

Safety Data Sheet 50022

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: Identification

Identification

Product form : Mixtures

: Oxygen (20.3 - 21.3%,) Nitrogen Dioxide (0.0001 - 0.005%,) in Nitrogen Balance Product name

Recommended use and restrictions on use

Use of the substance/mixture : Test gas/Calibration gas.

Supplier

Calgaz, division of Airgas USA LLC 821 Chesapeake Drive Cambridge, 21613 - USA

T 1-410-228-6400 - F 1-410-228-4251 info@Calgaz.com - www.Calgaz.com

Emergency telephone number

Emergency number CHEMTREC: 1-800-424-9300

Internationally: 1-703-527-3887

SECTION 2: Hazard(s) identification

Classification of the substance or mixture

GHS-US classification

Gases under pressure H280

Compressed gas

Full text of H statements : see section 16

Contains gas under pressure; may explode if heated

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) H280 - Contains gas under pressure; may explode if heated

CGA-HG24 - Supports combustion

Precautionary statements (GHS-US) P202 - Do not handle until all safety precautions have been read and understood.

P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear eye protection, face protection, protective gloves, protective clothing.

P403 - Store in a well-ventilated place. P501 - Dispose of contents/container in accordance with local/regional/national/international

regulations

CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C/125 °F

CGA-PG05 - Use a back flow preventive device in the piping CGA-PG06 - Close valve after each use and when empty CGA-PG10 - Use only with equipment rated for cylinder pressure CGA-PG14 - Approach suspected leak area with caution

CGA-PG21 - Open valve slowly

Other hazards which do not result in classification

No additional information available

Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Nitrogen	(CAS-No.) 7727-37-9	78.695 - 79.6999	Press. Gas (Comp.), H280
Oxygen	(CAS-No.) 7782-44-7	20.3 - 21.3	Ox. Gas 1, H270 Press. Gas (Comp.), H280
Nitrogen dioxide	(CAS-No.) 10102-44-0	0.0001 - 0.005	Ox. Gas 1, H270 Press. Gas (Liq.), H280 Acute Tox. 1 (Inhalation:gas), H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 2, H371

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Adverse effects not expected from this product.

First-aid measures after skin contact : Adverse effects not expected from this product.

First-aid measures after eye contact : Adverse effects not expected from this product.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Adverse effects not expected from this product. Symptoms/effects after skin contact : Adverse effects not expected from this product. Symptoms/effects after eye contact : Adverse effects not expected from this product.

Symptoms/effects after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/effects upon intravenous : Not known.

administration

Chronic symptoms : Adverse effects not expected from this product.

Most important symptoms and effects, both acute and delayed : No effect on living tissue. Refer to section 11.

4.3. Immediate medical attention and special treatment, if necessary

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Specific hazards arising from the chemical

Fire hazard : The product is not flammable.

Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire

and increasing risk of burns and injuries.

Reactivity : None known. Hazardous combustion products : None

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray

or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Protection during firefighting : Standard protective clothing and equipment (e.g, Self Contained Breathing Apparatus) for fire

fighters. Do not enter fire area without proper protective equipment, including respiratory

protection.

Specific methods : Exposure to fire may cause containers to rupture/explode. Continue water spray from protected

position until container stays cool. Move containers away from the fire area if this can be done

without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation.

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6.1.1. For non-emergency personnel

Protective equipment

: Wear protective equipment consistent with the site emergency plan.

Emergency procedures

: Evacuate personnel to a safe area. Close doors and windows of adjacent premises. Keep

containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

6.1.2. For emergency responders

Protective equipment

: Standard protective clothing and equipment (e.g, Self Contained Breathing Apparatus) for fire

fighters. Equip cleanup crew with proper protection.

: Evacuate and limit access. Ventilate area. **Emergency procedures**

Environmental precautions

Try to stop release if without risk.

Methods and material for containment and cleaning up

For containment

: Try to stop release if without risk.

Methods for cleaning up

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

regulations.

Methods and material for containment and

cleaning up

: None

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7: Handling and storage

Precautions for safe handling

Additional hazards when processed

: Pressurized container: Do not pierce or burn, even after use. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty.

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Use only outdoors or

Safe handling of the gas receptacle

Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Safe use of the product

Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularily) checked for leaks before use. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in

: Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures

: Comply with applicable regulations.

Storage conditions

Hygiene measures

Do not expose to temperatures exceeding 52 °C/ 125 °F. Keep container closed when not in use. Protect cylinders from physical damage; do not drag, roll, slide or drop. Store in well

ventilated area.

Incompatible products

None known.

Incompatible materials

Flammable materials.

Conditions for safe storage, including any

incompatibilities

Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store

containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

: Store away from heat. Store in a well-ventilated place. Storage area

SECTION 8: Exposure controls/personal protection

Control parameters

Nitrogen (7727-37-9)

Not applicable

Oxygen (7782-44-7)

Not applicable

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Nitrogen dioxide (10102-44-0)		
ACGIH	ACGIH TWA (ppm)	0.2 ppm
OSHA	OSHA PEL (Ceiling) (mg/m³)	9 mg/m³
OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm
IDLH	US IDLH (ppm)	20 ppm
NIOSH	NIOSH REL (STEL) (mg/m³)	1.8 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	1 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure exposure is below occupational exposure limits (where available). Provide adequate

general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Consider the use of a work permit system e.g. for maintenance activities.

Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for

specific methods for waste gas treatment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear working gloves when handling gas containers. 29 CFR 1910.138: Hand protection

Eye protection:

Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection

Skin and body protection:

Wear suitable protective clothing, e.g. lab coats, coveralls or flame resistant clothing.

Respiratory protection:

None necessary during normal and routine operations. See Sections 5 & 6.

Thermal hazard protection:

None necessary during normal and routine operations.

Other information:

Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas : Reddish brown. Appearance Color Reddish brown Odor : irritating/pungent odor Odor threshold : No data available pН : No data available Melting point : No data available Freezing point No data available Boiling point No data available : No data available Flash point Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : No data available Vapor pressure : No data available Relative vapor density at 20 °C : No data available : No data available Relative density

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Relative gas density : Similar to air

Solubility : Water: No data available

Log Pow : Not applicable for gas-mixtures.

Not applicable for gas-mixtures.

Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available

Explosive properties : Not applicable (non-flammable gas).

Oxidizing properties : Supports combustion.

9.2. Other information

Gas group : Compressed gas

SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Can form explosive mixtures with flammable materials.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Flammable materials.

Germ cell mutagenicity

Carcinogenicity

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Not classifiedNot classified

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

820000 ppm/4h
820000.000 ppmV/4h
800000 ppm/4h
800000.000 ppmV/4h
57.5 ppm/4h
57.500 ppmV/4h
Not classified
Not classified
Not classified

Reproductive toxicity : Not classified Specific target organ toxicity – single exposure : Not classified

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Specific target organ toxicity – repeated

exposure

: Not classified

Aspiration hazard : Not classified

Symptoms/effects after inhalation : Adverse effects not expected from this product.

Symptoms/effects after skin contact : Adverse effects not expected from this product.

Symptoms/effects after eye contact : Adverse effects not expected from this product.

Symptoms/effects after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/effects upon intravenous : Not known.

administration

: Adverse effects not expected from this product.

SECTION 12: Ecological information

12.1. Toxicity

Chronic symptoms

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Oxygen (20.3 - 21.3%,) Nitrogen Dioxide (0.0001 - 0.005%,) in Nitrogen Balance		
Persistence and degradability	No data available.	
Nitrogen (7727-37-9)		
Persistence and degradability	No ecological damage caused by this product.	
Oxygen (7782-44-7)		
Persistence and degradability	No ecological damage caused by this product.	
Nitrogen dioxide (10102-44-0)		
Persistence and degradability	Not applicable for inorganic gases.	

12.3. Bioaccumulative potential

Oxygen (20.3 - 21.3%,) Nitrogen Dioxide (0.0001 - 0.005%,) in Nitrogen Balance		
Log Pow	Not applicable for gas-mixtures.	
Log Kow	Not applicable for gas-mixtures.	
Bioaccumulative potential	No data available.	
Nitrogen (7727-37-9)		
Log Pow	Not applicable for inorganic gases.	
Bioaccumulative potential	No ecological damage caused by this product.	
Oxygen (7782-44-7)		
Log Pow	Not applicable for inorganic gases.	
Bioaccumulative potential	No ecological damage caused by this product.	
Nitrogen dioxide (10102-44-0)		
Log Pow	Not applicable for inorganic gases.	
Bioaccumulative potential	No data available.	

12.4. Mobility in soil

Oxygen (20.3 - 21.3%,) Nitrogen Dioxide (0.0001 - 0.005%,) in Nitrogen Balance		
Mobility in soil	No data available	
Nitrogen (7727-37-9)		
Ecology - soil	No ecological damage caused by this product.	
Oxygen (7782-44-7)		
Ecology - soil	No ecological damage caused by this product.	
Nitrogen dioxide (10102-44-0)		
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.	

12.5. Other adverse effects

Effect on ozone layer : No known effects from this product.

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Effect on global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Contact supplier if guidance is required. Do not discharge into any place where its

accumulation could be dangerous. Ensure that the emission levels from local regulations or

operating permits are not exceeded.

Product/Packaging disposal recommendations : Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at www.cganet.com for

more guidance on suitable disposal methods.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1956 Compressed gas, n.o.s. (Nitrogen, Oxygen), 2.2

UN-No.(DOT) : UN1956

Proper Shipping Name (DOT) : Compressed gas, n.o.s.

Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

Hazard labels (DOT) : 2.2 - Non-flammable gas



DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305
DOT Packaging Bulk (49 CFR 173.xxx) : 314;315

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307 DOT Quantity Limitations Passenger aircraft/rail : 75 kg

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 150 kg

CFR 175.75)

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel.

Other information : No supplementary information available.

Special transport precautions : 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 the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided)

is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transportation of Dangerous Goods

Transport document description : UN1956 Compressed gas, n.o.s., 2.2

UN-No. (TDG) : UN1956

Proper Shipping Name : Compressed gas, n.o.s.

TDG Primary Hazard Classes : 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.

Transport by sea

Transport document description (IMDG) : UN 1956 Compressed gas, n.o.s., 2

UN-No. (IMDG) : 1956

Proper Shipping Name (IMDG) : Compressed gas, n.o.s.

Class (IMDG) : 2 - Gases

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Limited quantities (IMDG) : 120 ml

Air transport

Transport document description (IATA) : UN 1956 Compressed gas, n.o.s., 2.2

UN-No. (IATA) : 1956

Proper Shipping Name (IATA) : Compressed gas, n.o.s.

Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

N": (7707.07.0)	
Nitrogen (7727-37-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Oxygen (7782-44-7)	
Listed on the United States TSCA (Toxic Substantial	nces Control Act) inventory
Nitrogen dioxide (10102-44-0)	
Listed on the United States TSCA (Toxic Substantisted on the United States SARA Section 302	nces Control Act) inventory
CERCLA RQ	10 lb releases to the air in amounts <1000 pounds per 24 hours which are the result of combustion and combustion-related activities are exempt from the notification requirements per 40 CFR 302.6
Section 302 EPCRA Reportable Quantity (RQ)	10 lb releases to the air in amounts <1000 pounds per 24 hours which are the result of combustion and combustion-related activities are exempt from the notification requirements per 40 CFR 355.31
SARA Section 302 Threshold Planning	100 lb

15.2. International regulations

CANADA

Nitrogen (7727-37-9)

Quantity (TPQ)

Listed on the Canadian DSL (Domestic Substances List)

Oxygen (7782-44-7)

Listed on the Canadian DSL (Domestic Substances List)

Nitrogen dioxide (10102-44-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Nitrogen (7727-37-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Oxygen (7782-44-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nitrogen dioxide (10102-44-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Nitrogen (7727-37-9)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

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Oxygen (7782-44-7)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

Nitrogen dioxide (10102-44-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Nitrogen (7727-37-9)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

Oxygen (7782-44-7)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

Nitrogen dioxide (10102-44-0)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List
- U.S. Pennsylvania RTK (Right to Know) List

SECTION 16: Other information

Revision date : 12/12/2017

Other information : This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29

CFR, 1910.1200. Other government regulations must be reviewed for applicability to this

product.

Full text of H-phrases:

text of 11 prilades.	
H270	May cause or intensify fire; oxidizer
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H371	May cause damage to organs

SDS US (GHS HazCom 2012)

This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this gas mixture. To the best of Calgaz's knowledge, the information contained herein is reliable and accurate as of this date; however, accruacy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

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