

Product:	1% Propane, 18% Oxygen in Nitrogen	Pt No. 99133
MSDS Nr.	CUST017	Version 1.0 – June 23

1. Identification of the Substance/Preparation and of the Company

MSDS Nr.	017
Product name	1% Propane, 18% Oxygen in Nitrogen
Use of the Substance/Mixture	Industrial and professional use. Perform risk assessment prior to use.
Company	Teledyne Gas Measurement Instruments Ltd Inchinnan Estate Renfrew PA4 9RG
Emergency phone number	0141 812 3211

2. Hazard Identification

Flammable gases	NA
Gases under pressure	Compressed gas. H280: Contains gas under pressure; may explode if heated.
Symbols	



Hazard Statements:

H280: Contains gas under pressure; may explode if heated.

Storage

P403: Store in a well-ventilated place.

Other Hazards	<p>Use a back flow preventative device in the piping. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Read and follow the Safety Data Sheet (SDS) before use. High pressure gas. Can cause rapid suffocation. Mixture does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.</p>
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3. Composition / information on ingredients

Components	EINECS/ELINCS Number	CAS Number	Concentration
Propane	231-959-5	7782-50-5	1%
Oxygen	231-956-9	7782-44-7	18%
Nitrogen	231-783-9	7727-37-9	81%

Components	Classification (CLP)	REACH Reg. #
Propane	Flam. gas 1 ;H220 Press. Gas (Liq.) ;H280	*1
Oxygen	Ox. Gas 1 ;H270 Press. Gas (Comp.) ;H280	*1
Nitrogen	Press. Gas (Comp.) ;H280	*1

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*1: Listed in Annex IV / V REACH, exempted from registration.

*2: Registration not required: substance manufactured or imported < 1 t/y.

*3: Registration not required: substance manufactured or imported < 1 t/y for non-intermediate uses.

4 First Aid Measures

General	Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
Eye Contact	In case of direct contact with eyes, seek medical advice.
Skin Contact	Adverse effects not expected from this product.
Ingestion	Ingestion is not considered a potential route of exposure.
Inhalation	Remove to fresh air. If breathing has stopped or is laboured, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. In case of shortness of breath, give oxygen.
4.2 Symptoms	Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.
4.3 Treatment	If exposed or concerned: Get medical attention/advice.

5. Fire Fighting Measures

5.1 Extinguishing media	The product itself does not burn. Use extinguishing media appropriate for surrounding fire. Do not use water jet to extinguish.
5.2 Special Hazards arising from the substance or mixture	Upon exposure to intense heat or flame, cylinder will vent rapidly and or rupture violently. Product is non-flammable and does not support combustion. Move away from container and cool with water from a protected position. Keep containers and surroundings cool with water spray.
5.3 Advice for firefighters	Wear self-contained breathing apparatus for firefighting if necessary. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.

6. Accidental Release Measures.

6.1 Personal precautions	Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Monitor oxygen level. Ventilate the area.
6.2 Environmental precautions	Do not discharge into any place where its accumulation could be dangerous. Prevent further leakage or spillage if safe to do so.
6.3 Clean up methods	Ventilate the area. Approach suspected leak areas with caution. Additional advice If possible, stop flow of product. Increase ventilation to the release area and monitor oxygen level. If leak is from cylinder or cylinder valve, call the emergency telephone number. If the leak is in the user's system, close the cylinder valve and safely vent the pressure before attempting repairs.

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7. Handling and Storage

Handling and storage

Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Only experienced and properly instructed persons should handle compressed gases/cryogenic liquids. Before using the product, determine its identity by reading the label. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of the container.

Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another. Always use backflow protective device in piping. When returning cylinder install valve outlet cap or plug leak tight. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F).

Refer to container's handling instructions.

8. Exposure Controls / Personal Protection

If applicable, refer to the extended section of the SDS for further information on CSA.

DNEL: Derived no effect level (Workers)

None available

PNEC: predicted no effect concentration

None available

Engineering measures

Provide natural or mechanical ventilation to prevent oxygen deficient atmospheres below 19.5% oxygen.

Personal protective equipment

Respiratory protection: Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmosphere.

Air purifying respirators will not provide protection. Users of breathing apparatus must be trained.

Hand protection: Wear work gloves when handling gas containers.

Standard EN 388 - Protective gloves against mechanical risk.

Eye/face Protection: Safety glasses recommended when handling cylinders.

Standard EN 166 - Personal eye-protection.

Skin and body protection: Safety shoes are recommended when handling cylinders.

Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

Special instructions for protection and hygiene: Ensure adequate ventilation, especially in confined areas.

Environmental Exposure Controls: If applicable, refer to the extended section of the SDS for further information on CSA.

Remarks: Simple asphyxiant.

9. Physical and Chemical Properties.

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Physical state/Colour	Compressed gas. Colorless gas	Upper and Lower explosion/flammability limits	Non Flammable
Odour	Not determined. Mixture contains one or more component(s) which have the following odor: No odor warning properties. Sweet.	Autoignition temp	Non Flammable
Density	Not Applicable	Molecular Weight	Not Applicable
Relative Density	Not Applicable	Odor Threshold	Odour threshold is subjective and inadequate to warn of overexposure.
Melting point / freezing point	No data available	Specific Volume	Not Applicable
Boiling range	Not Applicable	Upper flammability	NA
Vapour pressure	NA	Lower flammability	NA
Water solubility	No data available.	Relative vapour density	0.997 (air = 1) Lighter or similar to air.
Partition coefficient n-octanol/water [log Kow]	Not known		

10. Stability and Reactivity

10.1. Reactivity	No reactivity hazard other than the effects described in sub-sections below
10.2. Chemical stability	Stable under normal conditions
10.3. Possibility of hazardous reactions	No data available.
10.4. Conditions to avoid	None under recommended storage and handling conditions (see section 7).
10.5. Incompatible materials	No data available.
10.6. Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological Information

General	<p>Effects on Eye: In case of direct contact with eyes, seek medical advice.</p> <p>Effects on Skin: Adverse effects not expected from this product.</p> <p>Inhalation Effects: In high concentrations may cause asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.</p> <p>Ingestion Effects: Ingestion is not considered a potential route of exposure.</p> <p>Symptoms: Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.</p>
Acute / Chronic toxicity	No data available

12. Ecological Information

General	No data
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Effect on global warming: None.

Global Warming Potential : Propane = 3

13. Disposal Considerations.

General	Contact supplier if guidance is required. Return unused product in original cylinder to supplier. Refer to the EIGA code of practice Doc. 30 "Disposal of Gases", downloadable at http://www.eiga.org for more guidance on suitable disposal methods. List of hazardous waste codes: 16 05 05: Gases in pressure containers other than those mentioned in 16 05 04.
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14. Transport Information

UN/ID No.	UN1956
Transport by road/rail (ADR/RID)	Transport by road/rail (ADR/RID): COMPRESSED GAS, N.O.S., (Nitrogen, Oxygen) Transport by air (ICAO-TI / IATA-DGR): Compressed gas, n.o.s., (Nitrogen, Oxygen) Transport by sea (IMDG): COMPRESSED GAS, N.O.S., (Nitrogen, Oxygen)
Labelling	Label 2.2 Class or Division: 2 ADR/RID Hazard ID no.; 20 Tunnel Code: (E) Transport by air (ICAO-TI / IATA-DGR) Class or Division: 2.2 Transport by sea (IMDG) Class or Division: 2.2
Other transport information	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. The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact customer service.

15. Regulatory Information

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

16. Other Information

Ensure all national/local regulations are observed.

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This product should only be used for the calibration of GMI instruments using the procedures laid out in the instrument manual.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.