



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

### 1.1. Product identifier

Trade name : CZFCG-Q34-4

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

Relevant identified uses : Industrial and professional. Perform risk assessment prior to use.  
Test gas/Calibration gas.  
Laboratory use.  
Contact supplier for more information on uses.

Uses advised against :

### 1.3. Details of the supplier of the safety data sheet

Company identification : Scientific and Technical Gases Ltd trading as Calgaz  
Units 1 + 2 Speedwell Road Parkhouse Industrial Estate  
ST5 7RG Newcastle Under Lyme UNITED KINGDOM  
+44 (0) 1782 566 897

E-Mail address (competent person) : info@stgas.eu (Not 24 Hours)

### 1.4. Emergency telephone number

Emergency number : Tel 24hr: +44 (0) 870 190 6777

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Physical hazards : Gases under pressure : Compressed gas H280

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F+; R12  
O; R8

### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS04

Signal word (CLP) : Warning

Hazard statements (CLP) : H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (CLP)

- Storage : P403 - Store in a well-ventilated place.

**2.3. Other hazards**

: None.

**SECTION 3: Composition/information on ingredients**

**3.1. Substance** : Not applicable

**3.2. Mixture**

Name	Product identifier	%	Classification according to Directive 67/548/EEC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Nitrogen	(CAS No) 7727-37-9 (EC no) 231-783-9 (REACH-no) *1	79.48 75	Not classified	Compressed gas, H280
Oxygen	(CAS No) 7782-44-7 (EC no) 231-956-9 (EC index no) 008-001-00-8 (REACH-no) *1	18	O; R8	Ox. Gas 1, H270 Compressed gas, H280
Methane	(CAS No) 74-82-8 (EC no) 200-812-7 (EC index no) 601-001-00-4 (REACH-no) *1	2.5	F+; R12	Flam. Gas 1, H220 Compressed gas, H280
Carbon monoxide	(CAS No) 630-08-0 (EC no) 211-128-3 (EC index no) 006-001-00-2 (REACH-no) 01-2119480165-39	0.01	Repr.Cat.1; R61 F+; R12 T; R23 T; R48/23	Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Repr. 1A, H360D STOT RE 1, H372
Hydrogen sulphide	(CAS No) 7783-06-4 (EC no) 231-977-3 (EC index no) 016-001-00-4 (REACH-no) *2	0.002 5	F+; R12 T+; R26 N; R50	Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 STOT SE 3, H335 Aquatic Acute 1, H400

Full text of R- and H-statements: see section 16

Contains no other components or impurities which will influence the classification of the product.

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

\*2: Registration deadline not expired.

\*3: Registration not required: Substance manufactured or imported < 1t/y.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

- Inhalation : Adverse effects not expected from this product.
- Skin contact : Adverse effects not expected from this product.
- Eye contact : Adverse effects not expected from this product.
- Ingestion : Ingestion is not considered a potential route of exposure.

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

: No effect on living tissue.  
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 : Water spray or fog.
- Unsuitable extinguishing media : Do not use water jet to extinguish.

**5.2. Special hazards arising from the substance or mixture**

- Specific hazards : Supports combustion.  
Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : Sulphur dioxide.

**5.3. Advice for fire-fighters**

- Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.  
If possible, stop flow of product.  
Use water spray or fog to knock down fire fumes if possible.
- Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.  
Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.  
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

- : Try to stop release.

**6.2. Environmental precautions**

- : None.

**6.3. 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**

- Safe use of the product : The substance must be handled in accordance with good industrial hygiene and safety procedures.  
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 regularly) checked for leaks before use.  
Do not smoke while handling product.  
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

**Safe handling of the gas receptacle**

- : Refer to supplier's container handling instructions.
- Do not allow backfeed into the container.
- Protect cylinders from physical damage; do not drag, roll, slide or drop.
- When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.
- Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.
- If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.
- Never attempt to repair or modify container valves or safety relief devices.
- Damaged valves should be reported immediately to the supplier.
- Keep container valve outlets clean and free from contaminants particularly oil and water.
- Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.
- Close container valve after each use and when empty, even if still connected to equipment.
- Never attempt to transfer gases from one cylinder/container to another.
- Never use direct flame or electrical heating devices to raise the pressure of a container.
- Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.
- Containers should be stored in the vertical position and properly secured to prevent them from falling over.

**7.2. 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.

**7.3. Specific end use(s)**

- : None.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

<b>Hydrogen sulphide (7783-06-4)</b>		
EU	IOELV TWA (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	5 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	10 ppm
Austria	MAK (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Austria	MAK (ppm)	5 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	5 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	5 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	10 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
France	VLE (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
France	VLE (ppm)	10 ppm
France	VME (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
France	VME (ppm)	5 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	7.1 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	5 ppm
Germany	TRGS 900 Limitation of exposure peaks (ppm)	2 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	10 ppm

Greece	OEL STEL (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	15 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	10 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	15 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	14.2 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	10 ppm
Switzerland	VME (mg/m <sup>3</sup> )	7.1 mg/m <sup>3</sup>
Switzerland	VME (ppm)	5 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	2.3 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	5 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	10 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	7.2 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	14.4 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	5 ppm
Finland	HTP-arvo (15 min)	14 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	10 ppm
Hungary	AK-érték	7 mg/m <sup>3</sup>
Hungary	CK-érték	14 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	5 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	10 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	5 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	10 ppm
Poland	NDS (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	10 ppm

**Carbon monoxide (630-08-0)**

Austria	MAK (mg/m <sup>3</sup> )	33 mg/m <sup>3</sup>
Austria	MAK (ppm)	30 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	66 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	60 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	29 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	25 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	40 mg/m <sup>3</sup>
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
France	VME (mg/m <sup>3</sup> )	55 mg/m <sup>3</sup>
France	VME (ppm)	50 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	55 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	50 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	330 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	300 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	29 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	25 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	30 ppm

Switzerland	VME (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>
Switzerland	VME (ppm)	30 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	29 mg/m <sup>3</sup>
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	30 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	232 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	200 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	30 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	26.2 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	150 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	131 ppm
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	29 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	25 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	30 ppm
Finland	HTP-arvo (15 min)	87 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	75 ppm
Hungary	AK-érték	33 mg/m <sup>3</sup>
Hungary	CK-érték	66 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	23 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	20 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	115 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	100 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	40 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	35 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	120 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	100 ppm
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	29 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	25 ppm
Poland	NDS (mg/m <sup>3</sup> )	23 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	117 mg/m <sup>3</sup>
Romania	OEL TWA (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	17.5 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	30 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	26 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	30 ppm
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	40 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	35 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	120 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	100 ppm

**Methane (74-82-8)**

Belgium	Limit value (ppm)	1000 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Switzerland	VME (mg/m <sup>3</sup> )	6700 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10000 ppm
Finland	HTP-arvo (8h) (ppm)	1000 ppm
Ireland	OEL (8 hours ref) (ppm)	1000 ppm
Romania	OEL TWA (mg/m <sup>3</sup> )	1200 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	1834 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	1500 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	2292 ppm

<b>Carbon monoxide (630-08-0)</b>	
DNEL: Derived no effect level (Workers)	
Acute - local effects, inhalation	100 ppm
Acute - systemic effects, inhalation	100 ppm
Long-term - local effects, inhalation	20 ppm
Long-term - systemic effects, inhalation	20 ppm

**8.2. Exposure controls**

**8.2.1. Appropriate engineering controls**

: Provide adequate general and local exhaust ventilation.  
 Systems under pressure should be regularly checked for leakages.  
 Consider work permit system e.g. for maintenance activities.

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

: A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered:  
 PPE compliant to the recommended EN/ISO standards should be selected.

• Eye/face protection

: Wear safety glasses with side shields.  
 Standard EN 166 - Personal eye-protection.

• Skin protection

- Hand protection

: Wear working gloves when handling gas containers.  
 Standard EN 388 - Protective gloves against mechanical risk.

- Other

: Wear safety shoes while handling containers.  
 Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

• Respiratory protection

: Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.  
 Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

• Thermal hazards

: None necessary.

**8.2.3. Environmental exposure controls**

: None necessary.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Appearance

- Physical state at 20°C / 101.3kPa
- Colour

: Gas  
 : Mixture contains one or more component(s) which have the following colour(s):  
 Colourless.

Odour

: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.  
 Mixture contains one or more component(s) which have the following odour(s):  
 Rotten eggs.

Odour threshold

: Odour threshold is subjective and inadequate to warn of overexposure.

pH value

: Not applicable for gas-mixtures.

Molar mass

: Not applicable for gas-mixtures.

Melting point

: Not applicable for gas-mixtures.

Boiling point

: Not applicable for gas-mixtures.

Critical temperature [°C]

:

Flash point

: Not applicable for gas-mixtures.

Evaporation rate (ether=1)	: Not applicable for gas-mixtures.
Flammability range	: Not applicable for gas-mixtures.
Vapour pressure [20°C]	: Not applicable.
Vapour pressure [50°C]	:
Relative density, gas (air=1)	: Lighter or similar to air.
Relative density, liquid (water=1)	:
Solubility in water	: Solubility in water of component(s) of the mixture : • Hydrogen sulphide: 3980 mg/l • Carbon monoxide: 30 mg/l • Methane: 26 mg/l • Nitrogen: 20 mg/l • Oxygen: 39 mg/l
Partition coefficient n-octanol/water [log Kow]	: Not applicable for gas-mixtures.
Auto-ignition temperature	:
Viscosity [20°C]	: Not applicable.
Explosive Properties	: Not applicable.
Oxidising Properties	: None.
- Coefficient of oxygen equivalency (Ci)	:
<b>9.2. Other information</b>	
Other data	: None.

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	: No reactivity hazard other than the effects described in sub-sections below.
<b>10.2. Chemical stability</b>	: Stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	: None.
<b>10.4. Conditions to avoid</b>	: None.
<b>10.5. Incompatible materials</b>	: None.
<b>10.6. Hazardous decomposition products</b>	: None.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Acute toxicity** : No toxicological effects from this product.

<b>Hydrogen sulphide (7783-06-4)</b>	
LC50 inhalation rat (ppm)	356 ppm/4h

<b>Carbon monoxide (630-08-0)</b>	
LC50 inhalation rat (ppm)	1880 ppm/4h

**Skin corrosion/irritation** : No known effects from this product.

**Serious eye damage/irritation** : No known effects from this product.

**Respiratory or skin sensitisation** : No known effects from this product.

**Germ cell mutagenicity** : No known effects from this product.

**Carcinogenicity** : No known effects from this product.

**Toxic for reproduction : Fertility** : No known effects from this product.



<b>Toxic for reproduction : unborn child</b>	: No known effects from this product.
<b>STOT-single exposure</b>	: No known effects from this product.
<b>STOT-repeated exposure</b>	: No known effects from this product.
<b>Aspiration hazard</b>	: Not applicable for gases and gas mixtures.

## SECTION 12: Ecological information

### 12.1. Toxicity

Assessment : No ecological damage caused by this product.

#### Hydrogen sulphide (7783-06-4)

EC50 48h - Daphnia magna	0.12 mg/l
EC50 72h Algae	1.87 mg/l
LC50-96 h - fish	0.007 - 0.019 mg/l

#### Carbon monoxide (630-08-0)

EC50 48h - Daphnia magna	Study scientifically unjustified.
EC50 72h Algae	Study scientifically unjustified.
LC50-96 h - fish	Study scientifically unjustified.

#### Methane (74-82-8)

EC50 48h - Daphnia magna	69.4 mg/l
EC50 72h Algae	19.4 mg/l
LC50-96 h - fish	147.5 mg/l

### 12.2. Persistence and degradability

#### CZF CG-Q34-4

Assessment No data available.

#### Hydrogen sulphide (7783-06-4)

Assessment Not applicable for inorganic gases.

#### Carbon monoxide (630-08-0)

Assessment Will not undergo hydrolysis. Not readily biodegradable. Not applicable for inorganic gases.

#### Methane (74-82-8)

Assessment The substance is biodegradable. Unlikely to persist.

#### Oxygen (7782-44-7)

Assessment No ecological damage caused by this product.

#### Nitrogen (7727-37-9)

Assessment No ecological damage caused by this product.

### 12.3. Bioaccumulative potential

#### CZF CG-Q34-4

Log Kow Not applicable for gas-mixtures.  
Assessment No data available.

#### Hydrogen sulphide (7783-06-4)

Assessment No data available.

#### Carbon monoxide (630-08-0)

Assessment Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

#### Methane (74-82-8)

Assessment Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

#### Oxygen (7782-44-7)

Assessment No ecological damage caused by this product.

#### Nitrogen (7727-37-9)

Assessment No ecological damage caused by this product.

### 12.4. Mobility in soil

#### CZF CG-Q34-4

Mobility in soil No data available.

#### Hydrogen sulphide (7783-06-4)

Assessment Because of its high volatility, the product is unlikely to cause ground or water pollution.

<b>Carbon monoxide (630-08-0)</b>	
Assessment	Because of its high volatility, the product is unlikely to cause ground or water pollution.
<b>Methane (74-82-8)</b>	
Assessment	Because of its high volatility, the product is unlikely to cause ground or water pollution.
<b>Oxygen (7782-44-7)</b>	
Assessment	No ecological damage caused by this product.
<b>Nitrogen (7727-37-9)</b>	
Assessment	No ecological damage caused by this product.

**12.5. Results of PBT and vPvB assessment**

Assessment : Not classified as PBT or vPvB.

**12.6. Other adverse effects**

Effect on the ozone layer : None.  
 Effect on global warming : Contains greenhouse gas(es) not covered by Regulation (EC) 842/2006.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Contact supplier if guidance is required.  
 May be vented to atmosphere.  
 Do not discharge into any place where its accumulation could be dangerous.  
 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 (from Commission Decision 2001/118/EC) : 16 05 05: Gases in pressure containers other than those mentioned in 16 05 04.

**13.2. Additional information**

: None.

**SECTION 14: Transport information**

**14.1. UN number**

UN-No. : 1956

**14.2. UN proper shipping name**

Transport by road/rail (ADR/RID) : COMPRESSED GAS, N.O.S. (Oxygen(7782-44-7) ; Nitrogen(7727-37-9) MIXTURE)

Transport by air (ICAO-TI / IATA-DGR) : Compressed gas, n.o.s. (Oxygen(7782-44-7) ; Nitrogen(7727-37-9) MIXTURE)

Transport by sea (IMDG) : COMPRESSED GAS, N.O.S. (Oxygen(7782-44-7) ; Nitrogen(7727-37-9) MIXTURE)

**14.3. Transport hazard class(es)**

Labelling :



2.2 : Non-flammable, non-toxic gases

**Transport by road/rail (ADR/RID)**

Class : 2  
 Classification code : 1A  
 Hazard identification number : 20  
 Tunnel Restriction : E - Passage forbidden through tunnels of category E

**Transport by air (ICAO-TI / IATA-DGR)**

Class / Div. (Sub. risk(s)) : 2.2

**Transport by sea (IMDG)**

Class / Div. (Sub. risk(s)) : 2.2

Emergency Schedule (EmS) - Fire : F-C

Emergency Schedule (EmS) - Spillage : S-V

**14.4. Packing group**

Transport by road/rail (ADR/RID) : Not applicable

Transport by air (ICAO-TI / IATA-DGR) : Not applicable

Transport by sea (IMDG) : Not applicable

**14.5. Environmental hazards**

Transport by road/rail (ADR/RID) : None.

Transport by air (ICAO-TI / IATA-DGR) : None.

Transport by sea (IMDG) : None.

**14.6. Special precautions for user****Packing Instruction(s)**

Transport by road/rail (ADR/RID) : P200

Transport by air (ICAO-TI / IATA-DGR)

Passenger and Cargo Aircraft : 200

Cargo Aircraft only : 200

Transport by sea (IMDG) : P200

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.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: Not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU-Regulations**

Seveso directive 96/82/EC : Not covered.

**National regulations**

National legislation : Ensure all national/local regulations are observed.

Water hazard class (WGK) : nwg - Non-hazardous to water

Scientific and Technical Gases Ltd : EN (English)

trading as Calgaz

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Industrial Estate ST5 7RG Newcastle

Under Lyme UNITED KINGDOM

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**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.  
 Training advice : Receptacle under pressure.  
 Other information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation. Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.

Full text of R-, H- and EUH-statements

Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Compressed gas	Gases under pressure : Compressed gas
Flam. Gas 1	Flammable gases, Category 1
Liquefied gas	Gases under pressure : Liquefied gas
Ox. Gas 1	Oxidising Gases, Category 1
Repr. 1A	Reproductive toxicity, Category 1A
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H220	Extremely flammable gas
H270	May cause or intensify fire; oxidizer
H280	Contains gas under pressure; may explode if heated
H330	Fatal if inhaled
H331	Toxic if inhaled
H335	May cause respiratory irritation
H360D	May damage the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
R12	Extremely flammable
R23	Toxic by inhalation
R26	Very toxic by inhalation
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation
R50	Very toxic to aquatic organisms
R61	May cause harm to the unborn child
R8	Contact with combustible material may cause fire
F+	Extremely flammable
N	Dangerous for the environment
O	Oxidising
T	Toxic
T+	Very toxic

**DISCLAIMER OF LIABILITY**

: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.  
 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.