

**Praxair**  
**MATERIAL SAFETY DATA SHEET**

INERT-SIEX541  
Date of Issue: June, 2003

089A

## **1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

### **1.1. Identification of the preparation:**

Product Name: "INERT-SIEX 541"  
Chemical Name: N/A – This is a mixture/preparation  
CAS No.: N/A – This is a mixture/preparation  
Chemical Formula: N/A – This is a mixture/preparation  
EINECS Number: N/A – This is a mixture/preparation

### **1.2. Use of the preparation:**

The intended or recommended use of this preparation is to discharge a FIRE EXTINGUISHING AGENT.

### **1.3. Company identification:**

Manufacturer/Supplier: PRAXAIR  
Address: C/ Orense 11, 28020 Madrid, Spain  
Phone: 0034 91 453 30 00

### **1.4. Emergency telephone:**

Liquid transport: 0034 91 597 44 53  
Installation: 0034 91 775 23 14

## **2. COMPOSITION/INFORMATION ON INGREDIENTS**

Ingredient Name: Nitrogen  
Chemical Formula: N<sub>2</sub>  
CAS No.: 7727-37-9  
EINECS Number: 231-783-9  
Concentration, Wt %: 52%  
Hazard Identification: See heading 3.

Ingredient Name: Argon  
Chemical Formula: Ar  
CAS No.: 7440-37-1  
EINECS Number: 231-147-0  
Concentration, Wt %: 40%  
Hazard Identification: See heading 3.

Ingredient Name: Carbon Dioxide  
Chemical Formula: CO<sub>2</sub>  
CAS No.: 124-38-9  
EINECS Number: 204-696-9  
Concentration, Wt %: 8%  
Hazard Identification: See heading 3.

### 3. HAZARDS IDENTIFICATION

#### FOR HUMANS:

##### Product:

EU Classification: Non-flammable Gas  
R Phrases: None  
S Phrases: Keep container in a well ventilated place.

##### Limit Values for Exposure:

Nitrogen: None established  
Argon: None established  
CO<sub>2</sub>: OSHA PEL: 5,000 ppm  
ACGIH TLV-TWA: 5,000 ppm  
ACGIH TLV-STEL: 30,000 ppm  
IDLH (Immediately Dangerous for Live and Health): 50,000 ppm

Neither this preparation nor the substances contained in it have been listed as carcinogenic by National Toxicology Program, IARC, or OSHA.

##### Signs and Symptoms:

###### Acute Exposure:

Eye Contact: Non-irritating gas  
Skin Contact: Non-irritating gas  
Inhalation: Vapor is heavier than air and can cause suffocation by reducing oxygen available for breathing. Breathing very high concentrations of vapour can cause light-headedness, giddiness, shortness of breath, muscular tremors, and weakness, acrocyanosis. Also unconsciousness or even death.

Ingestion: Non-irritating gas. Not a likely route of entry.

Chronic Overexposure: No data available.

Medical conditions generally aggravated by exposure: None known.

FOR ENVIRONMENT: Carbon Dioxide is a global warming gas.

### 4. FIRST AID MEASURES

Eye contact: Immediately flush eyes with water for a minimum of 15 minutes. If redness, itching or a burning sensation develops, get medical attention. Treat for frostbite if necessary.

Skin contact: If redness, itching or a burning sensation develops, get medical attention. Treat for frostbite if necessary.

Inhalation: Remove victim to fresh air. If cough or other respiratory symptoms occur, consult medical personnel. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Consult medical personnel.

Ingestion: None needed.

## 5. FIRE-FIGHTING MEASURES

Non-flammable gas. Use agent appropriate to surrounding material. Though gas cylinder are equipped with pressure and temperature relief devices, the should be removed from high temperatures areas or fires, if safe to do so, to avoid risk of rupture. There are NO extinguishing media which must not be used for safety reasons. NO special protective equipment is needed for fire-fighters. Wear protective equipment appropriate for the fire conditions.

## 6. ACCIDENTAL RELEASE MEASURES

For personal protection: Prevent direct skin and eye contact, see Heading 8. Clean up: this substance will vaporize into the atmosphere, see Heading 13. Carbon Dioxide is a global warming gas.

## 7. HANDLING AND STORAGE

### 7.1. Handling:

Care should be taken in handling all chemical substances and preparations. Secure to prevent falling. Do not move without safety cap in place to prevent damage to valve. See incompatibility information in Heading 10.

### 7.2. Storage:

Store cylinders with restraints to prevent possibility of rupture. Store as a compressed gas in DOT-approved vessels. Keep safety cap in place while storage. See incompatibility information in Heading 10. Store in original container. Keep tightly closed until used. Carbon Dioxide is a global warming gas.

### 7.3. Specific use:

The intended or recommended use of this preparation is to discharge a FIRE EXTINGUISHING AGENT.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Exposure limit values:

Limit Values for Exposure:

Nitrogen:	None established
Argon:	None established
CO2: OSHA PEL:	5,000 ppm
ACGIH TLV-TWA:	5,000 ppm
ACGIH TLV-STEL:	30,000 ppm
IDLH (Immediately Dangerous for Live and Health):	50,000 ppm

### 8.2. Exposure controls

#### 8.2.1. Occupational exposure controls:

- 8.2.1.1. Respiratory protection: Exposure to high concentrations requires the use of self contained breathing apparatus. Other respirators will not protect in an oxygen deficient atmosphere.
- 8.2.1.2. Hand protection: Use leather gloves when handling cylinders.
- 8.2.1.3. Eye protection: Use safety glasses with side shields or safety goggles.
- 8.2.1.4. Skin protection: No special equipment is needed.

8.2.2. Environmental exposure controls: None needed. The components of this product are normal atmospheric gases.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General information:

Appearance: Colourless gas.  
Odor: None.

### 9.2. Important health, safety and environmental information:

pH:	7 (at 25 °C)
Boiling point/ boiling range:	-320 °C
Flash point:	None to boiling.
Flammability (solid/gas):	Not flammable.
Explosive properties:	Not explosive.
Oxidizing properties:	Not an oxidizer
Vapor pressure:	2205 psi @ 70 °F (21,1 °C)
Relative density (water=1):	0,084 lbs/ft <sup>3</sup>
- Water Solubility:	Carbon Dioxide: 88 ml per 100 ml @ 20 °C Nitrogen: Insoluble Argon: Insoluble
- Fat Solubility:	Not soluble
Viscosity:	Not determined
Vapor density (air=1):	1.0

Partition coefficient, n-octanol/water: Not determined  
Evaporation rate (butyl acetate=1): < 1, water only evaporates

### 9.3. Other information:

Auto-ignition temperature: Does not ignite.

## 10. STABILITY AND REACTIVITY

### 10.1. Conditions to avoid:

Extremely high temperatures, as in a fire may cause a cylinder to fail.  
There are NO known conditions such as temperature, pressure, light, shock... which may cause a dangerous reaction.

### 10.2. Materials to avoid:

Because of Carbon Dioxide: (Al + Na<sub>2</sub>O<sub>2</sub>), (Mg + Na<sub>2</sub>O), Cs<sub>2</sub>O, Li, K, Mg(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>, KC<sub>2</sub>H, Na, NaK and Ti.

### 10.3. Hazardous decomposition products:

Normally stable.  
Hazardous polymerization will NOT occur.  
They are no hazardous composition or decomposition products.

## 11. TOXICOLOGICAL INFORMATION

Carbon Dioxide:  
Inhalation LCLO (human) = 100,000 ppm/min.  
Can cause suffocation by reducing oxygen available for breathing. Breathing very high concentrations of vapour can cause dizziness, shortness of breath, unconsciousness or even death.

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity:

This preparation consists of normal atmospheric gases.

### 12.2. Mobility:

This preparation consists of normal atmospheric gases.

### 12.3. Persistence and degradability

This preparataion consists of normal atmospheric gases.

#### 12.4. Bioaccumulative potential

This preparation consists of normal atmospheric gases.

#### 12.5. Other adverse effects

Ozone depletion potential: None

Photochemical ozone creation potential: None

Global warming potential: Carbon Dioxide is a global warming gas

### 13. DISPOSAL CONSIDERATIONS

Carbon Dioxide is a global warming gas.

This preparation consists of normal atmospheric gases.

### 14. TRANSPORT INFORMATION

Hazard class or division: Compressed gas N.O.S. (mixture of compressed Nitrogen, Argon and Carbon Dioxide)  
Class 2.2, UN 1956

Label: Nonflammable gas.

Carbon Dioxide is a global warming gas.

### 15. REGULATORY INFORMATION

EU Classification: Non-flammable Gas

R Phrases: None

S Phrases: Keep container in a well ventilated place.

Limit Values for Exposure:

Nitrogen: None established

Argon: None established

CO<sub>2</sub>: OSHA PEL: 5,000 ppm

ACGIH TLV-TWA: 5,000 ppm

ACGIH TLV-STEL: 30,000 ppm

IDLH (Immediately Dangerous for Live and Health): 50,000 ppm

EINECS Status: All components are included in EINECS inventories or are exempt from listing.

EPA TSCA Status: All components are included in TSCA inventories or are exempt from listing.

Canadian DSL (Domestic Substances List): All components are included in the DSL or are exempt from listing.

Environmental Restrictions: None are known.

Restrictions on Marketing and use: None are known.

Refer to any other national measures that may be relevant.

## 16. OTHER INFORMATION

Hazardous material identification system ratings:

Health:	1
Flammability:	0
Reactivity:	0

(4: severe hazard, 3: serious hazard, 2: moderate hazard, 1: slight hazard, 0: minimal hazard)

(WHMIS) Canadian Workplace Hazardous Material Identification System Ratings: A Compressed Gas.

## 17. DISCLAIMER

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide.

We shall not be held liable for any damage resulting from handling or from contact with above product.