

### Section 1: Product and Company Identification

**Absolute Accuracy**  
4591 S Wayside Dr  
Houston, TX 77087  
(832) 571-2387

Product Code: 3015

**Synonyms:** NA  
**Recommended Use:** CALIBRATION GAS  
**Usage Restrictions:** INDUSTRIAL CALIBRATION GAS ONLY

### Section 2: Hazards Identification



**Warning**

**Hazard Classification:**  
Gases Under Pressure

**Hazard Statements:**  
Contains gas under pressure; may explode if heated

**Precautionary Statements**

**Storage:**  
Protect from sunlight.  
Store in well-ventilated place.

### Section 3: Composition/Information on Ingredients

	<b>CAS #</b>	<b>Concentration</b>
<b>Ethanol</b>	64-17-5	103PPM
<b>Nitrogen</b>	7727-37-9	BALANCE

	Chemical Substance	Chemical Family	Trade Names
<b>Ethanol</b>	ETHYL ALCOHOL, 100%	Alcohols	ETHANOL; ETHYL ALCOHOL; /4; ALCOHOL; ALCOHOL ANHYDROUS; ALGRAIN; ANHYDROL; Absolute alcohol; Anhydrous ethanol; Ethanol denatured; Fermentation alcohol; Grain alcohol; 1-Hydroxyethane; Methyl carbinol; Ethyl alcohol anhydrous; Absolute ethanol; Denatured ethanol; ETHYL HYDRATE; ETHYL HYDROXIDE; JAYSOL; TECSOL; STCC 4909159; UN 1170; C2H6O
<b>Nitrogen</b>	NITROGEN, COMPRESSED GAS	Inorganic gases	DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2

## Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
<b>Ethanol</b>	Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.	Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.	For ingestion, consider gastric lavage.
<b>Nitrogen</b>	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.

## Section 5: Fire Fighting Measures

	Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
<b>Ethanol</b>	Alcohol resistant foam, carbon dioxide, regular dry chemical, water, alcohol resistant foam Large fires: Use alcohol-resistant foam or flood with fine water spray.	Carbon monoxide, carbon dioxide, and toxic and irritating fumes	<ul style="list-style-type: none"> <li>Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.</li> <li>Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.</li> </ul>
<b>Nitrogen</b>	Non-flammable. Use suitable extinguishing media for surrounding fire. Cylinders may rupture or explode if exposed to heat.	Non-flammable	<ul style="list-style-type: none"> <li>Respiratory protection may be needed for frequent or heavy exposure.</li> </ul>

## Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
<b>Ethanol</b>	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition.
<b>Nitrogen</b>	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	No significant effects from contamination expected.	Stop leak if possible without personal risk.

	Methods for Cleanup	Other Information
<b>Ethanol</b>	Small spills: Absorb with sand or other noncombustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal.	Not available
<b>Nitrogen</b>	N/A	N/A

## Section 7: Handling and Storage

	Handling	Storage
<b>Ethanol</b>	Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125F (52C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.	Do not get liquid in eyes, on skin, or clothing. Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Open valve slowly. Close cylinder valve after each use; keep closed even when empty. If valve is hard to open, discontinue use and contact your supplier.
<b>Nitrogen</b>	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.

## Section 8: Exposure Controls/Personal Protection

	Exposure Guidelines
<b>Ethanol</b>	ETHYL ALCOHOL, 100%: ETHYL ALCOHOL (ETHANOL): 1000 ppm (1900 mg/m <sup>3</sup> ) OSHA TWA 1000 ppm ACGIH TWA 1000 ppm (1900 mg/m <sup>3</sup> ) NIOSH recommended TWA 10 hour(s)
<b>Nitrogen</b>	NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)

### Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
<b>Ethanol</b>	Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
<b>Nitrogen</b>	Eye protection not required, but recommended.	Protective clothing is not required.	Respiratory protection may be needed for frequent or heavy exposure.

### General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

	Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
<b>Ethanol</b>	Liquid	Clear	Colorless	N/A	Volatile liquid	Pleasant odor	Burning taste
<b>Nitrogen</b>	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
<b>Ethanol</b>	55 F (13 C) (CC)	IB	Not available	685 F (363 C)	0.19	0.033
<b>Nitrogen</b>	Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
<b>Ethanol</b>	172 F (78 C)	-179 F (-117 C)	40 mmHg @ 19 C	1.59 (Air=1)	0.7893	Soluble	Not available	5-10 ppm	1.4 (carbon tetrachloride =1)	1.17 mPa.s (1.17 centipoises) @ 20 C; 1.074 mPa.s (1.074 centipoises) @ 25 C
<b>Nitrogen</b>	-321 F (-196 C)	-346 F (-210 C)	760 mmHg @ -196 C	0.967 (Air=1)	Not applicable	1.6% @ 20 C	Not applicable	Not available	Not applicable	0.01787 cP @ 27 C

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
<b>Ethanol</b>	46.07	C-H3-C-H2-O-H	Not available	Not available	Not available	1	Soluble: Benzene, ether, acetone, chloroform, methanol, organic solvents
<b>Nitrogen</b>	28.0134	N2	1.2506 g/L	Not available	100%	1	Soluble: Liquid ammonia

## Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
<b>Ethanol</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Halo carbons, metals, metal salts, oxidizing materials, halogens, peroxides, acids, metal oxides, bases, combustible materials
<b>Nitrogen</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
<b>Ethanol</b>	Oxides of carbon	Will not polymerize.
<b>Nitrogen</b>	Oxides of nitrogen	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

	Oral LD50	Dermal LD50	Inhalation
<b>Ethanol</b>	7 gm/kg oral-rat LD50	LD50 (dermal, rabbit): greater than 15800 mg/kg (cited as greater than 20 mL/kg); at 20 mL/kg, 1/4 rabbits died	Irritation, difficulty breathing, headache, drowsiness, symptoms of drunkenness
<b>Nitrogen</b>	Not available	Not available	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma

	Eye Irritation	Skin Irritation	Sensitization
<b>Ethanol</b>	Irritation, tearing	Mild irritation, rash	Eye irritation, Category 2; H319: Causes serious eye irritation.
<b>Nitrogen</b>	Contact with rapidly expanding gas may cause burns or frostbite	No information on significant adverse effects	Difficulty breathing

### Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
<b>Ethanol</b>	NTP: Known Human Carcinogen (Alcoholic beverages); IARC: Human Sufficient Evidence, Group 1 (Alcoholic beverages), Animal Inadequate Evidence; ACGIH: A4 - Not Classifiable as a Human Carcinogen	Available.	Available.	No data
<b>Nitrogen</b>	Not hazardous	Not available	Not available	No data

## Section 12: Ecological Information

### Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
<b>Ethanol</b>	Fish toxicity: 93 ug/L 96 hour(s) LC50 (Mortality) Bluegill (Lepomis macrochirus) Invertebrate toxicity: 24 ug/L 48 hour(s) EC50 (Immobilization) Water flea (Daphnia pulex) Algal toxicity: 10000-25000 ug/L 1-2 hour(s) (Photosynthesis) Green algae (Acrosiphonia sonderi) Phyto toxicity: Not available Other toxicity: Not available	Highly toxic to aquatic life.	Not available	Not available
<b>Nitrogen</b>	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available	Not available	Not available	Not available

	Phyto toxicity: Not available Other toxicity: Not available			
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## Section 13: Disposal Considerations

<b>Ethanol</b>	Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Dispose in accordance with all applicable regulations.
<b>Nitrogen</b>	Dispose in accordance with all applicable regulations.

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

#### DOT Information For This Mixture

<b>Shipping Name</b>	Compressed gas, n.o.s. (Nitrogen, Ethanol)
<b>UN Number</b>	UN1956
<b>Hazard Class</b>	2.2
<b>Hazard Information</b>	Non-Flammable Gas

#### Individual Component Information

	Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
<b>Ethanol</b>	ETHANOL or ETHYL ALCOHOL or ETHANOL SOLUTIONS or ETHYL ALCOHOL SOLUTIONS	UN1170	3	II, III	3	N/A	N/A	N/A
<b>Nitrogen</b>	Nitrogen, compressed	UN1066	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A

#### Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
<b>Ethanol</b>	Ethanol	UN1170	3	II
<b>Nitrogen</b>	Nitrogen, compressed	UN1066	2.2	Not applicable

## Section 15: Regulatory Information

#### U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
<b>Ethanol</b>	Not regulated.	Not regulated.	Not regulated.

<b>Nitrogen</b>	Not regulated.	Not regulated.	Not regulated.
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#### SARA 370.21

	<b>Acute</b>	<b>Chronic</b>	<b>Fire</b>	<b>Reactive</b>	<b>Sudden Release</b>
<b>Ethanol</b>	Yes	Yes	Yes	No	No
<b>Nitrogen</b>	Yes	No	No	No	Yes

#### SARA 372.65

<b>Ethanol</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.

#### OSHA Process Safety

<b>Ethanol</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.

#### State Regulations

	<b>CA Proposition 65</b>
<b>Ethanol</b>	Not regulated.
<b>Nitrogen</b>	Not regulated.

#### Canadian Regulations

	<b>WHMIS Classification</b>
<b>Ethanol</b>	B2, D2B
<b>Nitrogen</b>	A

#### National Inventory Status

	<b>US Inventory (TSCA)</b>	<b>TSCA 12b Export Notification</b>	<b>Canada Inventory (DSL/NDSL)</b>
<b>Ethanol</b>	Listed on inventory.	Not listed.	Not determined.
<b>Nitrogen</b>	Listed on inventory.	Not listed.	Listed on inventory.

## Section 16: Other Information

	<b>NFPA Rating</b>
<b>Ethanol</b>	HEALTH=2 FIRE=3 REACTIVITY=0
<b>Nitrogen</b>	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard