SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name	Gaseous mixture
Chemical description	Helium – 3 ppm CO – 3 ppm CH_4 – 3 ppm N_2 – 3 ppm O_2
CAS N°	-
CE N°	-
Index N°	-
Registration n°	-
Chemical formula	He, CO, CH_4, N_2, O_2

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Industrial and professional Test gas/Calibration gas Contact supplier for more information on uses
Uses advised against	For use by industrial or professional users only

1.3. Details of the supplier of the safety data sheet

Company identification	MULTIGAS Route de l'Industrie 102 CH-1564 Domdidier
Phone number	+41 (0) 26 676 94 94
E-mail address	info@multigas.ch

1.4. Emergency telephone numbers

145 (Toxicology Centre Zurich) or +41 (0) 44 251 51 51

+41 (0) 26 676 94 94 (Multigas)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Gases under pressure : Compressed gas	H280

For the complete H-sentences texts mentioned in that chapter, refer to Section 16

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

GHS04

Signal word Warning

Hazard statements

H280 Contains gas under pressure; may explode if heated

Precautionary statements

P410+P403 Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards

None

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	Concentration	Classification
Carbon monoxide	(CAS-No.) 630-08-0 (EC-No.) 211-128-3 (EC Index-No.) (Registration-No.) 01-2119480165-39	3 ppm	Flam. gas 1B ;H221 Press. Gas (Comp.) ;H280 Repr. 1A ;H360D Acute Tox. Inha 3 ;H331 STOT RE Inha 1 ;H372
Methan	(CAS-No.) 74-82-8 (EC-No.) 200-812-7 (EC Index-No.) - (Registration-No.) 01-2119474442-39	3 ppm	Flam. gas 1A ;H220 Press. Gas (Comp.) ;H280
Nitrogen	(CAS-No.) 7727-37-9 (EC-No.) 231-783-9 (EC Index-No.) -- (Registration-No.) --	3 ppm	Press. Gas (Comp.) ;H280
Oxygen	(CAS-No.) 7782-44-7 (EC-No.) 231-956-9 (EC Index-No.) 008-001-00-8 (Registration-No.) --	3 ppm	Ox. Gas 1, H270 Press. Gas (Comp.), H280
Helium	(CAS-No.) 7440-59-7 (EC-No.) 231-168-5 (EC Index-No.) - (Registration-No.) --	>99.99%	Press. Gas (Comp.), H280

For the complete H-sentences texts mentioned in that chapter, refer to Section 16
Contains no other components or impurities which will influence the classification of the product

3.2. Mixtures

Not established

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice See a doctor. Show this safety data sheet to the attending physician

In case of inhalation In case of inhalation, remove the person from the contaminated area. In case of respiratory arrest, give artificial respiration. See a doctor

In case of skin contact Adverse effects not expected from this product

In case of eyes contact Adverse effects not expected from this product

In case of ingestion Ingestion is not considered a possible route of exposure

4.2. Most important symptoms and effects, both acute and delayed

xposure to oxygen-deficient atmospheres may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness

Refer to section 11

4.3. Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Le produit lui-même ne brûle pas

Water spray or water mist. Dry powder. Carbon dioxide. Foam

Unsuitable extinguishing media Do not use water jet to extinguish

5.2. Special hazards arising from the substance or mixture

Specific hazards Non-flammable and does not sustain combustion

Exposure to fire may cause containers to rupture/explode

Hazardous combustion products None

5.3. Additional information

Cool endangered receptacles with water spray jet from a protected position

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation
Evacuate personnel to a safe place
Personal protective equipment, see section 8

6.2. Environmental precautions

-

6.3. Methods and material for containment and cleaning up

-

6.4. Reference to other sections

See also sections 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep away from sources of ignition. Use only spark-proof tools. No smoking
For precautions, see section 2.2

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place
Content under pressure

7.3. Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with occupational exposure limits

Component	CAS N°	Exposure value type	Control parameter	Source
Carbon monoxide	630-08-0	TWA	30 ppm	SUVA Occupational exposure limits
			35 mg/m³	
		OEL	60 ppm	SUVA Occupational exposure limits
			70 mg/m³	
Methan	74-82-8	TWA	10'000 ppm	SUVA Occupational exposure limits
			6'700 mg/m³	
		OEL	-	No occupational exposure limit value
			-	
Nitrogen	7727-37-9	TWA	-	No occupational exposure limit value
			-	
		OEL	-	
			-	
Oxygen	7782-44-7	TWA	-	No occupational exposure limit value
			-	
		OEL	-	
			-	
Helium	7440-59-7	TWA	-	No occupational exposure limit value
			-	
		OEL	-	
			-	

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation

Gas detectors should be used when oxidising gases may be released

8.2.2. Individual protection measures, e.g. personal protective equipment

Eye/face protection

Wear goggles and a face shield when transfilling or breaking transfer connections. Standard EN 166

Skin / hand protection	Wear protective gloves when handling gas cylinders. Standard EN 388- Protective gloves against mechanical hazards
Respiratory protection	Self-contained breathing apparatus (SCBA) or positive pressure air mask must be used in oxygenated atmospheres. Standard EN 137 - Self-contained compressed air device with a full face mask

8.2.3. Environmental exposure controls

-

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
• **Physical state at 20°C / 101.3kPa**	Gas
• **Colour**	Colourless
Odour	No data available
Odour threshold	No data available
pH	No data available
Melting point / Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	Non-flammable
Explosive limits	No data available
Vapour pressure [20°C]	No data available
Vapour pressure [50°C]	No data available
Vapour density	No data available
Relative density, liquid (water=1)	No data available
Relative density, gas (air=1)	0.1381
Water solubility	Unknown, but considered low
Partition coefficient n-octanol/water (Log Kow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2. Other information

Molar mass	4 g/mol
Critical temperature [°C]	No data available
Relative vapour density	Lighter than air

SECTION 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 recommended storage conditions

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

For additional information on compatibility refer to ISO 11114

10.6. Hazardous decomposition products

None

SECTION 11: Toxicological information

11.1. Chemical safety assessment

Acute toxicity	No known toxicological effects from this product
Skin corrosion/irritation	No data available
Serious eye damage/irritation	No data available
Respiratory or skin sensitisation	Can cause asphyxiation in high concentrations. Asphyxiation may cause unconsciousness without warning and may be so rapid that the victim will be unable to protect him/herself
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT-single exposure – Target organ(s)	No data available
STOT-repeated exposure	No data available

Ingestion hazard	No data available

11.2 Information on other hazards

The substance/mixture has no endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

Assessment	The product does not cause environmental damage

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

PBT / vPvB assessment is not available because the chemical safety assessment is not required / is not conducted

12.6. Endocrine-disrupting properties

The substance/mixture has no endocrine disrupting properties

12.7. Other adverse effects

Effect on the ozone layer	No known effect with this product.
Ozone depletion potential	None
Effect on global warming	Can contribute to the greenhouse effect when released in large quantities
Global warming potential Components: methane	25

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	May be vented to atmosphere in a well ventilated place Do not discharge into any place where its accumulation could be dangerous
Contaminated container	Return to the supplier the product not consumed in its original container

OMoD Code 16 05 05
Gases in pressure containers other than those mentioned in 16 05 04

SECTION 14: Transport information

14.1. UN number

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
1956	1956	1956

14.2. UN proper shipping name

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
COMPRESSED GAS, N.O.S., (Helium, Carbon monoxide)	COMPRESSED GAS, N.O.S., (Helium, Carbon monoxide)	COMPRESSED GAS, N.O.S., (Helium, Carbon monoxide)

14.3. Transport hazard class(es)

Labelling

ADR/RID
IMDG
IATA 2.2 : Non-flammable, non-toxic gases

14.4. Packing group

ADR/RID
IMDG
IATA Not established

14.5. Environmental hazards

ADR/RID None

IMDG None

ICAO-TI / IATA-DGR None

14.6. Special precautions for user

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety data sheet complies with the requirements of Regulation (CE) No. 1907/2006

15.2. Chemical safety assessment

A CSA does not need to be carried out for this product

SECTION 16: Other information

Indication of changes

Revised safety data sheet in accordance with commission regulation (EU) No 2015/830

Abbreviations and acronyms

ADR :	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS :	Chemical Abstract Service number (USA)
CLP :	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CSA :	Chemical Safety Assessment
EIGA :	European Industrial Gases Association
EINECS :	European Inventory of Existing Commercial Chemical Substances
EN :	European Standard
ATE :	Acute Toxicity Estimate
IATA :	International Air Transport Association
IMDG Code :	International Maritime Dangerous Goods Code
LC50 :	Lethal Concentration to 50 % of a test population
OMoD :	Swiss Ordinance on the movement of waste
PBT :	Persistent, Bioaccumulative and Toxic
PPE:	Personal Protection Equipment
REACH :	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID :	Regulations concerning the international carriage of dangerous goods by rail
RMM :	Risk Management Measures
STOT-SE :	Specific Target Organ Toxicity - Single Exposure
UN :	United Nations
vPvB :	Very Persistent and Very Bioaccumulative
WGK:	Water Hazards Class

Full text of H, EUH and P statements used in sections 2 and 3

Hazard statements

H280 Contains gas under pressure; may explode if heated

Precautionary statements

P410+P403	Protect from sunlight. Store in a well-ventilated place

Disclaimer of liability

Details given in this document have been prepared based on the most available reliable documents and are believed to be correct at the time of going to press

They do not claim to be exhaustive and should be considered as a guide