishing Non flammable. Use water fog to cool containers from protected area.

Hazchem Code 2T

6. ACCIDENTAL RELEASE MEASURES

Spillage GAS CYLINDERS: If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Inform manufacturer/supplier of leak. Wear appropriate PPE and carefully move it to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder fusible plugs.

7. HANDLING AND STORAGE

Handling Use safe work practices to avoid eye or skin contact and inhalation. Observe good personal hygiene. Prohibit eating, drinking and smoking in contaminated areas. Wash hands before eating.

Storage Do not store near sources of ignition or incompatible materials. Cylinders should be stored below 45 C in a secure area and upright to prevented cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation Use with adequate natural ventilation. Open windows and doors where possible. In poorly ventilated areas, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

Exposure Standards CARBON DIOXIDE (124-38-9)
ES-TWA : 5000 ppm (9000 mg/m3)
ES-STEL : 30000 ppm (54000 mg/m3)
WES-TWA : 5000 ppm (9000 mg/m3)

ARGON (7440-37-1)
ES-TWA : Asphyxiant
WES-TWA : Asphyxiant

PPE Wear safety glasses and leather gloves. Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



Colour
Rating
AMBER

BOC Limited
ABN 95 000 029 729
10 Julius Avenue
NORTH RYDE NSW 2113
Tel + 61 131 262
Fax + 61 132 427

Product Name **ARGOSHIELD 52 (BOC AUS)**

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: COLOURLESS GAS
Odour: ODOURLESS
pH: NOT AVAILABLE
Vapour Pressure: NOT AVAILABLE
Vapour Density: NOT AVAILABLE
Boiling Point: NOT AVAILABLE
Melting Point: NOT AVAILABLE
Evaporation Rate: NOT AVAILABLE
Solubility (water): NOT AVAILABLE
Specific Gravity: NOT AVAILABLE
% Volatiles: NOT AVAILABLE
Flammability: NON FLAMMABLE
Flash Point: NOT RELEVANT
Upper Explosion Limit: NOT AVAILABLE
Lower Explosion Limit: NOT AVAILABLE
Autoignition Temperature: NOT AVAILABLE
Density: 1.4 (Air = 1)
Cylinder pressure (when full): Refer to Industrial Gases Reference Manual

10. STABILITY AND REACTIVITY

Reactivity Moist carbon dioxide is corrosive, hence acid resistant materials are required (stainless steel). Certain properties of some plastics and rubbers may be affected by gas or liquid, ie. embrittlement, leaching of plasticisers, etc. Hazardous by-products may be produced when this gas/gas mixture is used in welding, cutting and associated processes.

Decomposition Products May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Asphyxiant gas - non irritant. When released into air the concentration of carbon dioxide is diluted. Carbon dioxide concentrations of 3-5 % in air cause increased respiration and headache. Concentrations of 8-15% cause headache, nausea and vomiting which may lead to unconsciousness if not moved to open air and given oxygen. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in a few minutes. Adverse health affects to long term exposure to carbon dioxide have not been reported. However in environments such as submarines where exposure to levels of 0.5 - 1.0% may occur, specialist medical opinion should be sought on the effects of long term exposure.

Eye Non irritant gas.

Inhalation Non irritant - Asphyxiant.

Skin Non irritating.

Ingestion Due to product form, ingestion is considered highly unlikely.

12. ECOLOGICAL INFORMATION

Environment Carbon dioxide is a natural component of the earth's atmosphere (0.027 - 0.035 % v/v). However, increases in the atmospheric carbon dioxide levels have been linked with global warming, and hence emission of carbon dioxide into

Colour
Rating
AMBER

BOC Limited
ABN 95 000 029 729
10 Julius Avenue
NORTH RYDE NSW 2113
Tel + 61 131 262
Fax + 61 132 427

Product Name ARGOSHIELD 52 (BOC AUS)

12. ECOLOGICAL INFORMATION cont.

the atmosphere should be mimimised as far as possible. Fume from fabrication processes which use this gas/gas mixture may be harmful to the environment.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Cylinders should be returned to the manufacturer or supplier for disposal.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.

UN Number 1956
Shipping Name COMPRESSED GAS, N.O.S.
DG Class 2.2
Subsidiary Risk(s) None Allocated
Packing Group None Allocated
Hazchem Code 2T

15. REGULATORY INFORMATION

AICS All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

Poison Schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

16. OTHER INFORMATION

Additional Information When using this gas/gas mixture for welding, cutting and associated processes, additional hazards may be generated by the process such as radiation, noise and fume. Risk assessments should be made for each activity to identify and quantify the individual hazards involved. Please refer to the BOC document "Welding Hazards and Risk Management" available from www.boc.com and refer to the relevant Material Safety Data Sheets for the welding consumables being used or, if available, the materials being welded.

APPLICATION METHOD: Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.

COLOUR RATING SYSTEM: Chem Alert reports are assigned a colour rating of Green, Amber or Red for the purpose of providing users with a quick and easy means of determining the hazardous nature of a product. Safe handling recommendations are provided in all Chem Alert reports so as to clearly identify how users can control the hazards and thereby reduce the risk (or likelihood) of adverse effects. As a general guideline a Green colour rating indicates a low hazard, an Amber colour rating indicates a moderate hazard and a Red colour rating indicates a high hazard.

Colour Rating
AMBER

BOC Limited
ABN 95 000 029 729
10 Julius Avenue
NORTH RYDE NSW 2113
Tel + 61 131 262
Fax + 61 132 427

Product Name ARGOSHIELD 52 (BOC AUS)

16. OTHER INFORMATION cont.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made. Information provided by Risk Management Technologies is summarised for ease of use. Additional technical information is available by calling +61 8 9322 1711.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

ABBREVIATIONS:

mg/m³ - Milligrams per cubic metre

ppm - Parts Per Million

TWA/ES - Time Weighted Average or Exposure Standard.

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

M - moles per litre, a unit of concentration.

IARC - International Agency for Research on Cancer.

Report Reviewed 21st July 2005

Date Printed 21st July 2005

Report Status Chem Alert reports are compiled as an independent source of information by RMT's scientific department. The information is based on the latest chemical and toxicological research, and in compliance with relevant standards, guidance notes and legislation (where applicable). The Chem Alert report is not intended as a replacement to the manufacturer's original MSDS that is provided to Chem Alert subscribers for convenience. In many instances, Chem Alert reports are compiled on behalf of manufacturers, in which case they serve as the "Manufacturer's MSDS" and are clearly identified as such on the relevant reports.

Prepared By Risk Management Technologies
5 Ventnor Avenue, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Web: www.rmt.com.au

**Colour
Rating
AMBER**