

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : AL20.0 (5.00% - 5.50%) in Nitrogen  
Product code : SG-2002-07404

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

Use of the substance/mixture : Test gas/Calibration gas  
Manufacture of substances

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

Air Liquide USA LLC and its affiliates  
9811 Katy Freeway, Suite 100  
Houston, TX 77024 - USA  
T 1-800-819-1704  
[www.us.airliquide.com](http://www.us.airliquide.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300

### SECTION 2: Hazard(s) identification

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

##### GHS-US classification

Gases under pressure H280  
Compressed gas  
Acute toxicity H332  
(inhalation;gas)  
Category 4  
Skin corrosion/irritation H314  
Category 1A  
Serious eye H318  
damage/eye irritation  
Category 1

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H280 - Contains gas under pressure; may explode if heated  
H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage  
H332 - Harmful if inhaled  
CGA-HG22 - Corrosive to the respiratory tract

Precautionary statements (GHS-US) :

P202 - Do not handle until all safety precautions have been read and understood  
P260 - Do not breathe gas  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear eye protection, face protection, protective gloves, protective clothing  
P284 - Wear respiratory protection. Consult respirator supplier's product information for the selection of the appropriate respiratory protection  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P307+P311 - If exposed: Call a poison center/doctor  
P403 - Store in a well-ventilated place

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P405 - Store locked up  
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations  
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)  
CGA-PG05 - Use a back flow preventive device in the piping  
CGA-PG06 - Close valve after each use and when empty  
CGA-PG10 - Use only with equipment rated for cylinder pressure  
CGA-PG14 - Approach suspected leak area with caution  
CGA-PG21 - Open valve slowly

### 2.3. Other hazards

Other hazards not contributing to the classification : Reacts violently with water.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Nitrogen	(CAS No) 7727-37-9	94.5 - 95	Compressed gas, H280

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Apply artificial respiration with bag and mask if breathing stopped. Get immediate medical advice/attention.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get immediate medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

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

Symptoms/injuries after inhalation : Harmful if inhaled. Corrosive to the respiratory tract.

Symptoms/injuries after skin contact : Causes severe skin burns and eye damage.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/injuries upon intravenous administration : Not known.

Chronic symptoms : Adverse effects not expected from this product.

### 4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Shutting off the source of the gas is the preferred method of control. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use water jet to extinguish.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : The product is not flammable.

Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity : Reacts violently with water. Toxic and corrosive gases are released.

### 5.3. Advice for firefighters

Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

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- |                                |  |
|--------------------------------|--|
| Protection during firefighting | : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection. |
|--------------------------------|--|

### SECTION 6: Accidental release measures

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

- |                  |                                |
|------------------|--------------------------------|
| General measures | : Ensure adequate ventilation. |
|------------------|--------------------------------|

##### 6.1.1. For non-emergency personnel

- |                      |   |
|----------------------|---|
| Protective equipment | : Wear protective equipment consistent with the site emergency plan.  |
| Emergency procedures | : Evacuate personnel to a safe area. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind. |

##### 6.1.2. For emergency responders

- |                      |   |
|----------------------|---|
| Protective equipment | : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection. |
| Emergency procedures | : Evacuate and limit access. Ventilate area.  |

#### 6.2. Environmental precautions

- Try to stop release if without risk.

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

- |                         |   |
|-------------------------|---|
| For containment         | : Try to stop release if without risk.  |
| Methods for cleaning up | : Dispose of contents/container in accordance with local/regional/national/international regulations. |

#### 6.4. Reference to other sections

- See also Sections 8 and 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- |                                   |   |
|-----------------------------------|---|
| Additional hazards when processed | : Pressurized container: Do not pierce or burn, even after use. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty. |
| Precautions for safe handling     | : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.                                     |
| Hygiene measures                  | : Do not eat, drink or smoke when using this product.   |

#### 7.2. Conditions for safe storage, including any incompatibilities

- |                        |   |
|------------------------|---|
| Technical measures     | : Comply with applicable regulations.   |
| Storage conditions     | : Do not expose to temperatures exceeding 52 °C/ 125 °F. Keep container closed when not in use. Protect cylinders from physical damage; do not drag, roll, slide or drop. Store in well ventilated area. Store locked up. |
| Incompatible products  | : None known.   |
| Incompatible materials | : Water. Organic materials. plastics. Oil. Grease.  |

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Nitrogen (7727-37-9)

Not applicable

#### 8.2. Exposure controls

- |                                  |   |
|----------------------------------|---|
| Appropriate engineering controls | : Ensure exposure is below occupational exposure limits (where available). Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Oxygen detectors should be used when asphyxiating gases may be released. Consider work permit system e.g. for maintenance activities. |
| Hand protection                  | : Wear working gloves when handling gas containers. 29 CFR 1910.138: Hand protection. Wear chemically resistant protective gloves when making or breaking process connections.  |
| Eye protection                   | : Wear safety glasses with side shields. Wear goggles and a face shield when transfilling or breaking transfer connections. 29 CFR 1910.133: Eye and Face Protection.   |
| Skin and body protection         | : Wear suitable protective clothing, e.g. lab coats, coveralls or flame resistant clothing.   |

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Respiratory protection	: Wear a respirator when performing non-routine tasks not limited to line breaking or sampling. Wear a respirator during routine operations if determined to be necessary during a process-specific review. Consult respirator suppliers' product information or their representatives for the selection of the appropriate respirator. See Sections 5 & 6.
Thermal hazard protection	: None necessary during normal and routine operations.
Environmental exposure controls	: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.
Other information	: Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Clear, colorless gas.
Color	: Colorless
Odor	: Acrid Pungent.
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable (non-flammable gas)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: See Section 2.1 and 2.2
Explosion limits	: Not applicable (non-flammable gas)
Explosive properties	: Not applicable (non-flammable gas).
Oxidizing properties	: None.
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Relative gas density	: Similar to air
Solubility	: Water: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts violently with water. Toxic and corrosive gases are released.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Reacts violently with water.

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

Water. organic materials. plastics. Oil. Grease.

### 10.6. Hazardous decomposition products

Nitrogen oxides. Halogen Acid.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Inhalation:gas: Harmful if inhaled.

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ATE US (gases)	14000.000 ppmV/4h
Nitrogen (7727-37-9)	
LC50 inhalation rat (ppm)	820000 ppm/4h
ATE US (gases)	820000.000 ppmV/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Harmful if inhaled. Corrosive to the respiratory tract.

Symptoms/injuries after skin contact : Causes severe skin burns and eye damage.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/injuries upon intravenous administration : Not known.

Chronic symptoms : Adverse effects not expected from this product.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

Nitrogen (7727-37-9)	
Persistence and degradability	No ecological damage caused by this product.

#### 12.3. Bioaccumulative potential

Nitrogen (7727-37-9)	
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No ecological damage caused by this product.

#### 12.4. Mobility in soil

Nitrogen (7727-37-9)	
Ecology - soil	No ecological damage caused by this product.

#### 12.5. Other adverse effects

Effect on ozone layer : No known effects from this product

Effect on the global warming : No known ecological damage caused by this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Contact supplier if guidance is required. 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.

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Waste disposal recommendations : Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at [www.cganet.com](http://www.cganet.com) for more guidance on suitable disposal methods.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1956 Compressed gas, n.o.s. (Nitro Halogen, Nitrogen), 2.2

UN-No.(DOT) : UN1956

Proper Shipping Name (DOT) : Compressed gas, n.o.s.

Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

Hazard labels (DOT) : 2.2 - Non-flammable gas



DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305

DOT Packaging Bulk (49 CFR 173.xxx) : 314;315

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel

Other information : No supplementary information available.

#### TDG

Transport document description : UN1956 COMPRESSED GAS, N.O.S., 2.2

UN-No. (TDG) : UN1956

Proper Shipping Name : COMPRESSED GAS, N.O.S.

TDG Primary Hazard Classes : 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.

#### Transport by sea

UN-No. (IMDG) : 1956

Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.

Class (IMDG) : 2.2 - Non-flammable, non-toxic gases

#### Air transport

UN-No. (IATA) : 1956

Proper Shipping Name (IATA) : COMPRESSED GAS, N.O.S.

Class (IATA) : 2

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Nitrogen (7727-37-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

##### Nitrogen (7727-37-9)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification : Class A - Compressed Gas

#### EU-Regulations

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### Nitrogen (7727-37-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### National regulations

#### Nitrogen (7727-37-9)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

### 15.3. US State regulations

#### Nitrogen (7727-37-9)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Other information : This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases:

H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H332	Harmful if inhaled

SDS US (GHS HazCom 2012)

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