

Section 1 - Identification of The Material and Supplier

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Chemical nature: Argon/Carbon Dioxide/Oxygen mixture.
Trade Name: **Supashield 16/3**
Product Use: Shielding gas mixture for welding of steels.
Creation Date: **July, 2016**
This version issued: **September 2017** and is valid for 5 years from this date.
Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of SWA.
Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

SUSMP Classification: None allocated.

ADG Classification: Class 2.2: Non-flammable, non-toxic gases.

UN Number: 1956, COMPRESSED GAS, N.O.S.



GHS Signal word: WARNING

Gases under pressure - Compressed gas

HAZARD STATEMENT:

H280: Contains gas under pressure; may explode if heated.

PREVENTION

P271: Use only outdoors or in a well ventilated area.

P235+P410: Keep cool. Protect from sunlight.

RESPONSE

P341: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P370+P378: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires.

STORAGE

P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

P501: If they can not be used or recycled, dispose of contents to an approved waste disposal plant and containers to landfill (see Section 13 of this SDS).

Emergency Overview

Physical Description & Colour: Colourless gas.

Odour: No odour.

Major Health Hazards: no significant risk factors have been found for this product.

SAFETY DATA SHEET

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Oxygen	7782-44-7	3	not set	not set
Carbon dioxide	124-38-9	16	9000	54000
Argon	7440-37-1	81%	Asphyxiant	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been affected by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: Symptoms are likely due to lack of oxygen in bloodstream. If available, and victim is breathing, administer oxygen. If not breathing, apply mouth to mouth resuscitation. In any event, if victim is unconscious or shows any unusual symptoms, seek urgent medical attention.

Skin Contact: Not applicable.

Eye Contact: Not applicable.

Ingestion: Not applicable.

First Aid Facilities

Recommended: Oxygen resuscitation equipment. Self contained breathing apparatus, and trained personnel, for rescue operations.

Advice to Doctor: Treat for asphyxia. Contact Poisons Information Centre.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire.

No fire decomposition products are expected from this product at temperatures normally achieved in a fire.

Extinguishing Media: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires. Aim to dilute the material with large quantities of water. If practical, contain diluted material and prevent from entering drains and water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. Cylinders may explode if subject to extreme heat. Contents will not ignite/burn but will tend to extinguish fire by excluding oxygen. Cool cylinders with water, spray from a protected place. Do not approach cylinders that may be hot. Evacuate if cylinders cannot be cooled.

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major release, evacuate enclosed spaces as asphyxiation is a potential danger. Before re-entering such spaces, ventilate thoroughly to ensure oxygen levels have returned to suitable values. Be especially careful with low-lying spaces such as basements and cellars as this gas is heavier than air and tends to accumulate in such spaces.

SAFETY DATA SHEET

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace.

Storage: Store cylinders upright in an enclosure, preferably outside of buildings, protected from direct sunlight. Secure cylinders by chains or similar device to prevent falling over. Store cylinders below 45°C. Keep away from flammable or combustible materials. Keep away from vehicular traffic and other thoroughfares. Prevent leaking gases from collecting in enclosed or low-lying spaces – gas is heavier than air. Protect from physical damage. Protect regulators and other fittings from impact.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Carbon dioxide	9000	54000
Argon	Asphyxiant	not set

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Not applicable.

Skin Protection: Not applicable.

Protective Material Types: There is no specific recommendation for any particular protective material type.

Respirator: Personal protection to be selected from the following, as appropriate to mode of use, quantity handled and degree of hazard:

- Self Contained Breathing Apparatus
- Positive pressure or Air-hood

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Colourless gas.
Odour:	No odour.
Boiling Point:	About -186°C for Argon.
Freezing/Melting Point:	About -189°C for Argon.
Volatiles:	Completely volatile at room temperatures.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	Not applicable.
Water Solubility:	Argon is almost insoluble in water Carbon Dioxide may partially dissolve in water, forming carbonic acid.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	Not applicable - does not burn.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C.

Incompatibilities: No particular Incompatibilities.

Fire Decomposition: No significant quantities of decomposition products are expected at temperatures normally achieved in a fire.

SAFETY DATA SHEET

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

Ingredient

Risk Phrases

No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.
LC:Lo: Carbon Dioxide 90,000ppm/5 minutes, human

Potential Health Effects

Inhalation:

Short Term Exposure: An asphyxiant mixture if directly inhaled. When released into air the concentration of carbon dioxide is diluted. Carbon dioxide concentrations of 3 to 5 volume % in air cause increased respiration and headache. The mixture may replace oxygen in the inhaled air and cause asphyxiation. As the amount of oxygen inhaled is reduced from 21 to 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 to 10% judgement becomes faulty, severe injuries may cause pain. Muscular effort leads 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 a few minutes.

Long Term Exposure: Low concentrations of carbon dioxide are potentially toxic due to cellular membrane effects and biochemical alterations such as increased P (CO₂), increase concentration of bicarbonate ions and acidosis. Extended exposure to levels of carbon dioxide between 0.5 and 1 volume % is likely to cause calcium deposition in body tissues, including the kidney. No known effects attributable to oxygen and argon.

Skin Contact:

Short Term Exposure: Significant dermal exposure is considered to be unlikely. Available data indicates that this product is not harmful. It should present no hazards in normal use. In addition product is unlikely to cause any discomfort in normal use.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: Exposure via eyes is considered to be unlikely. This product is believed to be not irritating to eyes.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. This product is unlikely to cause any irritation problems in the short or long term.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12 - Ecological Information

This product is not biodegradable. However, it is biologically inert so will not be harmful to flora or fauna, soil or water and will not cause long term problems. Expected to not be an environmental hazard.

Section 13 - Disposal Considerations

Disposal: This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. If neither of these options is suitable in-house, consider controlled incineration, or contact a specialist waste disposal company.

SAFETY DATA SHEET

Section 14 - Transport Information

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

UN Number: 1956, COMPRESSED GAS, N.O.S.

Hazchem Code: 2TE

Special Provisions: 274

Limited quantities: ADG 7 specifies a Limited Quantity value of 120 ml for this class of product.

Dangerous Goods Class: Class 2.2: Non-flammable, non-toxic gases.

Packaging Group: No packing group specified.

Packaging Method: P200

Class 2.2 Non-Flammable, Non-Toxic gases shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 4.2 (Spontaneously Combustible Substances), and 5.2 (Organic Peroxides). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases), 2.3 (Toxic Gases), 3 (Flammable Liquids), 4.1 (Flammable Solids), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 6 (Toxic Substances), 7 (Radioactive Substances), 8 (Corrosive Substances) 9 (Miscellaneous Dangerous Goods), Foodstuffs and foodstuff empties.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16 - Other Information

Do not use leaking or damaged cylinders, regulators and fittings. Do not use oil or grease on cylinders or fittings. Always use mechanical handling and/or lifting devices. Open cylinders slowly to avoid pressure shocks on downstream equipment. Always use gas pressure regulators properly matched to downstream equipment.

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)

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