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

**1.1. Product identifier**

Trade name : Aligal 28, 20%CO2-O2  
SDS no : NOAL\_1002

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

Relevant identified uses : Industrial and professional uses. Perform risk assessment prior to use.  
Food applications.  
Industrial and professional use for chemical analysis, calibration, (routine) quality control, laboratory use, under controlled conditions.  
Contact supplier for more information on uses.

Uses advised against : Consumer use.  
Uses other than those listed above are not supported, contact your supplier for more information on other uses.

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

**Company identification**

**Supplier**  
AIR LIQUIDE GAS AB  
Pulpetgatan 20  
215 37 Malmö - SWEDEN  
T +46 40 38 10 00  
[info.sweden@airliquide.com](mailto:info.sweden@airliquide.com)

E-Mail address (competent person) : eunordic-sds@airliquide.com

**1.4. Emergency telephone number**

Emergency telephone number : 112  
Availability  
(24 / 7)


Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf Erfurt Gemeinsames Giftinformationszentrum der Länder Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt und Thüringen, c/o HELIOS Klinikum Erfurt	Nordhäuser Straße 74 99089 Erfurt	+49 (0) 361 730 730	

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

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

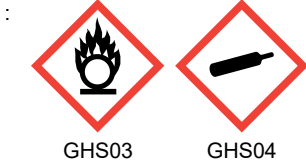
Physical hazards      Oxidising Gases, Category 1      H270  
Gases under pressure : Compressed gas      H280

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2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

Hazard statements (CLP)

: Danger  
 : H270 - May cause or intensify fire; oxidiser.  
 H280 - Contains gas under pressure; may explode if heated.

Precautionary statements (CLP)

- Prevention

: P220 - Keep away from clothing and other combustible materials.  
 P244 - Keep valves and fittings free from oil and grease.

- Response

: P370+P376 - In case of fire: Stop leak if safe to do so.

- Storage

: P403 - Store in a well-ventilated place.

2.3. Other hazards

None.  
 Not classified as PBT or vPvB.  
 The substance/mixture has no endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not established.

3.2. Mixtures

Name	Product identifier	Composition [V-%]:	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Oxygen	CAS-No.: 7782-44-7 EC-No.: 231-956-9 EC Index-No.: 008-001-00-8 REACH-no: *1	80	Ox. Gas 1, H270 Press. Gas (Comp.), H280
Carbon dioxide	CAS-No.: 124-38-9 EC-No.: 204-696-9 EC Index-No.: --- REACH-no: *1	20	Press. Gas (Liq.), H280

Full text of H- and EUH-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.  
 \*3: Registration not required: Substance manufactured or imported < 1t/y.

SECTION 4: First aid measures

4.1. Description of first aid measures

- Inhalation

: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.

- 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.

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

See 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.  
Product does not burn, use fire control measures appropriate for the surrounding fire.
- 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 : None.

#### **5.3. Advice for firefighters**

- 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.  
Move containers away from the fire area if this can be done without risk.
- Special protective equipment for fire fighters : 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.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel : Act in accordance with local emergency plan.  
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.  
Stay upwind.  
See section 8 of the SDS for more information on personal protective equipment
- For emergency responders : See section 5.3 of the SDS for more information.

#### **6.2. Environmental precautions**


Try to stop release.

#### **6.3. Methods and material for containment and cleaning up**

Ventilate area.

#### **6.4. Reference to other sections**

See also sections 8 and 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product	<p>: Do not breathe gas.</p> <p>Avoid release of product into atmosphere.</p> <p>The product must be handled in accordance with good industrial hygiene and safety procedures.</p> <p>Only experienced and properly instructed persons should handle gases under pressure.</p> <p>Consider pressure relief device(s) in gas installations.</p> <p>Ensure the complete gas system was (or is regularly) checked for leaks before use.</p> <p>Do not smoke while handling product.</p> <p>Keep equipment free from oil and grease. For more guidance, refer to the EIGA Doc. 33 - Cleaning of Equipment for Oxygen Service downloadable at <a href="http://www.eiga.eu">http://www.eiga.eu</a>.</p> <p>Use no oil or grease.</p> <p>Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.</p> <p>Use only oxygen approved lubricants and oxygen approved sealings.</p> <p>Avoid suck back of water, acid and alkalis.</p>
Safe handling of the gas receptacle	<p>: Refer to supplier's container handling instructions.</p> <p>Do not allow backfeed into the container.</p> <p>Protect containers from physical damage; do not drag, roll, slide or drop.</p> <p>When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.</p> <p>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.</p> <p>If user experiences any difficulty operating valve discontinue use and contact supplier.</p> <p>Never attempt to repair or modify container valves or safety relief devices.</p> <p>Damaged valves should be reported immediately to the supplier.</p> <p>Keep container valve outlets clean and free from contaminants particularly oil and water.</p> <p>Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.</p> <p>Close container valve after each use and when empty, even if still connected to equipment.</p> <p>Never attempt to transfer gases from one cylinder/container to another.</p> <p>Never use direct flame or electrical heating devices to raise the pressure of a container.</p> <p>Do not remove or deface labels provided by the supplier for the identification of the content of the container.</p> <p>Suck back of water into the container must be prevented.</p> <p>Open valve slowly to avoid pressure shock.</p>

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.


Segregate from flammable gases and other flammable materials in store.

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.

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SECTION 8: Exposure controls/personal protection


8.1. Control parameters

Carbon dioxide (124-38-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Carbon dioxide
IOEL TWA	9000 mg/m³
IOEL TWA [ppm]	5000 ppm
Austria - Occupational Exposure Limits	
Local name	Kohlenstoffdioxid
MAK (mg/m³)	9000 mg/m³
MAK (OEL TWA) [ppm]	5000 ppm
MAK (OEL STEL)	18000 mg/m³
MAK (OEL STEL) [ppm]	10000 ppm
Belgium - Occupational Exposure Limits	
Local name	Carbone (dioxyde de) # Koolstofdiooxide
OEL TWA	9131 mg/m³
OEL TWA [ppm]	5000 ppm
OEL STEL	54784 mg/m³
OEL STEL [ppm]	30000 ppm
Remark	A: La mention A signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce. # De vermelding A betekent dat dit agens gas of damp vrijgeeft dat of die op zich geen fysiologische werking heeft, maar het zuurstofgehalte in de lucht verlaagt. Wanneer het zuurstofgehalte daalt onder de 17-18 % (vol/vol), veroorzaakt het zuurstoftekort verstikking, die zich manifesteert zonder dat er een waarschuwing aan voorafgaat.
Bulgaria - Occupational Exposure Limits	
Local name	Въглероден диоксид
OEL TWA	9000 mg/m³
OEL TWA [ppm]	5000 ppm
Remark	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia - Occupational Exposure Limits	
Local name	Ugljikov dioksid
GVI (OEL TWA) [1]	9000 mg/m³
GVI (OEL TWA) [2]	5000 ppm
Remark	EU**


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<b>Czech Republic - Occupational Exposure Limits</b>	
Local name	Oxid uhli itý
PEL (OEL TWA)	9000 mg/m³
PEL (OEL TWA) [ppm]	5000 ppm
NPK-P (OEL C)	45000 mg/m³
NPK-P (OEL C) [ppm]	25020 ppm
<b>Denmark - Occupational Exposure Limits</b>	
Local name	Carbondioxid (Kuldioxid; Kulsyre)
OEL TWA [1]	9000 mg/m³
OEL TWA [2]	5000 ppm
<b>Estonia - Occupational Exposure Limits</b>	
Local name	Süsinikdioksiid
OEL TWA	9000 mg/m³
OEL TWA [ppm]	5000 ppm
<b>Finland - Occupational Exposure Limits</b>	
Local name	Hiilidioksidi
HTP (OEL TWA) [1]	9100 mg/m³
HTP (OEL TWA) [2]	5000 ppm
<b>France - Occupational Exposure Limits</b>	
Local name	Dioxyde de carbone
VME (OEL TWA)	9000 mg/m³
VME (OEL TWA) [ppm]	5000 ppm
Remark	Valeurs réglementaires indicatives
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
Local name	Kohlenstoffdioxid
AGW (OEL TWA) [1]	9100 mg/m³
AGW (OEL TWA) [2]	5000 ppm
Remark	DFG,EU
<b>Greece - Occupational Exposure Limits</b>	
OEL TWA	9000 mg/m³
OEL TWA [ppm]	5000 ppm
OEL STEL	54000 mg/m³
<b>Hungary - Occupational Exposure Limits</b>	
Local name	SZÉN-DIOXID
AK (OEL TWA)	9000 mg/m³

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Ireland - Occupational Exposure Limits			
Local name		Carbon dioxide	
OEL TWA [1]		9000 mg/m³	
OEL TWA [2]		5000 ppm	
OEL STEL		27000 mg/m³	
OEL STEL [ppm]		15000 ppm	
Italy - Occupational Exposure Limits			
Local name		Anidride carbonica	
OEL TWA		9000 mg/m³	
OEL TWA [ppm]		5000 ppm	
Latvia - Occupational Exposure Limits			
Local name		Oglekļadioksīds	
OEL TWA		9000 mg/m³	
OEL TWA [ppm]		5000 ppm	
Lithuania - Occupational Exposure Limits			
Local name		Anglies dioksidas	
IPRV (OEL TWA)		9000 mg/m³	
IPRV (OEL TWA) [ppm]		5000 ppm	
Luxembourg - Occupational Exposure Limits			
Local name		Dioxyde de carbone	
OEL TWA		9000 mg/m³	
OEL TWA [ppm]		5000 ppm	
Malta - Occupational Exposure Limits			
Local name		Carbondioxide	
OEL TWA		9000 mg/m³	
OEL TWA [ppm]		5000 ppm	
Netherlands - Occupational Exposure Limits			
Local name		Kooldioxide	
TGG-8u (OEL TWA)		9000 mg/m³	
Poland - Occupational Exposure Limits			
Local name		Ditlenek węgla 7	
NDS (OEL TWA)		9000 mg/m³	
NDSch (OEL STEL)		27000 mg/m³	
Portugal - Occupational Exposure Limits			
Local name		Dióxido de carbono	

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OEL TWA [ppm]		5000 ppm	
OEL STEL [ppm]		30000 ppm	
<b>Romania - Occupational Exposure Limits</b>			
Local name		Bioxid de carbon	
OEL TWA		9000 mg/m³	
OEL TWA [ppm]		5000 ppm	
<b>Slovenia - Occupational Exposure Limits</b>			
Local name		ogljikov dioksid	
OEL TWA		9000 mg/m³	
OEL TWA [ppm]		5000 ppm	
<b>Spain - Occupational Exposure Limits</b>			
Local name		Dióxido de carbono	
VLA-ED (OEL TWA) [1]		9150 mg/m³	
VLA-ED (OEL TWA) [2]		5000 ppm	
Remark		VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).	
<b>Sweden - Occupational Exposure Limits</b>			
Local name		Koldioxid	
NGV (OEL TWA)		9000 mg/m³	
NGV (OEL TWA) [ppm]		5000 ppm	
KTV (OEL STEL)		18000 mg/m³	
KTV (OEL STEL) [ppm]		10000 ppm	
<b>United Kingdom - Occupational Exposure Limits</b>			
Local name		Carbon dioxide	
WEL TWA (OEL TWA) [1]		9150 mg/m³	
WEL TWA (OEL TWA) [2]		5000 ppm	
WEL STEL (OEL STEL)		27400 mg/m³	
WEL STEL (OEL STEL) [ppm]		15000 ppm	
<b>Iceland - Occupational Exposure Limits</b>			
Local name		Koldíoxíð (koltvísýringur, kolsýra)	
OEL TWA		9000 mg/m³	
OEL TWA [ppm]		5000 ppm	



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<b>Norway - Occupational Exposure Limits</b>	
Local name	Karbondioksid
Grenseverdi (OEL TWA) [1]	9000 mg/m³
Grenseverdi (OEL TWA) [2]	5000 ppm
<b>Switzerland - Occupational Exposure Limits</b>	
Local name	Kohlendioxid
MAK (OEL TWA) [1]	9000 mg/m³
MAK (OEL TWA) [2]	5000 ppm
Remark	Asphyxie - NIOSH
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Carbon dioxide
ACGIH OEL TWA [ppm]	5000 ppm
ACGIH OEL STEL [ppm]	30000 ppm
Remark (ACGIH)	Asphyxia

DNEL (Derived-No Effect Level) : None available.

PNEC (Predicted No-Effect Concentration) : None available.

**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.  
Ensure exposure is below occupational exposure limits (where available).  
Gas detectors should be used when oxidising gases may be released.  
Consider the use of a 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 - specifications.
- Skin protection : Wear working gloves when handling gas containers.  
Standard EN 388 - Protective gloves against mechanical risk, performance level 1 or higher.
- Hand protection : Wear safety shoes while handling containers.  
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
- Other

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- Respiratory protection

: Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known.  
Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.  
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.  
When indicated by a risk assessment, Respiratory Protective Equipment must be used. The selection of the Respiratory Protective Device (RPD) must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected RPD.  
Gas filters do not protect against oxygen deficiency.  
Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .  
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
- Thermal hazards

: None in addition to the above sections.

8.2.3. Environmental exposure controls

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

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

: Colourless
- Odour

: Odourless.

Odour threshold is subjective and inadequate to warn of overexposure.
- pH

: Not applicable for gases and gas mixtures.
- Melting point / Freezing point

: Not applicable for gas mixtures.
- Boiling point

: Not applicable for gas mixtures.
- Flash point

: Not applicable for gases and gas mixtures.
- Flammability

: Non flammable.
- Explosive limits

: Non flammable.
- Lower explosion limit

: Not available
- Upper explosion limit

: Not available
- Vapour pressure [20°C]

: Not applicable.
- Vapour pressure [50°C]

: Not applicable.
- Density

: Not applicable
- Vapour density

: Not applicable for gases and gas mixtures.
- Relative density, liquid (water=1)

: Not applicable
- Relative density, gas (air=1)

: Heavier than air.
- Water solubility

: Solubility in water of component(s) of the mixture :  
• Carbon dioxide: 2000 mg/l Completely soluble. • Oxygen: 39 mg/l
- Partition coefficient n-octanol/water (Log Kow)

: Not applicable for gas mixtures.
- Auto-ignition temperature

: Non flammable.
- Decomposition temperature

: Not applicable.
- Viscosity, kinematic

: No reliable data available.
- Particle characteristics

: Not applicable for gases and gas mixtures.

9.2. Other information

9.2.1. Information with regard to physical hazard classes

- Explosive properties


: Not applicable.
- Oxidising properties

: Oxidiser.

9.2.2. Other safety characteristics

- Molar mass

: Not applicable for gas mixtures.

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Evaporation rate	: Not applicable for gases and gas mixtures.
Other data	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## 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 normal conditions.

### 10.3. Possibility of hazardous reactions

Reactivity

Violently oxidises organic material.

: This mixture contains components with the following reactivity : Violently oxidises organic material.

### 10.4. Conditions to avoid

Avoid moisture in installation systems.  
Water, humidity.

### 10.5. Incompatible materials

May react violently with combustible materials.  
May react violently with reducing agents.  
Keep equipment free from oil and grease. For more guidance, refer to the EIGA Doc. 33 - Cleaning of Equipment for Oxygen Service downloadable at <http://www.eiga.eu>.  
Consider the potential toxicity hazard due to the presence of chlorinated or fluorinated polymers in high pressure (> 30 bar) oxygen lines in case of combustion.  
For additional information on compatibility refer to ISO 11114.

### 10.6. Hazardous decomposition products

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

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

: Toxicological effects not expected from this product if occupational exposure limit values are not exceeded.

Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels (20-21%) are maintained. 5% CO<sub>2</sub> has been found to act synergistically to increase the toxicity of certain other gases (CO, NO<sub>2</sub>). CO<sub>2</sub> has been shown to enhance the production of carboxy- or met-hemoglobin by these gases possibly due to carbon dioxide's stimulatory effects on the respiratory and circulatory systems.  
For more information, see 'EIGA Safety Info 24: Carbon Dioxide, Physiological Hazards' at [www.eiga.eu](http://www.eiga.eu).

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.

Toxic for reproduction : unborn child

: No known effects from this product.

STOT-single exposure

: No known effects from this product.

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**STOT-repeated exposure** : No known effects from this product.

**Aspiration hazard** : Not applicable for gases and gas mixtures.

#### **11.2. Information on other hazards**

**Other information** : For more information, see 'EIGA Safety Info 24: Carbon Dioxide, Physiological Hazards' at [www.eiga.eu](http://www.eiga.eu).

Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels (20-21%) are maintained. 5% CO<sub>2</sub> has been found to act synergistically to increase the toxicity of certain other gases (CO, NO<sub>2</sub>). CO<sub>2</sub> has been shown to enhance the production of carboxy- or met-hemoglobin by these gases possibly due to carbon dioxide's stimulatory effects on the respiratory and circulatory systems.

The substance/mixture has no endocrine disrupting properties.

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

**Assessment** : No ecological damage caused by this product.

EC50 48h - Daphnia magna [mg/l] : No data available.

EC50 72h - Algae [mg/l] : No data available.

LC50 96 h - Fish [mg/l] : No data available.

### **12.2. Persistence and degradability**

**Assessment** : No ecological damage caused by this product.

### **12.3. Bioaccumulative potential**

**Assessment** : No data available.

### **12.4. Mobility in soil**

**Assessment** : Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

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

**Assessment** : Not classified as PBT or vPvB.

### **12.6. Endocrine disrupting properties**

The substance/mixture has no endocrine disrupting properties.

### **12.7. Other adverse effects**

**Other adverse effects** : No known effects from this product.

**Effect on the ozone layer** : None.

**Effect on global warming** : Contains greenhouse gas(es).

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

Contact supplier if guidance is required.

May be vented to atmosphere in a well ventilated place.

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.

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.

Return unused product in original container to supplier.

16 05 04 \*: Gases in pressure containers (including halons) containing hazardous substances.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended)

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13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transport information

14.1. UN number or ID number

In accordance with ADR / RID / IMDG / IATA / ADN  
UN-No. : 3156

14.2. UN proper shipping name

Transport by road/rail (ADR/RID) : COMPRESSED GAS, OXIDIZING, N.O.S. (Oxygen, Carbon dioxide)  
Transport by air (ICAO-TI / IATA-DGR) : Compressed gas, oxidizing, n.o.s. (Oxygen, Carbon dioxide)  
Transport by sea (IMDG) : COMPRESSED GAS, OXIDIZING, N.O.S. (Oxygen, Carbon dioxide)

14.3. Transport hazard class(es)

Labelling



2.2 : Non-flammable, non-toxic gases.  
5.1 : Oxidizing substances.

Transport by road/rail (ADR/RID)

Class : 2  
Classification code : 10  
Hazard identification number : 25  
Tunnel Restriction : E - Passage forbidden through tunnels of category E

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

Class / Div. (Sub. risk(s)) : 2.2 (5.1)

Transport by sea (IMDG)

Class / Div. (Sub. risk(s)) : 2.2 (5.1)  
Emergency Schedule (EmS) - Fire : F-C  
Emergency Schedule (EmS) - Spillage : S-W

14.4. Packing group

Transport by road/rail (ADR/RID) : Not established.  
Transport by air (ICAO-TI / IATA-DGR) : Not established.  
Transport by sea (IMDG) : Not established.


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

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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 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. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

EU-Regulations

Restrictions on use

: None.  
Contains no substance(s) listed on the REACH Candidate List

National legislation

: Ensure all national/local regulations are observed.

Seveso Directive : 2012/18/EU (Seveso III)

: Covered.

National regulations

Ensure all national/local regulations are observed.

France	
Occupational diseases	
Code	Description
RG 66	Occupational rhinitis and asthma

Germany

Water hazard class (WGK)

: WGK nwg, Non-hazardous to water (Classification according to AwSV, Annex 1)

National Rules and Recommendations

: [German regulations] BetriebssicherheitsV mit TRBSen insbesondere TRBS 3145 / TRGS 725 Ortsbewegliche Druckgasbehälter", TRBS 2141, BGR Regel 500 Teil 2.33: "Umgang mit Gasen", GefahrstoffV mit Technischen Regeln Gefährliche Stoffe TRGS insbesondere TRGS 407 "Tätigkeiten mit Gasen - Gefährdungsbeurteilung", TRGS 400, 500, 510, 900."

Netherlands

SZW-lijst van kankerverwekkende stoffen

: None of the components are listed

SZW-lijst van mutagene stoffen

: None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding

: None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid

: None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling

: None of the components are listed


15.2. Chemical safety assessment

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

SECTION 16: Other information

Indication of changes

: Safety data sheet in accordance with commission regulation (EU) No 2020/878.

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Section	Changed item	Change	Comments
1.3	Company	Modified	Version 5.0. New address in Sweden. (This change only applies to the Swedish (SE) version of this SDS)

Abbreviations and acronyms	: ATE - Acute Toxicity Estimate CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 EINECS - European Inventory of Existing Commercial Chemical Substances CAS# - Chemical Abstract Service number PPE - Personal Protection Equipment LC50 - Lethal Concentration to 50 % of a test population RMM - Risk Management Measures PBT - Persistent, Bioaccumulative and Toxic vPvB - Very Persistent and Very Bioaccumulative STOT- SE : Specific Target Organ Toxicity - Single Exposure CSA - Chemical Safety Assessment EN - European Standard UN - United Nations ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road IATA - International Air Transport Association IMDG code - International Maritime Dangerous Goods RID - Regulations concerning the International Carriage of Dangerous Goods by Rail WGK - Water Hazard Class STOT - RE : Specific Target Organ Toxicity - Repeated Exposure UFI : Unique Formula Identifier
Training advice	: None.
Further information	: Classification using data from databases maintained by the European Industrial Gases Association (EIGA). Data is maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at : <a href="http://www.eiga.eu">http://www.eiga.eu</a> . Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP).

Full text of H- and EUH-statements	
H270	May cause or intensify fire; oxidiser.
H280	Contains gas under pressure; may explode if heated.
Ox. Gas 1	Oxidising Gases, Category 1
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Press. Gas (Liq.)	Gases under pressure : Liquefied gas

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.
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