

SAFETY DATA SHEET

NITROGEN, COMPRESSED GAS

Section 1. Identification

Product name : NITROGEN, COMPRESSED GAS
Product description : Inert Gas

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : gas, Miscellaneous industrial applications
Uses advised against : This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

Supplier : Esso Exploration & Production Chad, Inc.
Kome Operation
Kome Central Treatment Facility
PO Box 694
N'Djamena
Chad

24 Hour Emergency Telephone : +44 20 3885 0382 / +1-703-527-3887 (CHEMTREC)

Section 2. Hazard identification

Classification of the substance or mixture : Press. Gas (Comp.), H280

GHS label elements

Hazard pictograms :



Signal word : Warning

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

Precautionary statements

Storage : P410 + P403 - Protect from sunlight. Store in a well-ventilated place.

Contains : nitrogen

Supplemental label elements : Not applicable.

Other hazards which do not result in classification : Acts as a simple asphyxiant. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

Nota : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : nitrogen

CAS number/other identifiers

EC number : Not available.

Ingredient name	% by weight	CAS number
nitrogen	100	REACH #: Annex IV EC: 231-783-9 CAS: 7727-37-9

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

Section 4. First-aid measures

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Hazardous combustion products : nitrogen oxides

Special protective actions for fire-fighters : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Thermal burn hazard - contact with hot material may cause thermal burns. Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Static Accumulator : This material is not a static accumulator.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
nitrogen	ACGIH TLV (United States, 1/2023). Oxygen Depletion [Asphyxiant].

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Face shield.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Section 8. Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties and safety characteristics

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Gas. [Compressed or Liquefied]
- Colour** : Colourless
- Odour** : Odourless
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : -210°C (-346°F)
- Boiling point, initial boiling point, and boiling range** : -196°C (-320.8°F)
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not applicable.
- Flammability** : Ignitable
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapour pressure** : Not applicable.
- Relative vapour density** : <1 [Air = 1]
- Relative density** : Not applicable.
- Solubility in water** : Negligible
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- Viscosity** : Not applicable.
- Particle characteristics**
- Median particle size** : Not applicable.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : High Temperatures.
- Incompatible materials** : No specific data.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Conclusion/Summary

- Inhalation** : Minimally Toxic. No end point data for material.
- Dermal** : Minimally Toxic. No end point data for material.
- Oral** : Minimally Toxic. No end point data for material.

Irritation/Corrosion

Conclusion/Summary

- Skin** : Negligible irritation to skin at ambient temperatures. No end point data for material.
- Eyes** : May cause mild, short-lasting discomfort to eyes. No end point data for material.
- Respiratory** : Negligible hazard at ambient/normal handling temperatures. No end point data for material.

Sensitisation

Conclusion/Summary

- Skin** : Not expected to be a skin sensitizer. No end point data for material.
- Respiratory** : Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

- Conclusion/Summary** : Not expected to be a germ cell mutagen. No end point data for material.

Carcinogenicity

- Conclusion/Summary** : Not expected to cause cancer. No end point data for material.

Reproductive toxicity

- Conclusion/Summary** : Not expected to be a reproductive toxicant. No end point data for material.

Specific target organ toxicity (single exposure)

- Conclusion/Summary** : Not expected to cause organ damage from a single exposure. No end point data for material.

Specific target organ toxicity (repeated exposure)

- Conclusion/Summary** : Not expected to cause organ damage from prolonged or repeated exposure. No end point data for material.

Aspiration hazard

- Conclusion/Summary** : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. No end point data for material.

Other information

Section 11. Toxicological information

- Product** : Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

Toxicity

Conclusion/Summary

- Acute toxicity** : Not expected to be harmful to aquatic organisms.
Chronic toxicity : Not expected to demonstrate chronic toxicity to aquatic organisms

Persistence and degradability

Not determined.

Bioaccumulative potential

Not determined.

Mobility in soil

- Mobility** : Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Other ecological information

- Other adverse effects** : No known significant effects or critical hazards.

Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Section 14. Transport information

	ADR	IMDG	IATA
UN number	UN1977	UN1977	UN1977
UN proper shipping name	NITROGEN, REFRIGERATED LIQUID (nitrogen)	NITROGEN, REFRIGERATED LIQUID (nitrogen)	Nitrogen, refrigerated liquid (nitrogen)
Transport hazard class(es)	2 	2.2 	2.2 

Section 14. Transport information

Packing group	-	-	-
Environmental hazards	No.	No.	No.

ADR : **Hazard identification number** 22
Limited quantity 120 ml
Special provisions 345, 346, 593
Tunnel code (C/E)

IMDG : **Emergency schedules** F-C, S-V
Special provisions 345, 346

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 50 kg. Packaging instructions: 202. Cargo Aircraft Only: 500 kg. Packaging instructions: 202. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
Special provisions A152

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not applicable.

Section 15. Regulatory information

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIIC)	: All components are listed or exempted.
Canada inventory (DSL-NDSL)	: All components are listed or exempted.
China inventory (IECSC)	: All components are listed or exempted.
Japan inventory (CSCL)	: All components are listed or exempted.
Japan inventory (Industrial Safety and Health Act)	: Not determined.
New Zealand Inventory of Chemicals (NZIoC)	: All components are listed or exempted.
Philippines inventory (PICCS)	: All components are listed or exempted.
Korea inventory (KECI)	: All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	: All components are listed or exempted.
United States inventory (TSCA 8b)	: All components are active or exempted.

Section 16. Other information

History

Date of issue/Date of revision : 6/24/2024

Date of previous issue : No previous edition

Version : 1

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

Procedure used to derive the classification

On basis of test data

References : Not available.

Indicates information that has changed from previously issued version.



Product code : 1165329_13131507

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