

Section 1: Product and Company Identification

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

Product Code: 3020
 Part Number: 3020

Synonyms:
Recommended Use:
Usage Restrictions:

Section 2: Hazards Identification



Hazard Classification:
 Gases Under Pressure

Hazard Statements:
 Contains gas under pressure; may explode if heated
 Toxic to aquatic life
 Toxic to aquatic life with long lasting effects.

Precautionary Statements

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

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Tetrahydrothiophene	75-66-1	15 ppm
Nitrogen	7727-37-5	Balance

	Chemical Substance	Chemical Family	Trade Names
Tert-Butyl Mercaptan	2-Methyl 2-Propanethiol	Thiols	2-methyl-2-propanethiol; tert-butanethiol; tert-butythiol; 1,1-dimethylethanethiol; 2-isobutanethiol; 2-propanethiol, 2 methyl-
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
Tert-Butyl Mercaptan	Remove contaminated clothing. Wash with soap and lots of water. Get medical attention, if needed.	Flush with large amounts of water or saline. Get medical attention.	Never make unconscious person vomit or drink fluids. Give sodium bicarbonate solution. When vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention immediately.	Remove to fresh air. Use a bag valve mask or similar device to perform artificial respiration if needed.	For ingestion, consider gastric lavage.
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
Tert-Butyl Mercaptan	Regular dry chemical, carbon dioxide, water, regular foam, alcohol resistant foam. Large fires: use regular foam or flood with fine water spray.	Not available	<ul style="list-style-type: none"> ▪ Not available ▪ Keep unnecessary people away, isolate hazard area and deny entry. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay upwind and keep out of low areas. ▪ Not available ▪ Not available
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
Tert-Butyl Mercaptan	Avoid heat, flames, sparks, and other sources of ignition.	Small: Collect spilled material in appropriate container for disposal. large: dike for later disposal.	Small: Collect spilled material in appropriate container for disposal. large: dike for later disposal.
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
Tert-Butyl Mercaptan	Stop leak if possible without personal risk. Reduce vapors with water spray. For small spills, absorb with sand or other non-combustible material.	Not available
Nitrogen	N/A	N/A

Section 7: Handling and Storage

	Handling	Storage
Tert-Butyl Mercaptan	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.
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
Tert-Butyl Mercaptan	No occupational exposure limits established.
Nitrogen	NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)

Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
Tert-Butyl Mercaptan	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	Not available
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
Tert-Butyl Mercaptan	Liquid	Colorless	Colorless		Liquid	Skunk-like odor	Not available
Nitrogen	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Tert-Butyl Mercaptan	< -20 deg F	IB	Not available	Not available	Not available	Not available
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
Tert-Butyl Mercaptan	147 F	34 F	181 mm Hg at 25 deg C	3.1 (Air=1)	.8002	Slightly soluble	Not available	Not available	Not available	Not available
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
Tert-Butyl Mercaptan	90.18	(CH ₃) ₃ CSH ₃ CSH	Not available	Not available	Not available	Not available	Soluble: alcohol, ether, liquid hydrogen sulfide
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
Tert-Butyl Mercaptan	Stable at normal temperatures and pressure	Stable at normal temperatures and pressure	Acids, oxidizing materials
Nitrogen	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Tert-Butyl Mercaptan	Thermal decomposition products: hydrogen sulfide, oxides of sulfur, carbon	Will not polymerize
Nitrogen	Oxides of nitrogen	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

	Oral LD50	Dermal LD50	Inhalation
Tert-Butyl Mercaptan	4729 mg/kg oral-rat	Not available	Irritation, lack of sense of smell, nausea, vomiting, diarrhea, difficult breathing, headache, symptoms of drunkenness, bluish skin color, lung congestion, kidney damage, convulsions, coma
Nitrogen	Not available	Not available	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma

	Eye Irritation	Skin Irritation	Sensitization
Tert-Butyl Mercaptan	Not available	Irritation	Skin sensitisation, Category 1; H317: May cause an allergic skin reaction.
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
Tert-Butyl Mercaptan	Not available	Not Available	Not 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
Tert-Butyl Mercaptan	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
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

Tert-Butyl Mercaptan	Subject to disposal regulations :U.S. EPA 40 CFR 262. Hazardous Waste Number: D001. Dispose in accordance with all current regulations.
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, Tert-Butyl Mercaptan)
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
Tert-Butyl Mercaptan	Butyl mercaptans	UN2347	3	II	Flammable liquid	Not available	Not available	Not available
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
Tert-Butyl Mercaptan	Butyl Mercaptans	UN23347	3	II
Nitrogen	Nitrogen, compressed	UN1066	2.2	Not applicable

Section 15: Regulatory Information

U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
Tert-Butyl Mercaptan	Not available	Not available	Not available
Nitrogen	Not regulated.	Not regulated.	Not regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release

Tert-Butyl Mercaptan	No	No	Yes	No	Not available
Nitrogen	Yes	No	No	No	Yes

SARA 372.65

Tert-Butyl Mercaptan	Not available
Nitrogen	Not regulated.

OSHA Process Safety

Tert-Butyl Mercaptan	No
Nitrogen	Not regulated.

State Regulations

	CA Proposition 65
Tert-Butyl Mercaptan	Not listed
Nitrogen	Not regulated.

Canadian Regulations

	WHMIS Classification
Tert-Butyl Mercaptan	Not available
Nitrogen	A

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Tert-Butyl Mercaptan	Listed on inventory	Not listed	Not available
Nitrogen	Listed on inventory.	Not listed.	Listed on inventory.

Section 16: Other Information

	NFPA Rating
Tert-Butyl Mercaptan	HEALTH: 0, FIRE: 3, REACTIVITY:0
Nitrogen	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA

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