

PRODUCT NAME SHIELDPRO 22

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name COREGAS PTY LTD
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Emergency 1300 657 070
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Web Site http://www.coregas.com/
Synonym(s) 10822015 - MSDS NUMBER
Use(s) INDUSTRIAL APPLICATIONS
MSDS Date 04 August 2008

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

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

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|------------------|----------------|---------------------|-----|---------------------------|----------------|
| UN No. | 1954 | DG Class | 2.1 | Subsidiary Risk(s) | None Allocated |
| Pkg Group | None Allocated | Hazchem Code | 2SE | EPG | 2A1 |

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredient | Formula | CAS No. | Content |
|------------|---------|-----------|---------|
| HYDROGEN | H2 | 1333-74-0 | 5% |
| ARGON | Ar | 7440-37-1 | 95% |

4. FIRST AID MEASURES

Eye None required.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if available.

Skin None required.

Ingestion Due to product form and application, ingestion is considered unlikely.

Advice to Doctor Treat symptomatically

5. FIRE FIGHTING MEASURES

Flammability Highly flammable. Product will add fuel to a fire. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling.

Fire and Explosion Highly flammable. Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Call fire brigade. This product will add fuel to a fire. Cool cylinders exposed to fire by applying water from a protected location. Do not approach cylinders suspected of being hot.

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Extinguishing Stop flow of gas if safe to do so, such as by slowly closing the cylinder valve. If the gas source cannot be isolated, do not extinguish the flame, since re-ignition and explosion could occur. Await arrival of emergency services or manufacturer's advisor. Drench and cool cylinders with water spray from protected area at a safe distance. If it is absolutely necessary to extinguish the flame, use only a dry chemical powder extinguisher. Do not move cylinders for at least 24 hours. Avoid shock and bumps to cylinders.

Hazchem Code 2SE

6. ACCIDENTAL RELEASE MEASURES

Spillage 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 safety devices.

7. STORAGE AND HANDLING

Storage Do not store near sources of ignition or incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent 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.

Handling Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. Do not drop, roll, drag or bump cylinders.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Stds ARGON
ES-TWA: Asphyxiant
WES-TWA: Asphyxiant
HYDROGEN
ES-TWA: Asphyxiant
WES-TWA: Simple asphyxiant - may present an explosion hazard

Biological Limits No biological limit allocated.

Engineering Controls Maintain adequate ventilation. Confined areas (eg. tanks) should be adequately ventilated or gas tested.

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



9. PHYSICAL AND CHEMICAL PROPERTIES

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|-------------------------|-----------------------------|---------------------------------|------------------|
| Appearance | COLOURLESS GAS (COMPRESSED) | Solubility (water) | INSOLUBLE |
| Odour | ODOURLESS | Specific Gravity | NOT AVAILABLE |
| pH | NOT AVAILABLE | % Volatiles | NOT AVAILABLE |
| Vapour Pressure | NOT AVAILABLE | Flammability | HIGHLY FLAMMABLE |
| Vapour Density | NOT AVAILABLE | Flash Point | < 23°C |
| Boiling Point | NOT AVAILABLE | Upper Explosion Limit | 75 % (Hydrogen) |
| Melting Point | NOT AVAILABLE | Lower Explosion Limit | 4 % (Hydrogen) |
| Evaporation Rate | NOT AVAILABLE | Autoignition Temperature | NOT AVAILABLE |

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended conditions of storage.

Conditions to Avoid Avoid heat, sparks, open flames and other ignition sources.

Material to Avoid Incompatible with oxidising agents, acids, heat and ignition sources. Do not use natural rubber flexible hoses. Also incompatible (potentially violently) with oxygen, halogens and metal halides.

Decomposition May evolve toxic gases if heated to decomposition.

Hazardous Reactions Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Asphyxiant gas. Symptoms of exposure are directly related to displacement of oxygen from air. As the amount of oxygen inhaled is reduced from 21-14% volume, the pulse rate will accelerate and the rate and volume of breathing will increase. The ability to maintain attention and think clearly is diminished, muscular co-ordination is somewhat disturbed. As oxygen decreases from 14-10% volume, judgement becomes faulty, severe injuries may cause no pain. Muscular effort may lead to rapid fatigue. Further reduction to 6% may cause nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to this low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in minutes.

Eye Non irritant.

Inhalation Non irritating - Asphyxiant. Effects are proportional to oxygen displacement.

Skin Non irritant.

Ingestion Ingestion is considered unlikely due to product form.

Toxicity Data No LD50 data available for this product.

12. ECOLOGICAL INFORMATION

Environment No known ecological damage is caused by this product.

13. DISPOSAL CONSIDERATIONS

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

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.



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

| | | | | | |
|----------------------|-----------------------------------|---------------------|-----|---------------------------|----------------|
| Shipping Name | COMPRESSED GAS, FLAMMABLE, N.O.S. | | | Subsidiary Risk(s) | None Allocated |
| UN No. | 1954 | DG Class | 2.1 | EPG | 2A1 |
| Pkg Group | None Allocated | Hazchem Code | 2SE | | |

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| IMDG | | | | |
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| Pkg Group | None Allocated | | | |

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

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

ADB - Air-Dry Basis.

BEI - Biological Exposure Indice(s)

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

CNS - Central Nervous System.

EINECS - European Inventory of Existing Commercial chemical Substances.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m³ - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

NTP - National Toxicology Program.

OSHA - Occupational Safety and Health Administration.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

TWA/ES - Time Weighted Average or Exposure Standard.

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.

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.

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| Report Status | This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ('MSDS'). |
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It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this MSDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this MSDS.

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MSDS Date: 04 August 2008

End of Report

CHEM ALERT