2.2 : Non-flammable, non-toxic gases

Warning

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

1.1. Product identifier

Trade name : Nitrogen

SDS Nr : SDS_N2

Chemical description : Nitrogen
CAS No :7727-37-9
EC No :231-783-9
Index No :---

Registration-No. : Listed in Annex IV / V REACH, exempted from registration.

Chemical formula : 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.
Test gas/Calibration gas. Purging. Laboratory use.
Shield gas for welding processes.
Use for manufacture of electronic/photovoltaic components.
Contact supplier for more information on uses.

1.3. Details of the supplier of the safety data sheet

Company identification : BUZWAIR INDUSTRIAL GASES FACTORIES
PO Box 319
Doha Qatar

1.4. Emergency telephone number

Emergency telephone number : +974 4451 6976

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

Hazard Class and Category Code Regulation EC 1272/2008 (CLP)

• Physical hazards : Gases under pressure - Compressed gas - Warning - (CLP : Press. Gas) - H280

Classification EC 67/548 or EC 1999/45

: Not classified as dangerous substance / mixture.
Not included in Annex VI.
No EC labelling required.

2.2. Label elements

Labelling Regulation EC 1272/2008 (CLP)

• Hazard pictograms

SECTION 2. Hazards identification (continued)

- **Hazard pictograms code** : GHS04
- **Signal word** : Warning
- **Hazard statements** : H280 - Contains gas under pressure; may explode if heated.
- **Precautionary statements**
  - **Storage** : P403 - Store in a well-ventilated place.

2.3. Other hazards

: Asphyxiant in high concentrations.

SECTION 3. Composition/information on ingredients

3.1. Substance / 3.2. Mixture

Substance.

Substance name		Contents	CAS No EC No Index No Registration no	Classification(DSD)	Classification(CLP)
Nitrogen	:	100 %	7727-37-9 231-783-9 ----- *1	Not classified (DSD)	Press. Gas Compressed (H280)

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.
Full text of R-phrases see section 16. Full text of H-statements see section 16.

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. Apply artificial respiration 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.

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

: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/ consciousness. Victim may not be aware of asphyxiation.

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** : Exposure to fire may cause containers to rupture/explode.
- **Hazardous combustion products** : None.

5.3. Advice for fire-fighters

SECTION 5. Firefighting measures (continued)

Specific methods : If possible, stop flow of product.
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 fro
Use water spray or fog to knock down fire fumes if possible.

Special protective equipment for fire fighters : Use self-contained breathing apparatus.
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

: Try to stop release.
Evacuate area.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Ensure adequate air ventilation.

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.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Safe use of the product : Only experienced and properly instructed persons should handle gases under pressure.
The substance must be handled in accordance with good industrial hygiene and safety procedures.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Do not smoke while handling product.
Ensure the complete gas system was (or is regularly) checked for leaks before use.
Consider pressure relief device(s) in gas installations.

Safe handling of the gas receptacle : Refer to supplier's container handling instructions.
Suck back of water into the container must be prevented.
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.

SECTION 7. Handling and storage (continued)

7.2. Conditions for safe storage, including any incompatibilities

: Observe all regulations and local requirements regarding storage of containers.
Keep container below 50°C in a well ventilated place. Containers should be stored in the vertical position and properly secured to prevent toppling. Stored containers should be periodically checked for general condition and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition.
Containers should not be stored in conditions likely to encourage corrosion. Keep away from combustible materials.

7.3. Specific end use(s)

: None.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

DNEL: Derived no effect level (Workers)

: No data available.

PNEC: Predicted no effect concentration

: No data available.

8.2. Exposure controls

8.2.1. Appropriate engineering controls : Systems under pressure shoud be regularily checked for leakages.
Oxygen detectors should be used when asphixiating gases may be released.
Provide adequate general and local exhaust ventilation.
Consider work permit system e.g. for maintenance activities.

8.2.2. Individual protection measures, e.g. personal protective equipment : PPE compliant to the recommended EN/ISO standards should be selected.
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:

• 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	: Gas.
Colour	: Colourless.
Odour	: No odour warning properties.
Odour threshold	: Odour threshold is subjective and inadequate to warn for overexposure.
pH value	: Not applicable.
Molar mass [g/mol]	: 28
Melting point [°C]	: -210
Boiling point [°C]	: -196
Critical temperature [°C]	: -147
Flash point [°C]	: Not applicable for gases and gas-mixtures.
Evaporation rate (ether=1)	: Not applicable for gases and gas-mixtures.
Flammability range [vol% in air]	: Non flammable.
Vapour pressure [20°C]	: Not applicable.
Relative density, gas (air=1)	: 0.97
Relative density, liquid (water=1)	: Not applicable.
Solubility in water [mg/l]	: 20
Partition coefficient n-octanol/water [log Kow]	: Not applicable for inorganic gases.
Auto-ignition temperature [°C]	: Not applicable.
Viscosity at 20°C [mPa.s]	: Not applicable.
Explosive Properties	: Not applicable.
Oxidising Properties	: None.

9.2. Other information

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.

10.4. Conditions to avoid

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

10.5. Incompatible materials

: None.
For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

: None.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: No known toxicological effects from this product.
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.
Carcinogenicity	: No known effects from this product.
Germ cell mutagenicity	: No known effects from this product.
Reproductive toxicity	: No known effects from this product.
STOT-single exposure	: No known effects from this product.
STOT-repeated exposure	: No known effects from this product.
Aspiration hazard	: Not applicable for gases and gas-mixtures.

SECTION 12. Ecological information

12.1. Toxicity

: No ecological damage caused by this product.

12.2. Persistence and degradability

: No ecological damage caused by this product.

12.3. Bioaccumulative potential

: No ecological damage caused by this product.

12.4. Mobility in soil

: No ecological damage caused by this product.

12.5. Results of PBT and vPvB assessment

: Not classified as PBT or vPvB.

12.6. Other adverse effects

Effect on ozone layer	: None.
Effect on the global warming	: None.

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.
Consult supplier for specific recommendations.

List of hazardous wastes : 16 05 05: Gases in pressure containers other than those mentioned in 16 05 04.

13.2. Additional information

: None.

SECTION 14. Transport information

UN number : 1066

Labelling ADR, IMDG, IATA

: 2.2 : Non-flammable, non-toxic gases

Land transport (ADR/RID)

H.I. nr	: 20
UN proper shipping name	: NITROGEN, COMPRESSED
Transport hazard class(es)	: 2
Classification code	: 1 A
Packing Instruction(s)	: P200
Tunnel Restriction	: E : Passage forbidden through tunnels of category E.
Environmental hazards	: None.

Sea transport (IMDG)

Proper shipping name	: NITROGEN, COMPRESSED
Class	: 2.2
Emergency Schedule (EmS) - Fire	: F-C
Emergency Schedule (EmS) - Spillage	: S-V
Packing instruction	: P200
IMDG-Marine pollutant	: No

Air transport (ICAO-TI / IATA-DGR)

Proper shipping name (IATA)	: NITROGEN, COMPRESSED
Class	: 2.2
Passenger and Cargo Aircraft	: Allowed.
Packing instruction - Passenger and Cargo Aircraft	: 200
Cargo Aircraft only	: Allowed.
Packing instruction - Cargo Aircraft only	: 200

Special precautions for user

: 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 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.
- Ensure there is adequate ventilation.

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 legislation

Restrictions on use : None.

Seveso directive 96/82/EC : Not covered.

National legislation

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 commisssion regulation (EU) No 453/2010.

Training advice : The hazard of asphyxiation is often overlooked and must be stressed during operator training.

List of full text of H-statements in section 3. : H280 - Contains gas under pressure; may explode if heated.

Further information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation.

DISCLAIMER OF LIABILITY : 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.
Details given in this document are believed to be correct at the time of going to press. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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