

Carbon Dioxide (0.005%-2.99%), Oxygen (19.50%-23.50%) in Nitrogen Safety Data Sheet 50242/4594917

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

Date of issue: 02/02/2015 Revision date: 06/21/2017 Supersedes: 02/02/2015 Version: 1.2

SECTION 1: Identification			
1.1. Identification			
Product form	: Mixtures		
Product name	: Carbon Dioxide (0.005%	-2.99%), Oxygen (19.50%-23.50%) in Nitrogen	
Draeger P/N	: 4594556, 4595193, 459	5194, 4597080	
1.2. Recommended use and restriction	s on use		
Use of the substance/mixture	: Test gas/Calibration gas		
Recommended use	: Test gas/Calibration gas		
	. Tool gao, calloration gao	- -	
1.3. Supplier			
Canada Supplier: Draeger Safety Canada, Ltd			
2425 Skymark Ave, Unit 1			
Mississauga, ON L4W 4Y6 Canada			
Canada			
1 077 070 4074			
1-877-372-4371			
www.draeger.com			
MANUFACTURER: CALGAZ			
821 Chesapeake Drive Cambridge, MD 21613			
-			
1.4. Emergency telephone number			
Emergency number	: CHEMTREC: 1-800-424		
	Internationally: 1-703-52	1-3001	
SECTION 2: Hazard(s) identification	า		
2.1. Classification of the substance or			
GHS-US classification			
Gases under pressure H280	Contains das un	der pressure; may explode if heated	
Compressed gas	Contains gas un	der pressure, may explode in heated	
Full text of H statements : see section 16			
2.2. GHS Label elements, including pre	ecautionary statements		
GHS-US labeling			
Hazard pictograms (GHS-US)	· · · • • • • • • • • • • • • • • • • •		
	GHS04		
Signal word (GHS-US)	: Warning		
Hazard statements (GHS-US)	: H280 - Contains gas und	ler pressure; may explode if heated	
Precautionary statements (GHS-US)	: P410+P403 - Protect fro	m sunlight. Store in a well-ventilated place.	
2.3. Other hazards which do not result	in classification		
No additional information available			
2.4. Unknown acute toxicity (GHS US)			
Not applicable			
SECTION 3: Composition/Informati	on on ingredients		
3.1. Substances			
Not applicable			
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3.2. Mixtures			
Name	Product identifier	%	GHS-US classification
Nitrogen	(CAS-No.) 7727-37-9	73.51 - 80.495	Press. Gas (Comp.), H280
Oxygen	(CAS-No.) 7782-44-7	19.5 - 23.5	Ox. Gas 1, H270 Press. Gas (Comp.), H280
Carbon Dioxide	(CAS-No.) 124-38-9	0.005 - 2.99	Press. Gas (Liq.), H280

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	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
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 effe	cts (acute and delayed)
Symptoms/effects after inhalation	: May displace oxygen and cause rapid suffocation. May increase respiration and heart rate.
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 administration	: Not known.
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

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 : Ensure adequate ventilation. 6.1. Personal precautions, protective equipment and emergency procedures General measures	SECTION 5: Fire-fighting measure	5
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 : Ensure adequate ventilation. 6.1. Personal precautions, protective equipment and emergency procedures General measures : Ensure adequate ventilation.	5.1. Suitable (and unsuitable) extingu	ishing media
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6.1.1. For non-emergency personnel	6.1. Personal precautions, protective	equipment and emergency procedures
	General measures	: Ensure adequate ventilation.
	6.1.1. For non-emergency personnel	
Protective equipment : Wear protective equipment consistent with the site emergency dian.	Protective equipment	: Wear protective equipment consistent with the site emergency plan.

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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.
Emergency procedures	: Evacuate and limit access. Ventilate area.
6.2. Environmental precautions	
Try to stop release if without risk.	
6.3. Methods and material for containr	nent 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	
7.1. 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 o in a well-ventilated area.
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 doubt.
Hygiene measures	: Do not eat, drink or smoke when using this product.
7.2. Conditions for safe storage, inclue	ding any incompatibilities
Technical measures	: Comply with applicable regulations.
Storage conditions	: 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. 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.
Storage area	: Store away from heat. Store in a well-ventilated place.
•	

Storage area

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Carbon Dioxide (124-38-9)			
ACGIH	ACGIH TWA (ppm)	5000 ppm	
ACGIH	ACGIH STEL (ppm)	30000 ppm	
OSHA	OSHA PEL (TWA) (mg/m ³)	9000 mg/m ³	
OSHA	OSHA PEL (TWA) (ppm)	5000 ppm	
IDLH	US IDLH (ppm)	40000 ppm	
NIOSH	NIOSH REL (TWA) (mg/m ³)	9000 mg/m ³	
NIOSH	NIOSH REL (TWA) (ppm)	5000 ppm	
NIOSH	NIOSH REL (STEL) (mg/m ³)	54000 mg/m ³	

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Carbon Dioxide (124-38-9)				
NIOSH	NIOSH REL (STEL) (ppm)	30000 ppm		
Oxygen (7782-44-7)		·		
Not applicable				
Nitrogen (7727-37-9)				
ACGIH	Remark (ACGIH)	Simple Asphyxiant		

8.2.	Appropriate engineering controls		
Approp	riate 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 leakages. Consider the use of a work permit system e.g. for maintenance activities.	
Enviror	mental 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	l chemical properties		
Physical state	: Gas		
Appearance	: Clear, colorless gas.		
Color	: Colorless		
Odor	: Odorless		
Odor threshold	: No data available		
рН	: No data available		
Melting point	: No data available		
Freezing point	: No data available		
Boiling point	: No data available		
Flash point	: Not applicable (non-flammable gas)		
Relative evaporation rate (butyl acetate=1)	: No data available		
Flammability (solid, gas)	: See Section 2.1 and 2.2		
Vapor pressure	: No data available		
Relative vapor density at 20 °C	: No data available		
Relative density	: No data available		
Relative gas density	: Similar to air		
Solubility	: Water: No data available		
Log Pow	: No data available		
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Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable (non-flammable gas)
Explosive properties	: Not applicable (non-flammable gas).
Oxidizing properties	: Supports combustion.
9.2. Other information	
No additional information available	
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 mat	rerials.
10.4. Conditions to avoid	
None under recommended storage and handling	conditions (see section 7).
10.5. Incompatible materials	
Flammable materials.	
10.6. Hazardous decomposition products	i
SECTION 11: Toxicological informat 1.1. Information on toxicological effects	ion
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Symptoms/effects after ingestion	: Ingestion is not considered a potential route of exposure.
Symptoms/effects upon intravenous administration	: Not known.
Chronic symptoms	: Adverse effects not expected from this product.
SECTION 12: Ecological information	on
12.1. Toxicity	

Ecology - general

: No ecological damage caused by this product.

12.2. Persistence and degradability		
Carbon Dioxide (0.005%-2.99%), Oxygen (19.50%-23.50%) in Nitrogen		
Persistence and degradability	No data available.	
Carbon Dioxide (124-38-9)		
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 (7727-37-9)		
Persistence and degradability	No ecological damage caused by this product.	
2.3. Bioaccumulative potential		
Carbon Dioxide (0.005%-2.99%), Oxygen (19.50%-23.50%) in Nitrogen		
Bioaccumulative potential	No data available.	
Carbon Dioxide (124-38-9)		
BCF fish 1	(no bioaccumulation)	
Log Pow	0.83	
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 (7727-37-9)		
Log Pow	Not applicable for inorganic gases.	
Bioaccumulative potential	No ecological damage caused by this product.	
2.4. Mobility in soil		
Carbon Dioxide (0.005%-2.99%), Oxyg	gen (19.50%-23.50%) in Nitrogen	
Mobility in soil	No data available	
Carbon Dioxide (124-38-9)		
Ecology - soil	No ecological damage caused by this product.	
Oxygen (7782-44-7)		
Ecology - soil	No ecological damage caused by this product.	
Nitrogen (7727-37-9)		
Ecology - soil	No ecological damage caused by this product.	
2.5 Other educates offects		
2.5. Other adverse effects	. No known offects from this product	
ffect on ozone layer	: No known effects from this product.	
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 tre	atment 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.

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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

SECTION 14: Transport information	
Department of Transportation (DOT) In accordance with DOT	
Transport document description	: UN1956 Compressed gas, n.o.s. (Oxygen, Nitrogen), 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
	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 (49 CFR 173.27)	: 75 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 150 kg
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. (Oxygen, Nitrogen), 2.2
UN-No. (TDG)	: UN1956
Proper Shipping Name	: Compressed gas, n.o.s.

: 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.

Proper Shipping Name TDG Primary Hazard Classes

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Explosive Limit and Limited Quantity Index Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index Transport by sea Transport document description (IMDG)	 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on a shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag oflowing the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a)UN1544, LKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S. (c)UN3140, ALKALOID SALTS, LIQUID, N.O.S. A (LAKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, TOXIC, N.O.S. (c)UN3140, ALKALOID SALTS, SOLID, TOXIC, N.O.S. A example in Canada is the "Food and Drugs Act". (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a)UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b)UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS, SOR/2014-306,148 - (1) Part 5 (Means of Containment; (a)UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b)UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS, SOR/2014-306,148 - (1) Part 5 (Means of Containment; (a)UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b)UN290, INFECTIOUS SUBSTANCE, AFFECTING A
	: Compressed gas, n.o.s.
	: 2.2 - Non-flammable, non-toxic gases
Limited quantities (IMDG)	: 120 ml
	: UN 1956 Compressed gas, n.o.s., 2.2 : 1956
	: Compressed gas, n.o.s.

15.1. US Federal regulations

Carbon Dioxide (124-38-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Oxygen (7782-44-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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Nitrogen (7727-37-9)

isted on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Carbon Dioxide (124-38-9)

Listed on the Canadian DSL (Domestic Substances List)

Oxygen (7782-44-7)

Listed on the Canadian DSL (Domestic Substances List)

Nitrogen (7727-37-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Carbon Dioxide (124-38-9)

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 (7727-37-9)

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

National regulations

Carbon Dioxide (124-38-9) Listed on the AICS (Australian Inventory of Chemical Substances)

L	isted on the Japanese ENCS (Existing & New Chemical Substances) inventory
	isted on the Japanese ISHL (Industrial Safety and Health Law) isted on the Korean ECL (Existing Chemicals List)
	isted on NZIoC (New Zealand Inventory of Chemicals)
	isted on PICCS (Philippines Inventory of Chemicals and Chemical Substances) isted on the Canadian IDL (Ingredient Disclosure List)
	isted on INSQ (Mexican National Inventory of Chemical Substances)
	isted on CICR (Turkish Inventory and Control of Chemicals)
L	isted on the TCSI (Taiwan Chemical Substance Inventory)
C	Dxygen (7782-44-7)
	isted on the AICS (Australian Inventory of Chemical Substances) isted on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) isted on the Korean ECL (Existing Chemicals List) isted on NZIoC (New Zealand Inventory of Chemicals) isted on PICCS (Philippines Inventory of Chemicals and Chemical Substances) isted on INSQ (Mexican National Inventory of Chemical Substances) isted on the TCSI (Taiwan Chemical Substance Inventory)
N	litrogen (7727-37-9)
	isted on the AICS (Australian Inventory of Chemical Substances) isted on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) isted on the Korean ECL (Existing Chemicals List) isted on NZIoC (New Zealand Inventory of Chemicals) isted on PICCS (Philippines Inventory of Chemicals and Chemical Substances) isted on INSQ (Mexican National Inventory of Chemical Substances) isted on the TCSI (Taiwan Chemical Substance Inventory)
15	.3. US State regulations

Carbon Dioxide (124-38-9)

- 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

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Oxygen (7782-44-7)	
U.S Massachusetts - Right U.S New Jersey - Right to K U.S Pennsylvania - RTK (Ri	now Hazardous Substance List
Nitrogen (7727-37-9)	
U.S Massachusetts - Right U.S New Jersey - Right to K U.S Pennsylvania - RTK (Ri	now Hazardous Substance List
SECTION 16: Other info	rmation
Revision date	: 06/21/2017
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.
	product.
Full text of H-phrases:	
Full text of H-phrases: H270	May cause or intensify fire; oxidizer

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.