



## Safety Data Sheet

### Calibration Gas Mixture: R1234ze

#### Section 1. Identification

Product identifier used on the label: Calibration Gas Mixture, R1234ze  
 Other means of identification: Part # RBxxL-R1234ze/xxxx  
 Product use: Calibration Standard  
 Supplier's details: Calibration Technologies, Inc.  
 920 N Tradewinds Parkway Columbia, MO 65201 1-866-394-5861  
 Emergency telephone: 1-800-535-5053

#### Section 2. Hazards Identification

Classification: Compressed Gas

GHS label Elements

Signal word: Warning

Hazard statements: Compressed gas under pressure. May explode if heated

Hazard pictograms:



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

Precautionary statement: Use valve rated for cylinder pressure.

#### Section 3. Composition/Information on ingredients

Substance/mixture: Mixture

Ingredient name	%	CAS number
Nitrogen	0-79.06	7727-37-9
Oxygen	0-20.89	7782-44-7
trans-1,3,3,3-Tetrafluoroprop-1-ene	0.05-100.0	29118-24-9

#### Section 4. First-aid measures

Description of necessary measures subdivided below:

Inhalation: Immediately remove victim to fresh air. Get medical attention if symptoms occur.

Eye Contact: Rinse immediately with plenty of water for at least 15 minutes.

Skin Contact: Thaw frosted parts with lukewarm water. Do not rub affected area.

Ingestion: N/Ap

Most important symptoms/effects: N/Ap

Immediate attention/special treatment needed: N/Ap

#### Section 5. Fire-fighting measures

Suitable extinguishing media: N/Ap, Will not burn

Unsuitable extinguishing media: N/Ap, Will not burn

Specific hazards arising from the chemical: N/Ap

Special protective equipment/precautions for fire-fighters: Contains gas under pressure. If heated, pressure will increase and cylinder may burst.

#### Section 6. Accidental release measures

Personal precautions, protective equipment, emergency procedures: Ventilate area, shut off valve, and remove from heat.

Methods and materials for containment/cleaning up: N/Ap

#### Section 7. Handling and storage

Precautions for safe handling: Use valve rated for cylinder pressure. Avoid breathing gas. Avoid contact with eyes

Conditions for safe storage, including any incompatibilities: Store in well ventilated area. Protect from elevated temperatures.

#### Section 8. Exposure controls/Personal protection

Control parameters/Occupation exposure limits:

Ingredient name	Exposure limits
trans-1,3,3,3-Tetrafluoroprop-1-ene	WEEL:US. OARS TWA: 800ppm 8 hours

Eye/Face protection: Safety glasses

Skin protection: N/Ap

Respiratory Protection: Avoid breathing gas

Other protective equipment: N/Ap

#### Section 9. Physical and chemical properties

Appearance (physical state, color, etc): Colorless

Odor: Slightly pungent

Odor threshold: N/Ap

pH: N/Ap

Melting point/freezing point: N/Ap

Initial boiling point and boiling range: N/Ap

Flash Point: N/Ap

Evaporation rate: N/Ap

Flammability (solid, gas): Not Flammable

Upper/lower flammability or explosive limits: N/Ap

Vapor pressure: N/Ap

Vapor density: N/Ap

Relative density:	N/Ap
Solubility (ies):	N/Ap
Partition coefficient: n-octanol/water:	N/Ap
Auto-ignition temperature:	N/Ap
Decomposition temperature:	N/Ap
Viscosity:	N/Ap

#### Section 10. Stability and reactivity

Reactivity:	N/Ap
Chemical stability:	Stable
Possibility of hazardous reactions:	Can form a combustible mixture with air at pressures above atmospheric pressure.
Conditions to avoid:	N/Ap
Incompatible materials:	Strong oxidizing agents, Finely divided aluminium, Finely divided magnesium
Hazardous decomposition products:	Halogenated compounds, Carbonyl halides, Carbon oxides, Hydrogen fluoride

#### Section 11. Toxicological information

Lethal concentration (LC50):	> 207000ppm (R1234ze ingredient), Rat 4hrs
Lethal dose 50 (LD50):	N/Ap
Teratogenicity:	N/Ap
Reproductive effects:	N/Ap
Mutagenicity:	N/Ap

#### Section 12. Ecological information

No adverse ecological effects are expected.

#### Section 13. Disposal considerations

Waste disposal method:	Non-refillable cylinder. Allow gas to vent slowly to atmosphere in an unconfined area until completely empty. Dispose of empty cylinder normally.
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#### Section 14. Transport information

UN Number:	3163
UN proper shipping name:	Compressed gases, n.o.s (trans-1,3,3,3-Tetrafluoroprop-1-ene)
Transport hazard class:	2.2 (nonflammable)
Identification number:	UN3163
Packing group:	II
Environmental hazards:	N/Ap
Transport in bulk:	N/Ap
Special precautions:	Must be shipped as Hazardous Materials.

#### Section 15. Regulatory information

Safety, health and environmental regulations specific for the product in question:

N/Ap

#### Section 16. Other information

Date of preparation/last revision:	10/8/2019
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