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

1.1. Product identifier

Trade name : <= 0.05% BENZENE// <=21% O2//N2

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. Contact supplier for more information on uses.

Uses advised against : Consumer use.

1.3. Details of the supplier of the safety data sheet

Company identification : Calgaz Ltd
Units 1 + 2 Speedwell Road  Parkhouse Industrial Estate
ST5 7RG    Newcastle Under Lyme    UNITED KINGDOM
+44 (0) 1782 566 897
www.calgaz.com
info@calgaz.com (not 24hr)

1.4. Emergency telephone number

Emergency telephone number : Tel 24hr (EU): +44 (0) 1235 239670

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

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) : P403 - Store in a well-ventilated place.
2.3. Other hazards

: None.

SECTION 3: Composition/information on ingredients

3.1. Substances : Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
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</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>(CAS-No.) 7727-37-9</td>
<td>79.05</td>
<td>Press. Gas (Comp.), H280</td>
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<tr>
<td></td>
<td>(EC-No.) 231-783-9</td>
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<td>(EC Index-No.)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>(REACH-no) *1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen</td>
<td>(CAS-No.) 7782-44-7</td>
<td>&lt;= 20.9</td>
<td>Ox. Gas 1, H270 Press. Gas (Comp.), H280</td>
</tr>
<tr>
<td></td>
<td>(EC-No.) 231-956-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(EC Index-No.) 008-001-00-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(REACH-no) *1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>(CAS-No.) 71-43-2</td>
<td>&lt;= 0.05</td>
<td>Flam. Lq. 2, H225 Carc. 1A, H350 Muta. 1B, H340 STOT RE 1, H372 Asp. Tox. 1, H304 Eye Irrit. 2, H319 Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td>(EC-No.) 200-753-7</td>
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<tr>
<td></td>
<td>(EC Index-No.) 601-020-00-8</td>
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<td></td>
</tr>
</tbody>
</table>

Full text of 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

: 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: Incomplete combustion may form carbon monoxide.

5.1. 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
- Act in accordance with local emergency plan.
- Stay upwind.

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 product 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.
Use only oxygen approved lubricants and oxygen approved sealings.
Avoid suck back of water, acid and alkalis.
Do not breathe gas.
Avoid release of product into atmosphere.
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.

Suck back of water into the container must be prevented.

Open valve slowly to avoid pressure shock.

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.

7.2. Conditions for safe storage, including any incompatibilities

Contamination:

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.

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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

<table>
<thead>
<tr>
<th>Substance</th>
<th>OEL : Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene (71-43-2)</td>
<td>TWA IOELV (EU) 8 h [mg/m³]</td>
</tr>
<tr>
<td></td>
<td>TWA IOELV (EU) 8 h [ppm]</td>
</tr>
<tr>
<td></td>
<td>Notes</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL - LTEL - UK [mg/m³]</td>
</tr>
<tr>
<td></td>
<td>WEL - LTEL - UK [ppm]</td>
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<tr>
<td></td>
<td>Remark (WEL)</td>
</tr>
<tr>
<td>Norway</td>
<td>TWA (NO) OEL 8h [ppm]</td>
</tr>
<tr>
<td></td>
<td>STEL (NO) OEL 15min [ppm]</td>
</tr>
</tbody>
</table>
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).

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
  - 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
  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.
  Gas filters do not protect against oxygen deficiency.
  Standard EN 14387 - Gas filter(s), combined filter(s) and full face mask - EN 136.

• Thermal hazards
  None in addition to the above sections.

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 : Gas
  - Colour : Mixture contains one or more component(s) which have the following colour(s):
    Colourless.
  Odour : Odourless.
  Odour threshold : 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.
  Evaporation rate : Not applicable for gases and gas mixtures.
  Flammability (solid, gas) : Non flammable.
Explosive limits : Non flammable.
Vapour pressure [20°C] : Not applicable.
Vapour pressure [50°C] : Not applicable.
Vapour density : Not applicable.
Relative density, gas (air=1) : Lighter or similar to air.
Partition coefficient n-octanol/water (Log Kow) : Not applicable for gas mixtures.
Auto-ignition temperature : Non flammable.
Decomposition temperature : Not applicable.
Viscosity : No reliable data available.
Explosive properties : Not applicable.
Oxidising properties : Not applicable.
9.2. Other information
Molar mass : Not applicable for gas mixtures.
Other data : None.

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 : None under normal use.
10.4. Conditions to avoid : Avoid moisture in installation systems.
10.5. Incompatible materials : 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 toxicological effects
Acute toxicity : Toxicological effects not expected from this product if occupational exposure limit values are not exceeded.
Skin corrosion/irritation : Classification criteria are not met.
Serious eye damage/irritation : Classification criteria are not met.
Respiratory or skin sensitisation : No known effects from this product.
Germ cell mutagenicity : No known effects from this product.
Carcinogenicity : Classification criteria are not met.
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.
STOT-repeated exposure : Classification criteria are not met.
Aspiration hazard : Not applicable for gases and gas mixtures.
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 data available.

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. Other adverse effects
Other adverse effects : No known effects from this product.
Effect on the ozone layer : None.
Effect on global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
May be vented to atmosphere in a well ventilated place.
Do not discharge into any place where its accumulation could be dangerous.
Return unused product in original cylinder to supplier.

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

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 ; Nitrogen 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 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) : P200
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 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
Restrictions on use: None.

National regulations
National legislation: Ensure all national/local regulations are observed.
Water hazard class (WGK): 1 - low hazard to waters

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 N°2015/830.
### Abbreviations and acronyms
- ATE - Acute Toxicity Estimate
- CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
- EINECS - European Inventory of Existing Commercial Chemical Substances
- CAS# - Chemical Abstract Service number
- LC50 - Lethal Concentration to 50 % of a test population
- PPE - Personal Protection Equipment
- RMM - Risk Management Measures
- PBT - Persistent, Bioaccumulative and Toxic
- vPvB - Very Persistent and Very Bioaccumulative
- STOT - 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

### Training advice
None.

### Further information
Classification using data from databases maintained by the European Industrial Gases Association (EIGA).
Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP.

### Full text of H- and EUH-statements

<table>
<thead>
<tr>
<th>H- and EUH-statements</th>
<th>Asp. Tox. 1</th>
<th>Aspiration hazard, Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Carc. 1A</td>
<td>Carcinogenicity, Category 1A</td>
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<tr>
<td></td>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
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<tr>
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<td>Flam. Liqu. 2</td>
<td>Flammable liquids, Category 2</td>
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<td>Muta. 1B</td>
<td>Germ cell mutagenicity, Category 1B</td>
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<td>Ox. Gas 1</td>
<td>Oxidising Gases, Category 1</td>
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<td>Press. Gas (Comp.)</td>
<td>Gases under pressure: Compressed gas</td>
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<td></td>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
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<tr>
<td></td>
<td>STOT RE 1</td>
<td>Specific target organ toxicity — Repeated exposure, Category 1</td>
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<tr>
<td></td>
<td>H225</td>
<td>Highly flammable liquid and vapour</td>
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<tr>
<td></td>
<td>H270</td>
<td>May cause or intensify fire; oxidizer</td>
</tr>
<tr>
<td></td>
<td>H280</td>
<td>Contains gas under pressure; may explode if heated</td>
</tr>
<tr>
<td></td>
<td>H304</td>
<td>May be fatal if swallowed and enters airways</td>
</tr>
<tr>
<td></td>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td></td>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td></td>
<td>H340</td>
<td>May cause genetic defects</td>
</tr>
<tr>
<td></td>
<td>H350</td>
<td>May cause cancer</td>
</tr>
<tr>
<td></td>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

### 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.