R-123

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 8/21/2026 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product form : Substance
Trade name : R-123

1.2. Other means of identification

Other means of identification : HCFC-123; 2,2-Dichloro-1,1,1-trifluoroethane

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Refrigerant
Restrictions on use : Reserved for industrial and professional use,Not for consumer sale or use,For use by trained, certified refrigeration technicians. (EPA Section 608)

1.4. Supplier's details

RGAS Refrigerants
2777 Allen Parkway
Suite 1185
Houston, Texas 77019
T 281-953-5550
info@rgasref.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 1024991
Back-up Emergency Number: +1 703-741-5970 (Washington, DC)

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

GHS US classification

Specific target organ toxicity — Single exposure, Category 2	H371	May cause damage to organs (central nervous system, heart, liver).
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs (central nervous system, heart, liver) through prolonged or repeated exposure.

Full text of H-statements: see section 16

2.2. Label elements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H371 - May cause damage to organs (central nervous system, heart, liver).
H373 - May cause damage to organs (central nervous system, heart, liver) through prolonged or repeated exposure
Precautionary statements (GHS US) : Do not breathe fume, mist, spray, vapours.
Wash hands, forearms and face thoroughly after handling.

Do not eat, drink or smoke when using this product.
If exposed or concerned: Call a poison center or doctor.
Get medical advice or attention if you feel unwell.
Store locked up.
Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Trade name : R-123

Name	Product identifier	%	GHS US classification
2,2-dichloro-1,1,1-trifluoroethane	CAS-No.: 306-83-2	100	STOT SE 2, H371 STOT RE 2, H373 Aquatic Acute 3, H402 Aquatic Chronic 3, H412 Ozone 1, H420

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

3.2. Mixtures

Not applicable

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Induce artificial respiration with mask fitted with one-way valve or other suitable device but, not mouth-to-mouth. If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : Inhalation may cause irritation, cough, shortness of breath.

Symptoms/effects after skin contact : May cause irritation to skin.

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

Symptoms/effects after ingestion	:	May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Most Important Symptoms/Effects	:	May cause damage to organs (central nervous system, kidneys, liver).
Chronic symptoms	:	May cause damage to organs (liver) through prolonged or repeated exposure.

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

Other medical advice or treatment	:	IF exposed or concerned: Get medical advice/attention.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	:	Water spray. Alcohol-resistant foam. For small fire: Earth, sand, dry chemical powder or foam.
Unsuitable extinguishing media	:	Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard	:	Not flammable.
Explosion hazard	:	No direct explosion hazard.
Hazardous decomposition products in case of fire	:	Toxic fumes may be released. Carbon monoxide. Carbon dioxide. Halogenated compounds.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	:	Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Move containers from fire area if it can be done without personal risk. Use water spray or fog for cooling exposed containers. Prevent fire fighting water from entering the environment.
Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Avoid all personal contact including breathing in the mist, spray, vapours. Do not take actions involving personal risks. Absorb spillage to prevent material damage. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.

For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment.
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.

For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Ventilate spillage area. Stop leak if safe to do so.
Environmental precautions	:	Do not let the product reach soil, drains, sewers, or surface and ground water.

6.2. Methods and materials for containment and cleaning up

For containment	:	Contain with non-combustible inert absorbent.
Methods for cleaning up	:	Take up in non-combustible inert absorbent and place into container for disposal. Contaminated absorbent material may pose the same hazard as the spilled product. Decontaminate surfaces and equipment with water and detergent. Until a sufficient level of dilution is achieved, the decontamination water may pose the same hazards as the product. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

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 : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Store in a dry place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep cool. Keep container closed when not in use.

Incompatible materials : Powdered metals.

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. Use general ventilation, local exhaust ventilation, or process enclosure to keep the airborne concentrations below the permissible exposure limits. 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:
Wear recommended personal protective equipment. Body protection should be chosen depending on activity and possible exposure.

Hand protection:
Wear protective gloves. Chemically impervious gloves as described by OSHA's hand protection regulations in 29 CFR 1910.138
Eye protection:
Safety glasses or face shield which protect from splashes.
Skin and body protection:
Protective clothing. Body protection should be chosen depending on activity and possible exposure
Respiratory protection:
In case of inadequate ventilation, wear respiratory protection. Use a positive pressure self-contained breathing apparatus (SCBA).

Personal protective equipment symbol(s):



SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colorless
Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	27.6 °C / 81.68 °F
Flash point	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosive 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

The product is non-reactive under normal conditions of use, storage and transport.

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

Incompatible materials. Avoid contact with hot surfaces, heat, flames, and sparks. Avoid extreme temperatures.

10.5. Incompatible materials

Powdered metals.

10.6. Hazardous decomposition products

Thermal decomposition generates: Carbon dioxide. Carbon monoxide. Halogenated compounds.

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

2,2-dichloro-1,1,1-trifluoroethane	
LD50 oral	9000 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight
LD50 dermal rabbit	> 2000 mg/kg
LD50 dermal	2500 mg/kg
LC50 Inhalation - Rat [ppm]	32000 ppm
LC50 Inhalation - Rat (Vapours)	32000 ppmv

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified
STOT-single exposure : May cause damage to organs (central nervous system, heart, liver).

2,2-dichloro-1,1,1-trifluoroethane	
STOT-single exposure	May cause damage to organs (central nervous system, heart, liver).

STOT-repeated exposure : May cause damage to organs (central nervous system, heart, liver) through prolonged or repeated exposure.

2,2-dichloro-1,1,1-trifluoroethane	
STOT-repeated exposure	May cause damage to organs (liver) through prolonged or repeated exposure.

Aspiration hazard : Not classified
Symptoms/effects after inhalation : Inhalation may cause irritation, cough, shortness of breath.
Symptoms/effects after skin contact : May cause irritation to skin.
Symptoms/effects after eye contact : Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Most Important Symptoms/Effects : May cause damage to organs (central nervous system, kidneys, liver).
Chronic symptoms : May cause damage to organs (liver) through prolonged or repeated exposure.

SECTION 12 Ecological information

12.1. Ecotoxicity

Hazardous to the aquatic environment, short–term (acute) : Harmful to aquatic life
Hazardous to the aquatic environment, long–term (chronic) : Harmful to aquatic life with long lasting effects.

2,2-dichloro-1,1,1-trifluoroethane	
LC50 - Fish [1]	55.5 mg/l
EC50 - Crustacea [1]	17.3 mg/l
EC50 96h - Algae [1]	53.709 mg/l
ErC50 algae	96.6 mg/l

12.2. Persistence and degradability

R-123	
Persistence and degradability	Not readily biodegradable.
2,2-dichloro-1,1,1-trifluoroethane	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

2,2-dichloro-1,1,1-trifluoroethane	
Partition coefficient n-octanol/water (Log Pow)	2.17

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Harms public health and the environment by destroying ozone in the upper atmosphere.
Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
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.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
	Not regulated	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

IMDG
Not regulated

IATA
Not regulated

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.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

2,2-dichloro-1,1,1-trifluoroethane	CAS-No. 306-83-2	100%

15.2. International regulations

CANADA

2,2-dichloro-1,1,1-trifluoroethane (306-83-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

2,2-dichloro-1,1,1-trifluoroethane (306-83-2)

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

Component	State or local regulations
2,2-dichloro-1,1,1-trifluoroethane(306-83-2)	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16 Other Information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date : 8/21/2026

Full text of hazard classes and H-statements	
H371	May cause damage to organs.

Full text of hazard classes and H-statements	
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects
H420	Harms public health and the environment by destroying ozone in the upper atmosphere

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.