PROINERT™ IG-541

SECTION 1: Product and Company Identification

Product name:
PROINERT™ IG-541

Use of the substance/mixture:
Fire extinguishing agent

Details of the supplier of the SDS:
Fike Corporation
704 SW 10th Street
P.O. Box 610
Blue Springs, MO 64013-0610
USA
Tel: +1 816 229 3405
www.fike.com

SECTION 2: Hazards Identification

Classification:
Gases under pressure; H280 – contains gas under pressure, may explode if heated.

Label element:

Signal word:
WARNING

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

Precautionary statements:
P410+403 – 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.

SECTION 3: Composition / Information on Ingredients

Mixture:
49-55% Nitrogen
37-43% Argon
8% Carbon Dioxide

SECTION 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.

Following 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.

Following skin/eye contact:
Compressed gas directed at the skin can enter the body through small wounds or even penetrate the skin, causing serious or fatal injuries. Seek medical assistance immediately.

Following ingestion:
Ingestion is not considered a potential route of exposure.

SECTION 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 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.

SECTION 6: Accidental Release Measures

Personal precautions:
Evacuate personnel to safe areas. Ventilate area, especially low or enclosed places where the mixture might collect. Refer to protective measures 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 containment and cleaning up:
Ventilate area.

SECTION 7: Handling and Storage

Precautions for safe handling:
Substance is heavier than air and may spread along floors.

Compressed gas cylinders are heavy and contain considerable stored energy. Use equipment specified as suitable for this product, its supply pressure and temperature. Handle with appropriate caution. Contact supplier if in doubt.

Backflow of any contaminating substance into container must be prevented.

Conditions for safe 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.

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).

SECTION 8: Exposure Controls / Personal Protection

Exposure limits:
No exposure limit specified; 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 OSHA 29 CFR 1910.138. 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 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.

SECTION 9: Physical and Chemical Properties

Physical state	:	Gas
Appearance	:	Colorless gas
Odor	:	None
Molecular weight	:	34.0
Melting point	:	-78.5°C
Boiling point	:	-196°C
Critical temperature	:	Not applicable
Relative density (gas)	:	Heavier than air
Relative density (liquid)	:	Not applicable
Vapor pressure at 20°C	:	Not applicable
Solubility in water	:	Negligible
Auto-ignition temperature	:	Not applicable
Flammability range	:	Not applicable

SECTION 10: Stability and Reactivity

Reactivity and chemical stability:
Stable under normal conditions.

Possibility of hazardous reactions:
No known hazardous reactions.

Conditions to avoid:
Refer to Section 7.

Hazardous decomposition products:
None.

SECTION 11: Toxicological Information

General:
No toxicological effects from this product.

Acute toxicity:
Not classified.

SECTION 12: Ecological Information

No ecological damage is caused by this product. Nitrogen and argon 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.

SECTION 13: Disposal Considerations

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 container in accordance with local, regional, national and/or international regulations.

Contact Fike Corporation (or Fike-approved supplier) if special guidance is required.

SECTION 14: Transport Information

UN number	:	1956
Class	:	2.2
Proper shipping name	:	Compressed gas, N.O.S.
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, ensure:

- Cylinder valve is closed and not leaking;
- Valve outlet recoil cap, actuation port blanking plug and shipping/safety cap is correctly fitted;
- Adequate ventilation;
- Compliance with applicable regulations.

SECTION 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).

SECTION 16: Other Information

Date of revision:

10/12/2015

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.

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