

Section 1: Product and Company Identification

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

Product Code: 3044

Synonyms:
Recommended Use:
Usage Restrictions:

Section 2: Hazards Identification



Hazard Classification:

Acute Dermal Toxicity (Category 4)
Acute Oral Toxicity (Category 4)
Eye Effects (Category 2.B)
Gases Under Pressure

Hazard Statements:

Causes eye irritation
Contains gas under pressure; may explode if heated
Harmful if swallowed
Harmful in contact with skin
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention:

Wash thoroughly after handling.
Wear protective gloves and protective clothing.
Do not eat, drink or smoke when using this product.

Response:

If swallowed: Immediately call a poison center or doctor.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Wash with plenty of water
Take off contaminated clothing and wash it before reuse.

Storage:

Protect from sunlight.
Store in well-ventilated place.

Disposal:

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

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Tetrahydrothiophene	110-01-0	10PPM
Nitrogen	7727-37-9	BALANCE

	Chemical Substance	Chemical Family	Trade Names
Tetrahydrothiophene	Tetrahydrothiophene	Heterocyclic	thiophane, thiolane
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
Tetrahydrothiophene	Wash with soap and plenty of water	Rinse thoroughly with plenty of water for at least 15 minutes	Do NOT induce vomiting. Rinse mouth out. Contact physician.	Move person to fresh air. Not breathing, give artificial respiration.	Not available
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
Tetrahydrothiophene	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.	Carbon oxides, sulfur oxides	<ul style="list-style-type: none"> ▪ Not available ▪ Not available ▪ 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
Tetrahydrothiophene	Use personal protective equipment. avoid breathing vapors, mist or gas.	Prevent further leakage or spillage if safe to do so.	Contain spillage
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
Tetrahydrothiophene	And then collect with an electrically protected vacuum cleaner or by wet-brush container for disposal according to local regulations.	Not available
Nitrogen	N/A	N/A

Section 7: Handling and Storage

	Handling	Storage
Tetrahydrothiophene	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
Tetrahydrothiophene	No substances with occupational exposure limit values
Nitrogen	NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)

Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
Tetrahydrothiophene	Face shield and safety glasses.	Complete suit protecting against chemicals, flame retardant antistatic protective 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
Tetrahydrothiophene	Liquid	Clear liquid	Light yellow	Not available	Liquid	Stench	Not available
Nitrogen	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Tetrahydrothiophene	13 deg C	Not available	Not available	No data 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
Tetrahydrothiophene	119 deg C	-96 deg C	Not available	Not available	Not available	Not available	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
Tetrahydrothiophene	88.17 g/mol	C4H8S	Not available	Not available	Not available	Not available	Not available
Nitrogen	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
Tetrahydrothiophene	Stable under recommended storage conditions	Stable under recommended storage conditions	Strong oxidizing agents
Nitrogen	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Tetrahydrothiophene	Carbon oxides, sulfur oxides	Not available
Nitrogen	Oxides of nitrogen	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

	Oral LD50	Dermal LD50	Inhalation
Tetrahydrothiophene	1,750 mg/kg rat	Not available	May be harmful if inhaled. causes respiratory tract irritation
Nitrogen	Not available	Not available	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma

	Eye Irritation	Skin Irritation	Sensitization
Tetrahydrothiophene	Causes eye irritation	Harmful if absorbed through skin. causes skin irritation	Acute toxicity, Category 4, oral; H302: Harmful if swallowed. Acute toxicity, Category 4, dermal; H312: Harmful in contact with skin. Acute toxicity, Category 4, inhalation; H332: Harmful if inhaled. Skin irritation, Category 2; H315: Causes skin irritation. Eye irritation, Category 2; H319: Causes serious eye irritation.
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
Tetrahydrothiophene	No component of this product present at levels greater than or equal to 0.1% is identified as probable.	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
Tetrahydrothiophene	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

Tetrahydrothiophene	Burn in incinerator equipped with an afterburner and scrubber.
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, Tetrahydrothiophene)
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
Tetrahydrothiophene	Tetrahydrothiophene	2412	3	II	Not available	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
Tetrahydrothiophene	Tetrahydrothiophene	UN2412	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
Tetrahydrothiophene	Not available	Not available	Not available
Nitrogen	Not regulated.	Not regulated.	Not regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
Tetrahydrothiophene	Not available	Not available	Not available	Not available	Not available
Nitrogen	Yes	No	No	No	Yes

SARA 372.65

Tetrahydrothiophene	Not available
Nitrogen	Not regulated.

OSHA Process Safety

Tetrahydrothiophene	Not available
Nitrogen	Not regulated.

State Regulations

	CA Proposition 65
Tetrahydrothiophene	Product does not contain any chemicals known to the state of California to cause, cancer, birth defects, or reproductive harm.
Nitrogen	Not regulated.

Canadian Regulations

	WHMIS Classification
Tetrahydrothiophene	Not available
Nitrogen	A

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDL)
Tetrahydrothiophene	Not available	Not available	Not available
Nitrogen	Listed on inventory.	Not listed.	Listed on inventory.

Section 16: Other Information

	NFPA Rating
Tetrahydrothiophene	Health: 2, 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