

Safety Data Sheet

Part Number 325372

Section 1. Substance Identity and Company Contact Information

Product Name	R-410A	Product Part Number(s)	01-R410GAS and 01-R410KIT
Trade Name	R-410-A	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

Danger

Hazard Statement(s)

Simple Asphyxiant-This product does not contain oxygen and may cause asphyxia if released in a confined area. Colorless, non-flammable gas with a possible faint sweetish odor. High concentrations may cause nausea, dizziness and headaches. 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 °C).

Target Organ(s)

No data available

Potential Health Effects

Eye: May cause minor irritation. Contact with rapidly expanding gas near the point of release may cause frostbite.

Skin: Liquid R-410A can cause a defatting action on the skin. Prolonged or repeated contact may tend to dry and defat skin causing irritation and dermatitis. Contact with rapidly expanding gas near the point of release may cause frostbite with redness, skin color change to gray or white, and blistering.

Ingestion: None known. Ingestion is unlikely as product is a gas at room temperature.

Inhalation: High concentrations of R-410A vapors may cause cardiac arrhythmia. Large releases of this product may displace atmospheric oxygen resulting in asphyxiation. Symptoms of asphyxiation include loss of coordination, increased pulse rate and deeper respiration.

Chronic Effects/ Carcinogenicity

IARC: No
 NTP: No
 OSHA: No

Teratology (Birth Defects) Information

No

Reproductive Information

No

NFPA Ratings

Health: 0
 Flammability: 0
 Reactivity: 0

HMIS Rating	Health:	0
	Flammability:	0
	Reactivity:	3
	Protective Equipment:	No data available

Section 3. Chemical Composition and Data on Components

Ingredient	CAS No.	Percent	Hazard Data	
			ACGIH TLV	OSHA PEL
Difluoromethane	75-10-5	50	None	None
Pentafluoroethane	354-33-6	50	None	None

Section 4. First Aid Measures

General Advice	No data available
If Inhaled	PROMPT 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. For skin, immerse skin in lukewarm water. DO NOT USE HOT WATER. For frostbite or persistent irritation, seek medical attention.
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	Nonflammable Cylinders may rupture violently from pressure when involved in a fire situation.
Suitable Extinguishing Media	None required Use as appropriate for surrounding materials.
Special Hazards Arising from the Substance or mixture	No data available
Advice for Firefighters	If possible, stop the flow of gas supply. Use water spray to cool adjacent cylinders and areas. Fire fighters should wear a full-facepiece NIOSH/MSHA approved self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turnout gear.
Flash Point	None
Autoignition Temperature	No data available
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. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or valve, contact the appropriate emergency telephone number listed in section 1.
Environmental Precautions	No data available
Methods and Materials for Containment and Cleaning	No data available
Reference to Other Sections	For disposal, see Section 13.

Section 7. Handling and Storage

Precautions for Safe Handling 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.

Conditions for Safe Storage, Including any Incompatibilities

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. Post "NO SMOKING OR OPEN FLAMES" sign in the storage or use area.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form 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.

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. Maintain atmospheric oxygen content above 19.5%
Eye/Face Protection	Safety goggles or glasses as appropriate for the job.
Skin Protection	Protective gloves
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	Faint sweetish odor
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	No data available
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	No data available
Conditions to Avoid	No data available
Incompatible Materials	No data available

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>	Acute exposure to moderate to high doses of R-410A can cause headaches, nausea, and irritation of the eyes and respiratory tract.
Respiratory or Skin Sensitization	<i>Ingestion:</i>	No data available
		No data available
Signs and Symptoms of Overexposure		No data available
Toxicity Data	<i>Oral rat LD 50</i>	No data available

Section 12. Ecological Information

General Notes	Product does not contain any Class I or Class II ozone depleting substances. Not toxic. Will not bioconcentrate. This product contains small amounts of Pentafluoroethane (HFC-125) and Difluoromethane (HFC-32), greenhouse gases which may contribute to global warming.
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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 accordance with local regulations.
Contaminated Packaging	Dispose of as unused product

Section 14. Transport Information

DOT Shipping Name	Compressed gas, N.O.S., (Pentafluoroethane, Nitrogen)
UN Proper Shipping Name	No data available
DOT Hazard Class	2.2
Packing Group	No data available
UN Number	1956
Hazardous Ingredients	No data available
DOT Label	Non-flammable gas
DOT Placard	No data available
IMDG Shipping Name	No data available
UN Number	No data available
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	No data available
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	No data available
SARA Title III	This product contains no toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.
RCRA Status	No
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
TSCA 12 (b)	Yes
SARA 311/312	Acute: Yes Chronic: No 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: September 21, 2009
Revised: May 22, 2015

Compressed gas cylinders shall 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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