



## MATERIAL SAFETY DATA SHEET

### 1. Product and Company Identification

Product/Trade Name: INOmax®, INOflo® (nitric oxide for inhalation)

Chemical Name: nitric oxide; nitrogen monoxide; NO

Chemical Family: nitrogen oxides

#### **Product Use Description:**

**Company Manufacturer:** INO Therapeutics  
1060 Allendale Dr.  
Port Allen, LA 70767

**For more Information:** INO Therapeutics  
6 Route 173  
Clinton, NJ 08809

**Telephone:** (908) 238-6600

**Emergency Telephone:** 800-424-9300 (USA)  
703-527-3887 (International)

### 2. Composition/Information on Ingredients

Component (CAS Number)

Nitric Oxide (10102-43-9) ≤ 1.0%

Nitrogen (7727-37-9) ≥ 99%

### 3. Hazards Identification

#### Emergency Overview

High Pressure Gas.

Can cause rapid suffocation.

Self-contained breathing apparatus (SCBA) may be required.



### **Potential Health Effects**

Eyes:	May cause irritation and redness.
Skin:	N/A
Inhalation:	Simple asphyxiation from nitrogen is the greatest hazard. Exposure to high concentrations of NO may cause methemoglobinemia and delayed lung damage.
Ingestion:	N/A
Primary Routes of entry:	Inhalation
Target Organs:	Respiratory tract
Symptoms:	Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.
Environmental Effects:	None

## **4. First Aid Measures**

### **General Advice:**

Remove victim to uncontaminated area. Apply artificial respiration if breathing stopped.

### **Eye Contact:**

Flush with copious amounts of water for at least 15 minutes. Seek medical attention.

### **Skin:**

N/A

### **Inhalation:**

Remove person to fresh air. Administer artificial respiration or CPR as needed. Seek medical attention for severe dizziness or unconsciousness. Monitor for 72 hours to ensure no delayed lung damage (pulmonary edema) occurs. Administer emergency oxygen.



**Ingestion:**

N/A

**5. Fire Fighting Measures:**

**Suitable Extinguishing Media.**

Use what is appropriate for surrounding fire.

**Specific Hazards:**

Upon exposure to intense heat of flame, cylinder will vent rapidly and or rupture violently. Keep cylinders cool by spraying with large amounts of water until fire burns itself out.

**Special Protective Equipment for Firefighters:**

Use self-contained breathing apparatus.

**6. Accidental Release Measures:**

**Personal Precautions:**

Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Monitor oxygen level. Ventilate the area.

**Environmental Precautions:**

Do not discharge into any place where accumulation could be dangerous. Prevent further leakage if safe to do so.

**Methods for Cleaning Up:**

Ventilate the area.



## **7. Handling and Storage:**

Only experienced and properly instructed persons should handle compressed gases. Do not drag, slide, or roll cylinders. Use a suitable hand truck for movement.

Store cylinders in a well ventilated area. Store upright, and firmly secure to prevent from falling or being knocked over. Store away from heavily trafficked areas. Do not store in emergency exits or stairwells.

### **Technical Measures/Precautions:**

Containers should be segregated in storage area according to the various categories (e.g. flammable, toxic, etc.) and in accordance with local regulations. Keep away from combustible material.

## **8. Exposure Control/Personal Protection**

### **Engineering Measures:**

Provide natural or mechanical ventilation to prevent oxygen deficient atmosphere. Oxygen deficient atmosphere being anything below 19.5% oxygen.

### **Personal Protection:**

Respiratory protection is not needed for routine handling in well-ventilated areas. For a large release in poorly ventilated area, wear self-contained breathing apparatus.

### **Ventilation:**

General ventilation is adequate

### **Skin:**

Impervious glove recommended

### **Eyes:**

Eye protection recommended. Eye wash stations should be provided.



**Other:**

Safety shoes for cylinder handling.

**9. Physical and Chemical Properties:**

Form:	Compressed Gas
Color:	Colorless Gas
Odor:	Odorless Gas
Molecular Weight:	28.015 grams per mole
Relative Vapor Density:	0.97 (air = 1)
Density:	1.25 kilograms per cubic meter
Specific Volume:	0.8 cubic meter per gram
Boiling Point/Range:	N/A
Melting Point/Range:	N/A
Water Solubility:	N/A

**10. Stability and Reactivity:**

**Stability:**

Stable under normal conditions.

**Hazard Decomposition Products:**

Oxidizes in air to form nitrogen dioxide.

**11. Toxicological Information:**

Ingestions:	N/A
Inhalation:	N/A
Skin:	N/A

**12. Ecological Information:**

**Ecotoxicity Effects:**

Aquatic Toxicity:	N/A
Toxicity to Other Organisms:	N/A



**Persistence and Degradability:**

Mobility: N/A

Bioaccumulation: N/A

**13. Disposal Considerations:**

Do not attempt to dispose of residual/unused quantities. Return shipping container to INO Therapeutics for proper disposal.

**14. Transport Information:**

**CFR**

Proper Shipping Name: Compressed gas, N.O.S. (Nitric Oxide, Nitrogen)

Class: 2.2

UN/ID No. 1956

**IATA**

Proper Shipping Name: Compressed gas, N.O.S. (Nitric Oxide, Nitrogen)

Class: 2.2

UN/ID No. 1956

**15. Regulatory Information:**

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class Compressed Gas.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification: Sudden release of Pressure Hazard.

US. California Safe Drinking Water & Toxic Act (Proposition 65) This Product does not contain chemicals known to the state to cause cancer, birth defects, or any other harm.



**16. Other Information:**

**NFPA Rating**

Health	1
Fire	0
Instability	0
Special	SA

**HMIS Rating**

Health	0
Flammability	0
Physical Hazard	0

This product has been classified according to the hazard criteria of the CPR and MSDS contains all information required by the CPR.

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The information contained in this Material Safety Data Sheet is based on the best data currently available to us, and is believed to be accurate. However, no warranty, expressed or implied, is made with respect to the accuracy or completeness of this information, or the results obtained from its use. It is the responsibility of the product users to determine the proper conditions for handling use, storage, and disposal of material in their own operations.

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