

# Safety Data Sheet

## Lazemix 3

Date of issue: 14/02/2019  
SDS reference:

**Danger**



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

#### 1.1. Product identifier

Trade name : Lazemix 3

#### 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 : Consumer use.

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

Company identification : BUSE UK  
Johnsons Bridge Road West Bromwich  
B71 1LG - United Kingdom  
T + 44 (0)121 524 1111  
sales@specialty-gases.com

#### 1.4. Emergency telephone number

Emergency telephone number : + 44 (0)121 524 1111  
Emergency telephone number

### 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 |
| Health hazards   | Reproductive toxicity, Category 1A                             | H360 |
|                  | Specific target organ toxicity — Repeated exposure, Category 2 | H373 |

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) : Danger

Hazard statements (CLP) : H280 - Contains gas under pressure; may explode if heated.  
H360 - May damage fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (CLP)



## 4% Carbon Monoxide; 8% Carbon Dioxide; 28% Helium in Nitrogen

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- Prevention : P202 - Do not handle until all safety precautions have been read and understood.  
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
- Storage : P405 - Store locked up.

**2.3. Other hazards**

- : Contact with liquid may cause cold burns/frostbite.  
May ignite spontaneously in contact with air.  
None.

**SECTION 3: Composition/information on ingredients****3.1. Substances** : Not applicable**3.2. Mixtures**

| Name            | Product identifier   | %  | Classification according to Regulation (EC) No. 1272/2008 [CLP]  |
|-----------------|--|----|--|
| Nitrogen        | (CAS-No.) 7727-37-9<br>(EC-No.) 231-783-9<br>(EC Index-No.)<br>(REACH-no) *1                           | 60 | Press. Gas Comp., H280   |
| Helium          | (CAS-No.) 7440-59-7<br>(EC-No.) 231-168-5<br>(EC Index-No.)<br>(REACH-no) *1                           | 28 | Press. Gas Comp., H280   |
| Carbon dioxide  | (CAS-No.) 124-38-9<br>(EC-No.) 204-696-9<br>(EC Index-No.)<br>(REACH-no) *1                            | 8  | Press. Gas Comp., H280   |
| Carbon monoxide | (CAS-No.) 630-08-0<br>(EC-No.) 211-128-3<br>(EC Index-No.) 006-001-00-2<br>(REACH-no) 01-2119480165-39 | 4  | Flam. Gas 1, H220<br>Press. Gas Comp., H280<br>Acute Tox. 3 (Inhalation:gas), H331<br>Repr. 1A, H360D<br>STOT RE 1, H372 |

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.

\*3: Registration not required: Substance manufactured or imported &lt; 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.  
Adverse effects not expected from this product.



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- Skin contact : For liquid spillage - flush with water for at least 15 minutes.  
In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.  
Adverse effects not expected from this product.
- Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.  
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**

: Obtain medical assistance.

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 : Exposure to fire may cause containers to rupture/explode.  
Escaping gas cannot be extinguished.

Hazardous combustion products : None that are more toxic than the product itself.

### **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.  
If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.  
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**

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- : Try to stop release.
- Evacuate area.
- Monitor concentration of released product.
- Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
- Use protective clothing.
- Ensure adequate air ventilation.
- Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
- Act in accordance with local emergency plan.
- Stay upwind.

**6.2. Environmental precautions**

- : Try to stop release.

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

- : None.
- Ventilate area.
- Liquid spillages can cause embrittlement of structural materials.

**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

- : Do not breathe gas.
- Avoid release of product into atmosphere.
- 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.
- Avoid exposure, obtain special instructions before use.
- Protect eyes, face and skin from liquid splashes.
- Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.



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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>Carbon monoxide (630-08-0)</b>  |                                      |                       |
|------------------------------------|--------------------------------------|-----------------------|
| OEL : Occupational Exposure Limits |                                      |                       |
| United Kingdom                     | WEL - LTEL - UK [mg/m <sup>3</sup> ] | 35 mg/m <sup>3</sup>  |
|                                    | WEL - LTEL - UK [ppm]                | 30 ppm                |
|                                    | WEL - STEL - UK [mg/m <sup>3</sup> ] | 232 mg/m <sup>3</sup> |
|                                    | WEL - STEL - UK [ppm]                | 200 ppm               |

| <b>Carbon dioxide (124-38-9)</b>   |                                      |                         |
|------------------------------------|--------------------------------------|-------------------------|
| OEL : Occupational Exposure Limits |                                      |                         |
| United Kingdom                     | WEL - LTEL - UK [mg/m <sup>3</sup> ] | 9150 mg/m <sup>3</sup>  |
|                                    | WEL - LTEL - UK [ppm]                | 5000 ppm                |
|                                    | WEL - STEL - UK [mg/m <sup>3</sup> ] | 27400 mg/m <sup>3</sup> |
|                                    | WEL - STEL - UK [ppm]                | 15000 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 |

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|  |        |
|--|--------|
| Long-term - local effects, inhalation    | 20 ppm |
| Long-term - systemic effects, inhalation | 20 ppm |

**8.2. Exposure controls**

**8.2.1. Appropriate engineering controls**

- : Product to be handled in a closed system and under strictly controlled conditions.
- Provide adequate general and local exhaust ventilation.
- Product to be handled in a closed system.
- Preferably use permanent leak-tight installations (e.g. welded pipes).
- Systems under pressure should be regularly checked for leakages.
- Ensure exposure is below occupational exposure limits (where available).
- Gas detectors should be used when toxic gases may be released.
- Gas detectors should be used when flammable gases/vapours may be released.
- Gas detectors should be used when oxidising gases may be released.
- Oxygen detectors should be used when asphyxiating 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.
- Wear goggles and a face shield when transfilling or breaking transfer connections.
- 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.
- Consult respiratory device supplier's product information for the selection of the appropriate device.
- Gas filters do not protect against oxygen deficiency.
- Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.
- Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .
- Keep self contained breathing apparatus readily available for emergency use.
- Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
- Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.

• Thermal hazards

- : Wear cold insulating gloves when transfilling or breaking transfer connections.
- Wear cold insulating gloves.
- Standard EN 511 - Cold insulating gloves.
- None necessary.

**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 : 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.

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

pH : Not applicable for gas mixtures.

Melting point / Freezing point : Not applicable for gas mixtures.

Boiling point : Not applicable for gas mixtures.

Flash point : Not applicable for gas mixtures.

Evaporation rate : Not applicable for gas mixtures.

Flammability (solid, gas) :

Explosive limits : Non flammable.

Vapour pressure [20°C] : Not applicable.

Vapour pressure [50°C] : Not applicable.

Relative density, gas (air=1) : Heavier than air.

Partition coefficient n-octanol/water (Log Kow) : Not applicable for gas mixtures.

Auto-ignition temperature : Non flammable.

Viscosity : Not applicable.

Explosive properties : Not applicable.

Oxidising properties : Not applicable.

**9.2. Other information**

Molar mass : Not applicable for gas mixtures.

Other data : Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.  
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.

**10.4. Conditions to avoid**

: None under recommended storage and handling conditions (see section 7).

**10.5. Incompatible materials**

: None.

**10.6. Hazardous decomposition products**

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

**SECTION 11: Toxicological information**



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**11.1. Information on toxicological effects**

**Acute toxicity** : Harmful by inhalation.  
Classification criteria are not met.

| <b>Carbon monoxide (630-08-0)</b> |                                   |
|-----------------------------------|-----------------------------------|
| LC50 inhalation rat (ppm)         | 3760 ppm/1h (P200)<br>1300 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.  
**Toxic for reproduction : unborn child** : No known effects from this product.  
**STOT-single exposure** : No known effects from this product.  
**STOT-repeated exposure** : May cause damage to organs through prolonged or repeated exposure.  
No known effects from this product.  
**Aspiration hazard** : Not applicable for gases and gas mixtures.

**SECTION 12: Ecological information**

**12.1. Toxicity**

Assessment : Classification criteria are not met.

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.

| <b>Carbon monoxide (630-08-0)</b> |                                   |
|-----------------------------------|-----------------------------------|
| EC50 48h - Daphnia magna [mg/l]   | Study scientifically unjustified. |
| EC50 72h - Algae [mg/l]           | Study scientifically unjustified. |
| LC50 96 h - Fish [mg/l]           | Study scientifically unjustified. |

**12.2. Persistence and degradability**

Assessment : No data available.

**12.3. Bioaccumulative potential**

Assessment : No data available.

**12.4. Mobility in soil**

Assessment : No data available.

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

Assessment : Not classified as PBT or vPvB.

**12.6. Other adverse effects**

Other adverse effects : Can cause frost damage to vegetation.  
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.  
May be vented to atmosphere in a well ventilated place.  
Avoid discharge to atmosphere.  
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.

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

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

**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. (Nitrogen, Carbon monoxide)

Transport by air (ICAO-TI / IATA-DGR) : Compressed gas, n.o.s. (Nitrogen, Carbon monoxide)

Transport by sea (IMDG) : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

**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.



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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 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 : Restricted to professional users (Annex XVII REACH).

Seveso Directive : 2012/18/EU (Seveso III) : Not covered.

**National regulations**

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

**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 453/2010.

Training advice : Users of breathing apparatus must be trained.  
Receptacle under pressure.

Further information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation.  
Classification in accordance with the calculation methods of Regulation (EC) 1272/2008 CLP.

Full text of H- and EUH-statements

|                               |  |
|-------------------------------|--|
| Acute Tox. 3 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 3 |
| Flam. Gas 1                   | Flammable gases, Category 1                |



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|                  |  |
|------------------|--|
| Press. Gas Comp. | Gases under pressure : Compressed gas  |
| Repr. 1A         | Reproductive toxicity, Category 1A   |
| Repr. 1A         | Reproductive toxicity, Category 1A   |
| STOT RE 1        | Specific target organ toxicity — Repeated exposure, Category 1                       |
| STOT RE 2        | Specific target organ toxicity — Repeated exposure, Category 2                       |
| H220             | Extremely flammable gas.   |
| H280             | Contains gas under pressure; may explode if heated.                                  |
| H331             | Toxic if inhaled.  |
| H360             | May damage fertility or the unborn child.  |
| H360D            | May damage the unborn child.   |
| H372             | Causes damage to organs through prolonged or repeated exposure.                      |
| H373             | May cause damage to organs through prolonged or repeated exposure.                   |
| R12              | Extremely flammable  |
| R20              | Harmful by inhalation  |
| R23              | Toxic by inhalation  |
| R48/20           | Harmful: danger of serious damage to health by prolonged exposure through inhalation |
| R48/23           | Toxic: danger of serious damage to health by prolonged exposure through inhalation   |
| R61              | May cause harm to the unborn child   |
| F+               | Extremely flammable  |
| T                | Toxic  |
| Xn               | Harmful  |

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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