



## Safety Data Sheet

**Material Name: 20% to 23.5% Oxygen in Nitrogen**

**SDS ID: 00244636**

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### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

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**Material Name**

20% to 23.5% Oxygen in Nitrogen

**Product Use**

Industrial and Specialty Gas Applications.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

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### Section 2 - HAZARDS IDENTIFICATION

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**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Gases Under Pressure - Compressed gas

Specific Target Organ Toxicity - Single Exposure - Category 3

Simple Asphyxiant

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Warning

**Hazard Statement(s)**

Contains gas under pressure; may explode if heated.

May cause respiratory irritation.

May displace oxygen and cause rapid suffocation.

**Precautionary Statement(s)**



## Safety Data Sheet

**Material Name: 20% to 23.5% Oxygen in Nitrogen****SDS ID: 00244636****Prevention**

Use only outdoors or in a well-ventilated area.  
Avoid breathing dust/fume/gas/mist/vapours/spray.

**Response**

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
Call a POISON CENTER or doctor if you feel unwell.

**Storage**

Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Protect from sunlight.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other Hazards**

Rapid release of compressed gas may cause frostbite.

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### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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CAS	Component Name	Percent
7782-44-7	Oxygen	20 - 23.5
7727-37-9	Nitrogen	76.5 - 80

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### Section 4 - FIRST AID MEASURES

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**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if irritation develops or persists.

**Skin**

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.



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**Material Name: 20% to 23.5% Oxygen in Nitrogen****SDS ID: 00244636****Indication of any immediate medical attention and special treatment needed**

For inhalation, consider oxygen.

**Most Important Symptoms/Effects****Acute**

frostbite, suffocation, respiratory tract irritation.

**Delayed**

No information on significant adverse effects.

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### Section 5 - FIRE FIGHTING MEASURES

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**Extinguishing Media****Suitable Extinguishing Media**

regular dry chemical, carbon dioxide. Large fires: Use water spray, fog or regular foam.

**Unsuitable Extinguishing Media**

Do not direct water at source of leak or safety devices; icing may occur.

**Special Hazards Arising from the Chemical**

Negligible fire hazard. Containers may rupture or explode if exposed to heat. Oxidizer. May ignite or explode on contact with combustible materials.

**Hazardous Combustion Products**

oxides of nitrogen.

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. Damaged cylinders should be handled only by specialists. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

**Special Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

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### Section 6 - ACCIDENTAL RELEASE MEASURES

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**Personal Precautions, Protective Equipment and Emergency Procedures**



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Wear personal protective clothing and equipment, see Section 8.

### Methods and Materials for Containment and Cleaning Up

Stop leak if possible without personal risk. Keep away from combustible material. Do not touch or walk through spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements, or confined areas. Keep unnecessary people away, isolate hazard area and deny entry. Allow substance to evaporate. Isolate area until gas has dispersed. Stay upwind and keep out of low areas. Ventilate closed spaces before entering.

### Environmental Precautions

Avoid release to the environment.

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## Section 7 - HANDLING AND STORAGE

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### Precautions for Safe Handling

Avoid breathing gas. Wash thoroughly after handling.

### Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Protect from sunlight.

Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Protect from physical damage. Store in a cool, dry place. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

### Incompatible Materials

metals, oxidizing materials, combustible materials, halo carbons, bases, reducing agents, amines, metal salts.

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Component Exposure Limits

Nitrogen	7727-37-9
ACGIH:	(See Appendix F: Minimal Oxygen Content)

### EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures

There are no biological limit values for any of this product's components.

### ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.



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**Material Name: 20% to 23.5% Oxygen in Nitrogen****SDS ID: 00244636****Engineering Controls**

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment****Eye/face protection**

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**Skin Protection**

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

**Respiratory Protection**

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. For Unknown Concentrations or Immediately Dangerous to Life or Health - Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	colorless gas	Physical State	gas
Odor	Not available	Color	colorless
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	Not available
Freezing point	Not available	Evaporation Rate	Not available
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	Not available	Flash Point	Not available
Lower Explosive Limit	Not available	Decomposition	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	Not available
Water Solubility	Not available	Partition coefficient: n-octanol/water	Not available



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Viscosity	Not available	Solubility (Other)	Not available
Density	Not available	Molecular Weight	Not available

#### Section 10 - STABILITY AND REACTIVITY

**Reactivity**

No reactivity hazard is expected.

**Chemical Stability**

Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

Will not polymerize.

**Conditions to Avoid**

Avoid contact with combustible materials. Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

metals, oxidizing materials, combustible materials, halo carbons, bases, reducing agents, amines, metal salts.

**Hazardous decomposition products**

oxides of nitrogen.

#### Section 11 - TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

**Inhalation**

irritation, changes in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, drowsiness, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions, lung damage, chest pain, vomiting, loss of coordination

**Skin Contact**

frostbite

**Eye Contact**

frostbite, irritation, blurred vision

**Ingestion**

Ingestion of gas unlikely.

**Acute and Chronic Toxicity**

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and no selected endpoints have been identified



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**Immediate Effects**

frostbite, suffocation, respiratory tract irritation.

**Delayed Effects**

No information on significant adverse effects.

**Irritation/Corrosivity Data**

respiratory tract irritation.

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

respiratory system.

**Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

**Aspiration hazard**

No data available.

**Medical Conditions Aggravated by Exposure**

No data available.

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### Section 12 - ECOLOGICAL INFORMATION

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**Component Analysis - Aquatic Toxicity**

No LOEL ecotoxicity data are available for this product's components

**Persistence and Degradability**

No data available for the mixture.

**Bioaccumulative Potential**

No data available for the mixture.

**Mobility**



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No data available for the mixture.

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### Section 13 - DISPOSAL CONSIDERATIONS

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#### Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

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### Section 14 - TRANSPORT INFORMATION

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#### US DOT Information:

Shipping Name: COMPRESSED GAS, N.O.S., (Contains: Oxygen, Nitrogen)

Hazard Class: 2.2

UN/NA #: UN1956

Required Label(s): 2.2

#### IMDG Information:

Shipping Name: COMPRESSED GAS, N.O.S., (Contains: Oxygen, Nitrogen)

Hazard Class: 2.2

UN#: UN1956

Required Label(s): 2.2

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### Section 15 - REGULATORY INFORMATION

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#### U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

#### SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes Chronic Health: No Fire: No Pressure: Yes Reactivity: No

#### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Oxygen	7782-44-7	No	Yes	No	Yes	Yes
Nitrogen	7727-37-9	No	Yes	Yes	Yes	Yes

#### Not listed under California Proposition 65

#### Canadian WHMIS Ingredient Disclosure List (IDL)

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.



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**Material Name: 20% to 23.5% Oxygen in Nitrogen****SDS ID: 00244636****Component Analysis - Inventory**

Oxygen (7782-44-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes

Nitrogen (7727-37-9)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes

### Section 16 - OTHER INFORMATION

**NFPA Ratings**

Health: 2 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

New SDS: 8/12/2015

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of



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Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

### **Other Information**

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