

Section 1: Product and Company Identification

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

Product Code: 2973
Part Number: 2973

Synonyms:
Recommended Use:
Usage Restrictions:

Section 2: Hazards Identification



Danger

Hazard Classification:

Carcinogenicity (Category 1.A)
Gases Under Pressure
Germ Cell Mutagenicity (Category 1.B)

Hazard Statements:

Contains gas under pressure; may explode if heated
May cause cancer
May cause genetic defects

Precautionary Statements

Prevention:

Obtain special instructions before use.
Wear protective gloves, protective clothing, eye protection and face protection.
Do not handle until all safety precautions have been read and understood.

Response:

If exposed or concerned: Get medical advice/attention.

Storage:

Protect from sunlight.
Store in well-ventilated place.
Store locked up.

Disposal:

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page 1 of 8
Date of Preparation: 05/06/2022 14:49:10

Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
1,3-Butadiene	106-99-0	5 ppm
Nitrogen	7727-37-9	Balance

	Chemical Substance	Chemical Family	Trade Names
1,3-Butadiene	1,3-BUTADIENE	Hydrocarbons, Aliphatic, Unsaturated	BUTADIENE, INHIBITED; BIVINYL; BIETHYLENE; PYRROLYLENE; VINYLETHYLENE; DIVINYL; BUTA-1,3-DIENE; ALPHA,GAMMA-BUTADIENE; ERYTHRENE; METHYLALLENE; BUTADIENE; UN 1010; C4H6
Nitrogen	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
1,3-Butadiene	If it is safe to do so, remove victim to an uncontaminated area, and place them in a comfortable position to wait for medical attention. Immediately remove contaminated clothes and shoes. Cleanse the affected skin areas thoroughly with soap under running water for 15 minutes. Seek medical treatment. For exposure to liquid, immediately warm frostbite area with warm water less than 105F (41C).	Rinse the affected eye thoroughly for 10 minutes under running water. Seek immediate medical treatment. For exposure to liquid, immediately warm frostbite area with warm water less than 105F (41C).	Get immediate medical attention.	If it is safe to do so, remove victim to fresh air, and place them in a comfortable position to wait for medical attention. Administer oxygen or artificial respiration if breathing is difficult. Seek immediate medical treatment.	For inhalation, consider oxygen.
Nitrogen	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
1,3-Butadiene	Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.	Toxic carbon monoxide may be given off during combustion.	<ul style="list-style-type: none"> Use self-contained breathing apparatus.
Nitrogen	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"> Respiratory protection may be needed for frequent or heavy exposure.

Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
1,3-Butadiene	Keep unnecessary people away, isolate hazard area and deny entry.	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.
Nitrogen	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
1,3-Butadiene	Stop leak, evacuate and ventilate the area.	Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.
Nitrogen	N/A	N/A

Section 7: Handling and Storage

	Handling	Storage
1,3-Butadiene	Keep container tightly closed in a locked area. Protect from sunlight. Protect from ignition sources. Secure cylinders upright to keep them from falling or being knocked over. Store only where temperature will not exceed 125F (52C).	Always handle in a well ventilated area. Use only in closed systems. Open valve slowly. Close cylinder valve after each use; keep closed even when empty. Avoid contact with skin and eyes. Keep away from heat and ignition sources.
Nitrogen	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
1,3-Butadiene	BUTADIENE, INHIBITED: 1,3-BUTADIENE: 1 ppm OSHA TWA 5 ppm OSHA STEL 15 minute(s) 0.5 ppm OSHA action level 2 ppm ACGIH TWA NIOSH TWA (lowest feasible concentration)
Nitrogen	NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)

Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
1,3-Butadiene	For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and shower in work area.	For the gas: Protective clothing is not required. For the liquid: Wear appropriate chemical resistant clothing.	Use self-contained breathing apparatus.
Nitrogen	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
1,3-Butadiene	Gas	Colorless	Colorless	N/A	Gas	Distinct odor	N/A
Nitrogen	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
1,3-Butadiene	-105 F (-76 C)			788 F (420 C)	0.115	0.02
Nitrogen	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
1,3-Butadiene	23 F (-5 C)	-164 F (-109 C)	910 mmHg @ 20 C	1.87 (Air=1)	0.6211 @ 20 C	0.05% @ 20 C	Not applicable	1.6 ppm	>25 (butyl acetate=1)	0.00075 mPa.s (0.00075 centipoise) @ 20 C and 101.33 kPa; 0.33 mPa.s (0.33 centipoise) @ -40 C; 0.25 mPa.s (0.25 centipoise) @ 0 C
Nitrogen	-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
1,3-Butadiene	54.09	C-H ₂ :C-H-C-H-C-H ₂	Not available	Not available	100%	Not applicable	Soluble: Organic solvents, ether, acetone, benzene, ethanol, cyclohexane, methanol, carbon tetrachloride, chloroform
Nitrogen	28.0134	N ₂	1.2506 g/L	Not available	100%	1	Soluble: Liquid ammonia

Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
1,3-Butadiene	May explode if exposed to shock, friction or heating. Stable when inhibited. Explosive, shock- and heat-sensitive polymeric peroxides may be produced in the presence of air. The polyperoxide formed is insoluble in 1,3-butadiene and forms a separate layer, thus increasing the hazard.	May explode if exposed to shock, friction or heating. Stable when inhibited. Explosive, shock- and heat-sensitive polymeric peroxides may be produced in the presence of air. The polyperoxide formed is insoluble in 1,3-butadiene and forms a separate layer, thus increasing the hazard.	Metal carbide, metal salts, combustible materials, metals, oxidizing materials, halogens, metal oxides, copper, aluminum tetrahydroborate, vinylacetylene, crotonaldehyde, boron trifluoride and phenol
Nitrogen	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
1,3-Butadiene	Oxides of carbon	May polymerize. Avoid contact with heat, air, light, initiators or curing agents. May polymerize with evolution of heat. Closed containers may rupture violently.
Nitrogen	Oxides of nitrogen	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

	Oral LD50	Dermal LD50	Inhalation
1,3-Butadiene	5480 mg/kg oral-rat LD50	Not established	Irritation, nausea, headache, drowsiness, dizziness, loss of coordination
Nitrogen	Not available	Not available	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma

	Eye Irritation	Skin Irritation	Sensitization
1,3-Butadiene	Irritation, blurred vision at very high concentration	Liquid: blisters, frostbite	Germ cell mutagenicity, Category 1B; H340: May cause genetic defects. Carcinogenicity, Category 1A; H350: May cause cancer.
Nitrogen	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
1,3-Butadiene	OSHA: Carcinogen; NTP: Known Human Carcinogen; IARC: Human Limited Evidence, Animal Sufficient Evidence, Group 2A; ACGIH: A2 - Suspected Human Carcinogen; EC: Category 2	Available.	Available.	No data
Nitrogen	Not hazardous	Not available	Not available	No data

Section 12: Ecological Information

Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
1,3-Butadiene	Fish toxicity: 24 Hr LC50 Lagodon rhomboides: 71.5 mg/L Invertebrate toxicity: 96 Hr EC50 Daphnia magna: 24.8 mg/L Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available
Nitrogen	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

1,3-Butadiene	Dispose in accordance with all applicable regulations.
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	Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. D003.
Nitrogen	Dispose in accordance with all applicable regulations.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

DOT Information For This Mixture

Shipping Name	Compressed gas, n.o.s. (Nitrogen, 1,3-Butadiene)
UN Number	UN1956
Hazard Class	2.2
Hazard Information	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
1,3-Butadiene	Butadienes, stabilized	UN1010	2.1	Not available	2.1	Forbidden	150 kg	N/A
Nitrogen	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
1,3-Butadiene	BUTADIENES, STABILIZED OR BUTADIENES AND HYDROCARBON MIXTURE, stabilized containing more than 40 percent butadienes	UN1010	2.1	N/A
Nitrogen	Nitrogen, compressed	UN1066	2.2	Not applicable

Section 15: Regulatory Information

U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
1,3-Butadiene	1,3-Butadiene: 10 LBS RQ	Not regulated.	Not regulated.
Nitrogen	Not regulated.	Not regulated.	Not regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
1,3-Buta	Yes	Yes	Yes	Yes	Yes

diene					
Nitrogen	Yes	No	No	No	Yes

SARA 372.65

1,3-Butadiene	1,3-Butadiene
Nitrogen	Not regulated.

OSHA Process Safety

1,3-Butadiene	Not regulated.
Nitrogen	Not regulated.

State Regulations

	CA Proposition 65
1,3-Butadiene	WARNING: This product can expose you to chemicals including 1,3-Butadiene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov .
Nitrogen	Not regulated.

Canadian Regulations

	WHMIS Classification
1,3-Butadiene	A, B1, D2A, F
Nitrogen	A

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
1,3-Butadiene	Listed on inventory.	Not listed.	Listed on inventory.
Nitrogen	Listed on inventory.	Not listed.	Listed on inventory.

Section 16: Other Information

	NFPA Rating
1,3-Butadiene	HEALTH=2 FIRE=4 REACTIVITY=2
Nitrogen	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA

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