

Safety Data Sheet

ProInert™ IG -541

Revision Date: 8 January 2021

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Proinert™ IG-541
Use of Substance/Mixture: Fire extinguishing agent
Synonym: Pro Inert
Importer / Supplier: Fire Protection Technologies
Address: Unit 1/251 Ferntree Gully Road
Mt Waverley, Victoria, 3149 Australia.
Telephone Number: 1300 742 296
Emergency Telephone No.: 24 hours 1300 742 296
Emergency Services: Dial 000
SDS Preparer: Fire Protection Technologies

2. HAZARDS IDENTIFICATION

Classification:

Gases under pressure – compressed gas (H280)

Simple Asphyxiant

Label element:



Signal word:

WARNING

Hazard Statements:

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

Precautionary statements:

P410 +P403 -Protect from sunlight. Store in a well-ventilated place.

Other Hazards

The gas mixture is heavier than air and can cause suffocation by reducing oxygen available for breathing.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture:

49-55% Nitrogen

37-43% Argon

8% Carbon Dioxide

4. FIRST-AID MEASURES

General:

If unconscious, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.

Inhalation:

May cause asphyxiation at high concentrations. Symptoms may include loss of mobility or consciousness. Victim may not be aware of asphyxiation. Remove victim to an uncontaminated area, wearing self-contained breathing apparatus. Keep person warm and at rest. Seek medical assistance. Apply artificial respiration if breathing has stopped.

Skin Contact:

Compressed gas directed at the skin can cause frostbite, enter the body through small wounds or even penetrate the skin causing serious or fatal injuries. Seek medical attention immediately.

Eye Contact:

Immediately flush eyes with water for a minimum of 15 minutes. If redness, itching or a burning sensation develops, seek medical attention immediately.

Ingestion:

Ingestion is not considered a potential route of exposure.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

All known extinguishants can be used.

Specific methods:

If possible, stop flow of product. Move container away or cool with water from a protected position.

Specific hazards during firefighting:

Pressure build-up. Fire of intense heat may cause violent rupture of containers. No hazardous combustion products.

Advice for firefighters:

In confined spaces, use self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURE

Personal precautions:

Evacuate personnel to safe areas. Ventilate area, especially low or enclosed places where the mixture might collect. Refer to protective measure listed in Sections 7 and 8.

Environmental precautions:

Provided it is safe to do so, try to stop release. Prevent from entering sewers, basements and work pits or any place where accumulation can be dangerous.

Methods for cleaning up

Ventilate area. This substance will vaporize into the atmosphere.

Disposal

Refer to section 13 for disposal instructions.

7. HANDLING AND STORAGE

Handling:

Substance is heavier than air and may spread along floors.

Compressed gas cylinders are heavy and contain considerable stored energy. Use suitable equipment and handle



with appropriate caution. Contact supplier if in doubt.

Backflow of any contaminating substance into container must be prevented.

Storage:

Do not drag,, slide or roll containers. Never attempt to lift cylinder by its cap. Use a check valve in the discharge line to prevent hazardous backflow into the container.

Storage Temperature:

Keep containers in a dry, cool and well-ventilated place at a temperature not below -4°F (-20°C) and not exceeding 122°F (50°C).

Exposure of compressed gas containers beyond the allowable temperature will result in an increase in pressure, which may cause the container relief disc to burst or in extreme cases, the container to burst.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits:

No exposure limit specified, but atmosphere must have a minimum of 18% free oxygen.

Exposure controls:

Ensure adequate ventilation, especially in confined areas.

Eye protection - wear safety glasses complying with EN 166 or ANSI Z87.1

Hand protection - leather gloves that are resistant to low temperature complying with EN 374 or US OSHA 29 guidelines. The choice of the gloves also depends on other quality features other than material and is different from one manufacturer to another. Consideration must be given to specific local conditions such as the danger of cuts, abrasion and contact time with the substance.

Skin and body protection – wear suitable protective equipment.

Protective measures – self-contained breathing apparatus is required if a large release is experienced.

Respiratory protection – for rescue use self-contained breathing apparatus. The mixture is heavier than air and can cause suffocation by reducing the oxygen concentration available for breathing. Apparatus must comply with EN 137 or OSHA 29 CFR 1910.134.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Compressed, colorless gas
Odor	:	None
Molecular weight	:	34.0
Boiling point	:	-196°C
Freezing/Melting point	:	Not applicable (permanent gas)
Specific Gravity or Density	:	1.442 kg/m ³ @ 1 bar
Upper & Lower Flammable Limits In Air	:	None
Critical Temperature	:	Not applicable
Relative density gas	:	Heavier than air
Relative density liquid	:	Not applicable
Vapor pressure @ 20°C	:	Not applicable
Solubility in water	:	17.1 ml/l at 0°C
Auto ignition temperature	:	Not applicable
Flammability range	:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity and chemical stability:

Stable under normal conditions

Possibility of hazardous reactions:

No known hazardous reactions. Stable.

Conditions to avoid:

Refer to Section 7.

Hazardous decomposition products:

None

11. TOXICOLOGICAL INFORMATION

General:

Asphyxiant in high concentrations. In pure PROINERT™ IG-541 atmosphere, there exists a danger of suffocation through the displacement of oxygen.

Acute toxicity:

No acute toxicity.

12. ECOLOGICAL INFORMATION

No ecological damage is caused by this product. Nitrogen, Argon and Carbon Dioxide are natural components of air with nitrogen constituting approximately 78% , Argon approximately 0.9% and Carbon Dioxide approximately 0.04% of the Earth's atmosphere.

13. DISPOSAL CONSIDERATION

Discharge to atmosphere in a well-ventilated area. Consider noise and pressure hazards. Do not discharge into any place where its accumulation could be dangerous.

Return cylinder to supplier; otherwise, dispose of cylinder in accordance with local, regional, national and/or international regulations.

Contact your Fike Corporation (of Fike approved supplier) if guidance is required.

14. TRANSPORT INFORMATION

UN No. 1956

Class 2.2

Proper Shipping Name Compress gas, N.O.S. (52% Nitrogen, 40% Argon, 8% Carbon Dioxide)

ADR/RID Item No. 1 2.1a

Other transport information:

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 an emergency.

Before transporting product containers, ensure;

- Cylinder valve is closed and not leaking
- Valve outlet cap is correctly fitted.
- Adequate ventilation
- Compliance with applicable regulations.

15. REGULATORY INFORMATION

United States:

Nitrogen, argon and carbon dioxide are listed on the United States Toxic Substance Control Act (TSCA) Inventory

Canada:

Nitrogen, argon and carbon dioxide are listed on the Canadian Domestic Substance List (DSL).

Europe:

Nitrogen, argon and carbon dioxide are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS).

16. OTHER INFORMATION

The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new processes or experiment, a thorough material compatibility and safety study should be carried out.

For application in fire extinguishing systems, the PROINERT™ IG-541 quantity is mainly designed to create oxygen concentration between 10% and 15% and CO₂ concentrations between 2% and 5% and no hazards are known for the healthy human during short exposure in this atmosphere. However, the combustion products from the fire itself could be highly toxic; therefore, people must always leave the room when it is flooded with IG-541.

The information provided in this document is correct at the date of publication. The information is designed only as a guide for safe handling, use, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification.

Whilst great care has been taken in the preparation of this information, no liability for injury, damage or non-compliance with any legislation or directive arising from its use can be accepted.

This sheet does not constitute or substitute for the user's own assessment of workplace risk as required by other health and safety legislation.

END OF MSDS