Arctic Eagle R-404A

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 12/17/2025 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Trade name : Arctic Eagle R-404A

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Refrigerant
Restrictions on use : Must be recovered and disposed of by an EPA-certified reclaimer; cannot be vented to atmosphere

1.4. Supplier's details

FluoroFusion Specialty Chemicals, Inc.
PO Box 1238
Clayton, North Carolina 27528
T 919-800-0277
info@fluorofusion.com

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA)
CCN 12519
Back-up Emergency Number: +1-703-527-3887 (Washington, DC)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Gas under pressure : Liquefied gas
Simple asphyxiant, Category 1
Full text of H statements : see section 16

H280	Contains gas under pressure; may explode if heated.
SIAS	May displace oxygen and cause rapid suffocation.

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning
Hazard statements (GHS US) : H280 - Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation
Precautionary statements (GHS US) : Protect from sunlight. Store in a well-ventilated place.

2.3. Hazards associated with known or reasonably anticipated uses

Contact with liquid may cause cold burns/frostbite

2.4. Hazards not otherwise classified

Other hazards which do not result in classification : Contact with liquid may cause cold burns/frostbite.

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Tetrafluorethane	CAS-No.: 811-97-2	52	Press. Gas (Liq.), H280 Simple Asphy. 1, SIAS
1,1,1-trifluoroethane	CAS-No.: 420-46-2	25	Flam. Gas 1A, H220 Press. Gas (Liq.), H280 Simple Asphy. 1, SIAS
Pentafluoroethane	CAS-No.: 354-33-6	23	Press. Gas (Comp.), H280 Simple Asphy. 1, SIAS

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Call a physician immediately. First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Give artificial respiration if necessary. Induce artificial respiration with mask fitted with one-way valve or other suitable device but, not mouth-to-mouth.

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If the victim is unconscious: Lay in a stable manner on victim's side. Induce artificial respiration with mask fitted with one-way valve or other suitable device; not mouth-to-mouth. Call a physician immediately.

First-aid measures after skin contact : Thaw frosted parts with lukewarm water. Do not rub affected area. Remove affected clothing and wash all exposed skin areas with mild soap and water, followed by warm water rinse. Immediately call a poison center or doctor/physician. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Following contact with the liquefied or expanded gas, rinse the eyes only shortly under running water. Do not part lids, leave contact lenses in their place. Immediately transport the casualty to an eye doctor / hospital. Continue rinsing during the transport with isotonic saline solution, alternatively with water.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : In high concentrations may cause asphyxiation.

Symptoms/effects after skin contact : Contact with the liquefied gas may cause frostbite.

Symptoms/effects after eye contact : Contact with the liquefied gas may cause severe ocular lesions.

Symptoms/effects after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

Most Important Symptoms/Effects : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. May cause frostbite on contact the liquefied gas.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing agent suitable for surrounding fire. Dry powder. Water spray. Carbon dioxide. Foam. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Contains gas under pressure; may explode if heated.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon dioxide. Carbon monoxide. Hydrogen fluoride. Halogenated compounds. Carbonyl halides.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : No action shall be taken without appropriate training or involving any personal risk. Do not enter fire area without proper protective equipment, including respiratory protection. Use extinguishing media appropriate for surrounding fire. Move containers from fire area if it can be done without personal risk. Damaged cylinders should be handled by specialists only. Large fires: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool affected containers with flooding quantities of water. Do not throw water directly on point of leakage or security devices; freezing may occur. Withdraw immediately in case of rising sound from venting devices or discoloration from tank. ALWAYS stay away from tanks engulfed in fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Wear fire/flame resistant/retardant clothing. Use self-contained breathing apparatus and chemically protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not take actions involving personal risks. Before entering an area, especially a confined area, check the atmosphere with an appropriate device. In a fire or if heated, a pressure increase will occur, and the container may burst, with the risk of a subsequent explosion. Avoid all personal contact including breathing in the gas. Remove ignition sources. Isolate from fire, if possible, without unnecessary risk. Stop leak if safe to do so. Proper grounding procedures to avoid static electricity should be followed. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

For non-emergency personnel

Protective equipment : Wear self-contained breathing apparatus and protective suit (see section 8).

Emergency procedures : Evacuate the danger area. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, remove ignition sources, ventilate area. Do not breathe gas. Do not get in eyes, on skin, or on clothing. No open flames, no sparks, and no smoking. Prevent other non-emergency personnel from entering the danger area.

For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product. Use self-contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate personnel to a safe area. Monitor concentration of released product. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Stop leak if safe to do so. Ventilate spillage area. Use water spray to disperse the vapors. Do not direct water at source of leak or at safety devices as freezing could occur. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Environmental precautions	:	Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment	:	Stop leak, if possible without risk. If the leak cannot be stopped, allow the gas to release in place or remove to a safe, well-ventilated area and allow the release. Leave the product to evaporate.
Methods for cleaning up	:	Take up liquid spill into absorbent material. Do not touch or walk on the spilled product. Clean contaminated surfaces with an excess of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

For further information refer to section 8: "Exposure controls/personal protection",For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wear personal protective equipment. Do not breathe gas. Do not get in eyes, on skin, or on clothing. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Take precautionary measures against static discharge. Pressurized container. Only experienced and properly instructed persons should handle gases under pressure.
Technical measures	:	Oxygen detectors should be used when asphyxiating gases may be released.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace.
Additional hazards when processed	:	The gas is heavier than air.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions	:	Always keep container in upright position. Keep away from heat, sparks, and flame. Keep container closed when not in use. Protect from sunlight. Store in a well-ventilated place. Store full and empty containers separately.
Incompatible products	:	Alkali metals. Metals. Oxidizing agents.
Packaging materials	:	Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station. Alarm detectors should be used when toxic gases may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment.

Materials for protective clothing:
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138

Hand protection:
Chemically impervious gloves as described by OSHA's hand protection regulations in 29 CFR 1910.138. Wear cold insulating gloves.

Eye protection:
Chemical goggles or safety glasses. Do not wear contact lenses

Skin and body protection:
Tyvek® Gown/Coveralls. Wear suitable protective clothing. Lab coat

Respiratory protection:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed and a NIOSH/MSHA or European Standard EN 149 approved respirator must be used if any of the following situations occur: workplace conditions warrant respirator use, or exposure limits are exceeded or if irritation or other symptoms are experienced. Use breathing equipment (SCBA)

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Gas
Appearance	:	Clear, colorless gas.
Color	:	Colorless
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	-47.8 °C -54 °F
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	> 1 (CCl4 = 1)
Flammability (solid, gas)	:	Extremely flammable gas.
Vapor pressure	:	370.9 psia @ 54 °C / 129.2 °F; 182.9 psia @ 21 °C / 69.8 °F
Relative vapor density at 20°C	:	3.43
Relative density	:	1.08
Molecular mass	:	120 g/mol
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	< 750 °C / 1382 °F
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available

Explosion limits : No data available

Particle characteristics : No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

Decomposes on heating.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Incompatible materials.

10.5. Incompatible materials

Alkali metals. Metals. Oxidizing agents.

10.6. Hazardous decomposition products

May liberate toxic gases. Halogenated compounds. Carbon dioxide. Carbon monoxide. Hydrofluoric Acid. Carbonyl halides.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Tetrafluorethane

NOAEC (inhalation,rat,gas,90 days)	50000 ppm

Aspiration hazard : Not applicable

Symptoms/effects after inhalation : In high concentrations may cause asphyxiation.

Symptoms/effects after skin contact : Contact with the liquefied gas may cause frostbite.

Symptoms/effects after eye contact : Contact with the liquefied gas may cause severe ocular lesions.

Symptoms/effects after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

Most Important Symptoms/Effects : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. May cause frostbite on contact the liquefied gas.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

Pentafluoroethane	
LC50 - Fish [1]	> 81.8 mg/l
EC50 - Crustacea [1]	> 97.9 mg/l
LC50 - Fish [2]	450 mg/l
EC50 72h - Algae [1]	> 114 mg/l
EC50 72h - Algae [2]	> 118 mg/l
NOEC chronic fish	32 mg/l

1,1,1-trifluoroethane	
EC50 72h - Algae [1]	≈ 71 mg/l

Tetrafluorethane	
LC50 - Fish [1]	450 mg/l
EC50 72h - Algae [1]	> 118 mg/l
EC50 72h - Algae [2]	> 114 mg/l

12.2. Persistence and degradability

Arctic Eagle R-404A	
Persistence and degradability	Not rapidly degradable

Pentafluoroethane	
Persistence and degradability	Not rapidly degradable

1,1,1-trifluoroethane	
Persistence and degradability	Not rapidly degradable

Tetrafluorethane	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	:	Not classified
Effect on global warming	:	No known effects from this product.
Fluorinated greenhouse gases	:	No

SECTION 13 Disposal considerations

Regional waste regulation	:	Disposal must be done according to official regulations. Must be recovered and disposed of by an EPA-certified reclaimer; cannot be vented to atmosphere.
Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	:	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	:	Disposal must be done according to official regulations. Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions.
Additional information	:	Empty containers to be re-used must only be prepared by qualified and trained personnel.
Ecological waste information	:	Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
UN3337	3337	3337
14.2. Proper Shipping Name		
Refrigerant gas R 404A	REFRIGERANT GAS R 404A	Refrigerant gas R 404A
14.3. Transport hazard class(es)		
2.2	2.2	2.2
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
	Dangerous for the environment: No Marine pollutant: No	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

UN-No. (DOT)	:	UN3337
DOT Packaging Exceptions (49 CFR 173.xxx)	:	306
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	304
DOT Packaging Bulk (49 CFR 173.xxx)	:	314, 315

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	75 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	150 kg
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

IMDG

Limited quantities (IMDG)	:	120 ml
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P200
Tank instructions (IMDG)	:	T50
EmS-No. (Fire)	:	F-C - FIRE SCHEDULE Charlie - NON-FLAMMABLE GASES
EmS-No. (Spillage)	:	S-V - SPILLAGE SCHEDULE Victor - GASES (NON-FLAMMABLE, NON-TOXIC)
Stowage category (IMDG)	:	A
Properties and observations (IMDG)	:	Liquefied, non-flammable, colorless gas with a faint ether-like odor. Heavier than air (1.06) Very high exposures may cause anaesthetic effects and asphyxiation.

IATA

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	200
PCA max net quantity (IATA)	:	75kg
CAO packing instructions (IATA)	:	200
CAO max net quantity (IATA)	:	150kg
ERG code (IATA)	:	2L

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Arctic Eagle R-404A

Listed on the Canadian DSL (Domestic Substances List)

Pentafluoroethane (354-33-6)

Listed on the Canadian DSL (Domestic Substances List)

1,1,1-trifluoroethane (420-46-2)

Listed on the Canadian DSL (Domestic Substances List)

Tetrafluorethane (811-97-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Arctic Eagle R-404A
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Pentafluoroethane (354-33-6)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

1,1,1-trifluoroethane (420-46-2)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Tetrafluorethane (811-97-2)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16 Other information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date : 12/17/2025

Full text of hazard classes and H-statements	
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
SIAS	May displace oxygen and cause rapid suffocation

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level

Abbreviations and acronyms	
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organization for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstracts Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.