

Safety Data Sheet

Part Number 325373

Section 1. Substance Identity and Company Contact Information

Product Name	R-11	Product Part Number(s)	01-R11GAS and 01-R11KIT
Trade Name	R-11	Unit Size	103 liters - 3.6 cu. ft - 1,000 psig
Company	OI Analytical, P.O. Box 9010, College Station, TX 77842-9010, Phone: (979) 690-1711, Fax: (979) 690-0440		

Emergency No. 1-800-424-9300 (Chemtrec). Use only in the event of chemical emergencies involving spills, leaks, fire, exposure, or accidents involving chemicals.

Section 2. Hazards Identification

Pictogram(s)



Signal Word

Warning

Precautionary Statement(s)

Non-flammable colorless, odorless gas mixture. Contains sufficient oxygen to support life. High concentrations may cause Cardiac arrhythmia, confusion, drowsiness and possible unconsciousness. Repeated or prolonged skin contact may cause irritation or dermatitis. Use only with adequate ventilation. Contents under pressure. Use and store below 125 °F (52 °OC).

Target Organ(s)

No data available

Potential Health Effects

Eye: High concentrations may be moderately irritating to eyes. Contact with rapidly expanding gas near the point of release may cause frostbite.

Skin: Contact with rapidly expanding gas near the point of release may cause frostbite with redness, skin color change to gray or white, and blistering. High concentrations may be irritating to the skin.

Ingestion: Ingestion is unlikely. Gas at room temperature.

Inhalation: Gross overexposure may cause central nervous system depression with dizziness, confusion, incoordination, drowsiness or unconsciousness. Irregular heart beat with a strange sensation in the chest, "heart thumping", apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death.

Chronic Effects/ Carcinogenicity

IARC: No data available
NTP: No data available
OSHA: No data available

Teratology (Birth Defects) Information

Not a teratogen.

Reproductive Information

No data available

NFPA Ratings	Health:	0
	Flammability:	0
	Reactivity:	0
HMIS Rating	Health:	0
	Flammability:	0
	Reactivity:	3
	Protective Equipment:	B (protective eye wear and gloves)

Section 3. Chemical Composition and Data on Components

Ingredient	CAS No.	Percent	Hazard Data	
			ACGIH TLV	OSHA PEL
Trichlorofluoromethane	75-69-4	100	1,000 ppm Ceiling	1,000 ppm TWA-8

Section 4. First Aid Measures

General Advice	No data available
If Inhaled	PROMPT REMOVAL FROM THE CONTAMINATED AREA AND IMMEDIATE MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.
In Case of Skin Contact	Rinse skin thoroughly with water. If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage DO NOT attempt to remove frozen clothing from frostbite areas.
In Case of Eye Contact	Flush eyes with water for 15 minutes. If irritation persists or frostbite occurs, seek medical attention.
If Swallowed	None required. Product is a gas at normal temperatures and conditions.
Indication of Any Immediate Medical Attention and Special Treatment Needed	No data available.

Section 5. Fire-fighting Measures

General Information	If possible, stop the flow of gas supply. Use water spray to cool adjacent cylinders and areas. Fire fighters should wear a full-face piece NIOSH/MSHA approved self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turnout gear.
Suitable Extinguishing Media	None required. Use as appropriate for surrounding materials.
Special Hazards Arising from the Substance or mixture	Nonflammable. May decompose yielding toxic products, which may include halogenated compounds. Cylinder may rupture violently from pressure when involved in a fire situation.
Advice for Firefighters	Wear self-contained breathing apparatus for fire fighting, if necessary.
Flash Point	None
Autoignition Temperature	None
Further Information	No data available

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures	Evacuate all personnel from affected area. Use appropriate protective equipment.
Environmental Precautions	No data available
Methods and Materials for Containment and Cleaning	If a leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1.
Reference to Other Sections	For disposal, see Section 13.

Section 7. Handling and Storage

Precautions for Safe Handling	Electrical classification: Non-hazardous
Conditions for Safe Storage, Including any Incompatibilities	<p>Gas mixture is non-corrosive and may be used with any common structural material. Use only in well-ventilated areas. Valve protection caps must remain in place unless the cylinder is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure regulator when connecting cylinder to lower pressure (<3000 PSIG) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder.</p> <p>Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction away from heavy traffic areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125OF (520C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders from being stored for excessive periods of time.</p> <p>Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid from in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.</p>
Specific End Use(s)	Apart from the uses mentioned in Section 1, no other specific uses are stipulated.

Section 8. Exposure Controls and Personal Protection

Components with Workplace Control Parameters	No data available
Appropriate Engineering Controls	Local exhaust used in combination with general ventilation as necessary to maintain air contaminants at or below acceptable exposure guidelines.
Eye/Face Protection	Safety goggles or glasses as appropriate for the job.
Skin Protection	Protective gloves appropriate for the job.
Body Protection	Safety shoes
Respiratory Protection	Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.
Control of Environmental Exposure	No data available

Section 9. Physical and Chemical Properties

Appearance	Form: Gas; Color: Colorless
Odor	Odorless
Odor Threshold	No data available
pH	No data available
Melting Point/Freezing Point	No data available
Initial Boiling Point and Boiling Range	No data available
Flash Point	No data available
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	No data available
Water Solubility	Slightly soluble
Partition Coefficient : n-octanol/water	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No data available
Oxidizing Properties	No data available
Other Safety Information	No data available

Section 10. Stability and Reactivity

Reactivity	No data available
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	At high temperatures Trichlorofluoromethane can decompose forming hydrofluoric acid and possibly carbonyl fluoride.
Conditions to Avoid	No data available
Incompatible Materials	Incompatible with alkali or alkaline earth metals, powdered aluminum, zinc, etc.

Section 11. Toxicological Information

Routes of Exposure	<i>On the skin:</i>	No data available
	<i>On the eye:</i>	No data available
	<i>Inhalation:</i>	Very high concentrations may cause effects on the cardiovascular system and central nervous system, resulting in cardiac disorders and central nervous system depression.
	<i>Ingestion:</i>	No data available
Respiratory or Skin Sensitization	No sensitizing effects known	
Signs and Symptoms of Overexposure	No data available	
Toxicity Data	<i>Oral rat LD50</i>	No data available

Section 12. Ecological Information

General Notes	Product contains small amounts of Trichlorofluoromethane which is classified as a Class 1 ozone depleting substance. Not toxic. Will not bioconcentrate.
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Section 13. Disposal Considerations

Product	Do not attempt to dispose of waste or unused quantities in returnable cylinders. Return in the shipping container, properly labeled, with any valve outlet plugs or caps secure and valve protection cap in place for proper disposal. Non-refillable containers should be vented in a well-ventilated area then disposed of in compliance with local regulations.
Contaminated Packaging	Do not attempt to dispose of waste or unused quantities in returnable cylinders. Return in the shipping container, properly labeled, with any valve outlet plugs or caps secure and valve protection cap in place for proper disposal. Non-refillable containers should be vented in a well-ventilated area then disposed of in compliance with local regulations.

Section 14. Transport Information

DOT Shipping Name	Compressed Gas, N.O.S. (Trichlorfluoromethane, Nitrogen)
UN Proper Shipping Name	Compressed Gas, N.O.S. (Trichlorfluoromethane, Nitrogen)
DOT Hazard Class	2.2
Packing Group	No data available
UN Number	UN1956
Hazardous Ingredients	No data available
DOT Label	Non-flammable gas
DOT Placard	No data available
IMDG Shipping Name	No data available
UN Number	UN1956
Class	No data available
Packing Group	No data available
IATA Shipping Name	No data available
Technical Shipping Name	No data available
IATA Hazard Class	No data available
UN Number	UN1956
Hazardous Ingredients	No data available
IATA Label	No data available
IATA Placard	No data available

Section 15. Regulatory Information

OSHA Status	No data available	
TSCA Status	No data available	
CERCLA Reportable Quantity	None reportable	
SARA Title III	Trichlorofluoromethane is subject to the reporting requirements under Title VI of the Clean Air Act Amendments of 1990: "Stratospheric Ozone Protection". Trichlorofluoromethane is listed as a Class I ozone-depleting chemical. This product may be required to bear the following label: Warning: Contains Trichlorofluoromethane, a substance which harms public health and environment by destroying ozone in the upper atmosphere.	
RCRA Status	No data available	
California Proposition 65	This product does not contain ingredient(s) known to the State of California to cause cancer or reproductive toxicity.	
Chemical Weapons Convention	No data available	
TSCA 12 (b)	No data available	
SARA 311/312	Acute:	Yes
	Chronic:	Yes
	Fire:	No
	Pressure:	Yes
	Reactivity:	No
Australian Hazchem Code	None allocated	
Poison Schedule	None allocated	
WHMIS	This SDS has been prepared according the hazard criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.	

Section 16. Other Information

Date Prepared: August 5, 2007
Revised: May 22, 2015

Compressed gas cylinders must not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

For R&D use only. Not for drug, household, or other uses.

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