

Material Safety Data Sheet

Printing date 02/09/2006

Version 1

Reviewed on 02/09/2006

1 Identification of substance

Product details

Trade name: Shieldpro 101, 102, 103, 104, 105, 106, 107, and 108

Article number: 33

Creation date: 12/29/2005

Manufacturer/Supplier:

Machine and Welding Supply Company
1660 Highway 301 South
Dunn, North Carolina 28334

TELEPHONE NUMBER: (910) 892-4016

24-HOUR EMERGENCY TELEPHONE NUMBER (Infotrac): 1-800-535-5053

Please ensure that this MSDS is received by the appropriate person.

Information department: Customer Service

2 Composition/Data on components

Chemical characterization

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components: Void




Chemical components

7440-37-1	Argon	25-95%
124-38-9	Carbon Dioxide	2.0-50%

3 Hazards identification

Hazard description: Gas or liquid under pressure

HMIS-ratings (scale 0 - 4)

HEALTH 	Health = 0
FIRE 	Fire = 0
REACTIVITY 	Reactivity = 0

NEPA ratings (scale 0 - 4)

	Health = 0
	Fire = 0
	Reactivity = 0

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· **Information pertaining to particular dangers for man and environment:**

Odorless, colorless, nonflammable gas. Simple Asphyxiant – This product does not contain oxygen and may cause asphyxia if released in a confined area. Maintain oxygen levels above 19.5%.

Contents under pressure. Use and store below 125 °F.

Carbon dioxide acts as a weak narcotic at high concentrations (30,000 ppm). Inhalation of high concentrations of carbon dioxide can cause reduced hearing acuity, changes in respiration and increased blood pressure and pulse.

· **Classification system:**

The classification is in line with internationally approved calculation standards. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

· **Additional information:**

INHALATION EFFECTS: Depending on concentration and duration of exposure carbon dioxide may cause increased respiration, headache, mild narcotic effects, increased blood pressure and pulse, and asphyxiation. Symptoms of overexposure to carbon dioxide become more apparent when atmospheric oxygen is decreased to 15-17%. Chronic harmful effects are not known from repeated inhalation of concentrations below the PEL/TLV.

INHALATION EFFECTS:

Effects of oxygen deficiency resulting from simple asphyxiants may include: rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgement, depression of all sensations, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma, and death.

4 First aid measures

· **General information:** No special measures required.

· **After inhalation:**

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area. If they are not breathing, administer artificial resuscitation. Further treatment should be symptomatic and supportive.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** Not applicable

5 Fire fighting measures

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

CO₂ or water spray to keep the cylinder cool. Fight larger fires with water spray or alcohol resistant foam.

· **Protective equipment:** No special measures required.

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6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:** No special measures required.
- **Additional information:** No dangerous substances are released.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the system. Do not insert any object (i.e.:s crewdriver) into valve cap openings as this can damage the valve causing leakage.
No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time.
Do not expose cylinder to temperatures higher than 52°C (125 °F)
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
For additional storage recommendations, consult Compressed Gas Association's Pamphlets P-1 and Safety Bulletin SB-2.
Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car, trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.
Store cylinder in a well ventilated area.
Store in accordance with local fire code and/or building code or any pertaining regulations.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

· Components with limit values that require monitoring at the workplace:
7440-37-1 Argon (25-95%)
TLV Simple asphyxiant

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124-38-9 Carbon Dioxide (2.0-50%)

PEL	9000 mg/m ³ , 5000 ppm
REL	Short-term value: 54.000 mg/m ³ , 30.000 ppm Long-term value: 9000 mg/m ³ , 5000 ppm
TLV	Short-term value: 54.000 mg/m ³ , 30.000 ppm Long-term value: 9000 mg/m ³ , 5000 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:**
For the permanent contact in work areas with heightened risk of injury (mechanical hazard) no recommendation for a suitable glove material can be given.
- **Eye protection:** Safety glasses

9 Physical and chemical properties

· General Information

Form:	Gaseous.
Color:	Not applicable.
Odor:	Not applicable.

· Change in condition

Boiling point/Boiling range: -253°C

· **Flash point:** Not applicable.

· **Danger of explosion:** Product does not present an explosion hazard.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Dangerous reactions:** No dangerous reactions known.
- **Dangerous products of decomposition:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** No irritating effect.
 - **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

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Other information (about experimental toxicology):

INHALATION: Acidosis, adrenal cortical exhaustion, and other metabolic stresses have resulted from prolonged continuous exposure to 1-2% carbon dioxide (10,000 ppm – 20,000 ppm). The ACGIH TLV of 5,000 ppm is expected to provide a good margin of safety from asphyxiation and undue metabolic stress provided sufficient oxygen levels are maintained in the air. Increased physical activity, duration of exposure, and decreased oxygen content can affect systemic and respiratory effects resulting from exposure to carbon dioxide.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

General notes: Generally not hazardous for water

13 Disposal considerations

Product:

Recommendation:

Cylinder and unused product should be returned to vendor. Disposable cylinder must be disposed of in accordance with local regulations.

Uncleaned packagings:

Recommendation:

Cylinder and unused product should be returned to vendor. Disposable cylinder must be disposed of in accordance with local regulations.

14 Transport information

TDG and DOT regulations:



Hazard class:

2

Identification number:

UN1956

Packing group:

-

Proper shipping name (technical name): COMPRESSED GAS, N.O.S. (CARBON DIOXIDE, ARGON, COMPRESSED)

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· Label	2.2
· Maritime transport IMDG:	
	
· IMDG Class:	2.2
· UN Number:	1956
· Label	2.2
· Packaging group:	-
· Marine pollutant:	No
· Proper shipping name:	COMPRESSED GAS, N.O.S. (CARBON DIOXIDE, ARGON, COMPRESSED)

· Air transport ICAO-TI and IATA-DGR:	
	
· ICAO/IATA Class:	2
· UN/ID Number:	1956
· Label	2.2
· Packaging group:	-
· Proper shipping name:	COMPRESSED GAS, N.O.S. (CARBON DIOXIDE, ARGON, COMPRESSED)

15 Regulations

· Sara	
· Section 355 (extremely hazardous substances):	None of the ingredient is listed.
· Section 313 (Specific toxic chemical listings):	None of the ingredients is listed.
· TSCA (Toxic Substances Control Act):	All ingredients are listed.
· Proposition 65	
· Chemicals known to cause cancer:	None of the ingredients is listed.
· Chemicals known to cause reproductive toxicity for females:	None of the ingredients is listed.

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· Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.
· Chemicals known to cause developmental toxicity:
None of the ingredients is listed.
· Cancerogenity categories
· EPA (Environmental Protection Agency)
None of the ingredients is listed.
· NTP (National Toxicology Program)
None of the ingredients is listed.
· TLV (Threshold Limit Value established by ACGIH)
None of the ingredients is listed.
· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.
· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.
· Canadian substance listings:
· Canadian Domestic Substances List (DSL)
All ingredients are listed.
· Canadian Ingredient Disclosure list (limit 0.1%)
None of the ingredients is listed.
· Canadian Ingredient Disclosure list (limit 1%)
124-38-9 Carbon Dioxide

· Product related hazard informations:
 Observe the general safety regulations when handling chemicals.
 The product is not subject to identification regulations according to directives on hazardous materials.

· Safety phrases:
 Keep in a cool place.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing MSDS: BOC Gases Canada Technical Services Department