



MATHESON

ask...The Gas Professionals™

Safety Data Sheet

Material Name: Oxygen/Nitrogen Gas Mixture

SDS ID: 00244396

*****Section 1 - IDENTIFICATION*****

Manufacturer Information

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)

Product Identifier: Oxygen/Nitrogen Gas Mixture

Product Use

industrial

Restrictions on Use

None known.

*****Section 2 - HAZARDS IDENTIFICATION*****

GHS Classification

Gas under pressure, Compressed gas

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

WARNING

Hazard Statement(s)

Contains gas under pressure; may explode if heated

Precautionary Statement(s)

Storage

Store in a well-ventilated place. Protect from sunlight.

Other Hazards which do not Result in Classification

May cause asphyxia. May cause frostbite upon sudden release of compressed gas.

*****Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS*****

CAS#	Component	Percent
7727-37-9	Nitrogen	82-99
7782-44-7	Oxygen	1-18

*****Section 4 - FIRST AID MEASURES*****

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

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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
Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion
If a large amount is swallowed, get medical attention.

Note to Physicians
For inhalation, consider oxygen.

Symptoms: Immediate
frostbite, suffocation

Symptoms: Delayed
No information on significant adverse effects.

Section 5 - FIRE FIGHTING MEASURES

See Section 9 for Flammability Properties

Specific Hazards Arising from the Chemical
Negligible fire hazard. Containers may rupture or explode if exposed to heat.

Extinguishing Media
carbon dioxide, regular dry chemical

Unsuitable Extinguishing Media
None known.

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

Fire Fighting Measures
Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. 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. Cool containers with water. Apply water from a protected location or from a safe distance.

Hazardous Combustion Products
Combustion: oxides of nitrogen

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions
Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions
Avoid release to the environment.

Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

Cleanup Methods
Stop leak if possible without personal risk. Avoid contact with combustible materials.

Section 7 - HANDLING AND STORAGE

Handling Procedures
Wash thoroughly after handling.

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Storage Procedures

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Protect from sunlight. Cylinders should be stored upright (with valve protection cap in place). Store in a dry place. Store below 52 C. Keep separated from incompatible substances.

Incompatibilities amines, bases, combustible materials, halocarbons, metal salts, metals, oxidizing material, reducing agents

* * *Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

Component Exposure Limits

Nitrogen (7727-37-9)

ACGIH: Simple asphyxiant (See Appendix F: Minimal Oxygen Content)

Component Biological Limit Values

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

Engineering Controls

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

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

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

Protective Clothing

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

Glove Recommendations

For the gas: Protective gloves are not required, but recommended. For the liquid: Wear insulated gloves.

Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

At any detectable concentration -

Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive pressure mode.

Any supplied-air respirator with a full face piece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained apparatus operated pressure-demand or other positive-pressure mode.

Escape-

Any air purifying full-face piece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health-

Any supplied-air respirator with a full face piece 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 face piece and is operated in a pressure-demand or other positive-pressure mode.

* * *Section 9 - PHYSICAL AND CHEMICAL PROPERTIES* * *

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Physical State: gas	Appearance: Colorless gas
Color: colorless	Physical Form: compressed gas
Odor: odorless	Odor Threshold: Not available
pH: Not available	Melting/Freezing Point: Not available
Boiling Point: Not available	Flash Point: non-flammable
Decomposition: Not available	Evaporation Rate: Not available
LEL: Not available	UEL: Not available
Vapor Pressure: Not available	Vapor Density (air = 1): Not available
Specific Gravity (water=1): Not available	Water Solubility: Not available
Log KOW: Not available	Coeff. Water/Oil Dist: Not available
Auto Ignition: Not available	Viscosity: Not available

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

Possibility of Hazardous Reactions

Will not polymerize.

Incompatible Materials

amines, bases, combustible materials, halocarbons, metal salts, metals, oxidizing material, reducing agents

Hazardous Decomposition

Combustion: oxides of nitrogen

Section 11 - TOXICOLOGICAL INFORMATION

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.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Immediate Effects

frostbite, suffocation

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

See component data.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Respiratory Sensitizer

No data available.

Dermal Sensitizer

No data available.

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Carcinogenicity

Component Carcinogenicity

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

Mutagenic Data

No data available for the mixture.

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Reproductive Effects Data

No data available for the mixture.

RTECS Reproductive Effects

The components of this material have been reviewed, and RTECS publishes the following endpoints:

Oxygen (7782-44-7)

10 pph Inhalation Mouse TCLo (24 hour, pregnant 8 day(s)); 10 pph Inhalation Rat TCLo (9 hour, pregnant 22 day(s)); 10 pph Inhalation Rat TCLo (12 hour, pregnant 22 day(s)); 12 pph Inhalation Woman TCLo (10 minute(s), pregnant 26-39 week)

Tumorigenic Data

No data available for the mixture.

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration Hazard

Not applicable.

Medical Conditions Aggravated by Exposure

None known.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

This gas will be dissipated rapidly in well ventilated areas.

Bioaccumulative Potential

No data available for the mixture.

Mobility in Environmental Media

No data available for the mixture.

Other Ecological Information

Not considered to be harmful to aquatic life.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information

Shipping Name: Compressed gas, n.o.s. (Contains: Nitrogen, Oxygen)

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UN/NA #: UN1956 Hazard Class: 2.2

Required Label(s): 2.2

IMDG Information

Shipping Name: Compressed gas, n.o.s. (Contains: Nitrogen, Oxygen)

UN #: UN1956 Hazard Class: 2.2

Required Label(s): 2.2

Section 15 - REGULATORY INFORMATION

Component Analysis

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 311/312 Hazardous Categories

Acute Health: Yes Chronic Health: No Fire: No Pressure: Yes Reactive: 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
Nitrogen	7727-37-9	No	Yes	Yes	Yes	Yes
Oxygen	7782-44-7	No	Yes	No	Yes	Yes

Not regulated under California Proposition 65

Component Analysis - Inventory

All the components of this substance are listed on or are exempt from the TSCA inventory listing.

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Nitrogen	7727-37-9	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes
Oxygen	7782-44-7	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

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

New SDS: 5/9/2011

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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; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; 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; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; 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; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

Matheson Tri-Gas, Inc. makes no express or implied warranties, guarantees or representations regarding the product or the information herein, including but not limited to any implied warranty or merchantability or fitness for use. Matheson Tri-Gas, Inc. shall not be liable for any personal injury, property or other damages of any nature, whether compensatory, consequential, exemplary, or otherwise, resulting from any publication, use or reliance upon the information herein.

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