



SAFETY DATA SHEET

Gulf Cool R134a Refrigerant

1,1,1,2-Tetrafluoroethane (HFC-134a) | CAS No. 811-97-2

Document No.	GC-R134A-SDS-001	Revision	1.0
Issue Date	12-Aug-2026	Supersedes	New customer-facing issue
Product Code	Refrigerant - R134a	Part No.	RIG-RG-003
Classification Summary	Gas under pressure; simple asphyxiant	Signal Word	Warning



Emergency Overview

Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation. Use and store only outdoors or in a well-ventilated place. Protect cylinders from sunlight and heat.

Supplier / Brand Owner: Rawabi Integrated Gas Co., Al-Jubail Industrial Area - 2, Al-Jubail, Kingdom of Saudi Arabia. Website: www.rawabiig.com. Emergency Phone: +96613 8249269.

This SDS is prepared as a controlled, customer-facing document for Gulf Cool R134a. Users must ensure the product is suitable for the intended application and comply with applicable Saudi/GCC and site-specific requirements.

Section 1: Identification

Item	Details
Product identifier	Gulf Cool R134a Refrigerant
Chemical name	1,1,1,2-Tetrafluoroethane (HFC-134a)
CAS number	811-97-2
Product use	Refrigerant for refrigeration and air-conditioning applications. Use only in equipment designed and rated for R134a.
Supplier / Brand owner	Rawabi Integrated Gas Co.
Address	Al-Jubail Industrial Area - 2, Al-Jubail, Kingdom of Saudi Arabia
Website	www.rawabiig.com
Emergency telephone	+96613 8249269
Document number	GC-R134A-SDS-001

Section 2: Hazard(s) Identification

GHS classification	Gases under pressure - liquefied gas (H280); Simple asphyxiant
Signal word	Warning
Hazard statements	H280: Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation. May cause frostbite due to rapid evaporation of liquid.
Pictogram	Gas cylinder



Precautionary statements

P202: Do not handle until all safety precautions have been read and understood.
P271 + P403: Use and store only outdoors or in a well-ventilated place.
CGA-PG02: Protect from sunlight when ambient temperature exceeds 52 C (125 F).
CGA-PG05: Use a backflow preventive device in the piping.
CGA-PG06: Close valve after each use and when empty.
CGA-PG10 + CGA-PG20: Use only with compatible equipment rated for cylinder pressure.
CGA-PG12: Do not open valve until connected to equipment prepared for use.
CGA-PG27: Read and follow the SDS before use.

Section 3: Composition/Information on Ingredients

Component	CAS No.	Concentration	Synonyms / trade names
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	100%	R134a; HFC-134a; Norflurane; Tetrafluoroethane

Section 4: First Aid Measures

Route	First aid instructions
Inhalation	Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, oxygen may be administered by trained personnel. Get medical advice/attention.
Skin contact	For exposure to liquid, thaw affected area with lukewarm water. Do not rub affected area. Wash with plenty of water and seek medical attention for frostbite or persistent irritation.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical advice if irritation persists.
Ingestion	Not an expected exposure route for a liquefied gas. Seek medical advice if exposure occurs.
Notes to physician	Treatment should be symptomatic and supportive. Exposure may aggravate oxygen-deficiency effects.

Section 5: Fire Fighting Measures

Topic	Information
Suitable extinguishing media	Use extinguishing material appropriate for the surrounding fire.
Specific hazards	Containers may rupture or explode if heated. Thermal decomposition may generate hazardous decomposition products.
Firefighter protection	Wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode.

Section 6: Accidental Release Measures

Topic	Information
Personal precautions	Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Avoid breathing vapor.
Environmental precautions	Keep away from drains, surface water and groundwater. Avoid ignition sources and heat.
Containment and cleanup	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. Cover drains if necessary.

Section 7: Handling and Storage

Topic	Controls
Handling	Only trained personnel should handle this product. Always use approved PPE. Do not open cylinder until connected to equipment prepared for use. Close valve after each use and when empty.
Storage	Keep container tightly closed in a dry, well-ventilated place. Store upright and secured. Protect from sunlight and elevated temperature. Store and handle in accordance with current regulations and standards.
Incompatibilities / conditions to avoid	Data not available in source SDS. Avoid heat, flames, sparks and other ignition sources.

Section 8: Exposure Controls/Personal Protection

Control item	Requirement
Exposure limits	Threshold Limit Value (TLV): Not available in source SDS.
Engineering controls	Use adequate ventilation. No specific controls are normally needed when used in closed and rated systems.
Eye/face protection	Wear splash resistant safety goggles.
Skin protection	Wear chemical protective clothing, including gloves suitable for low-temperature exposure when handling liquid or cylinders.
Respiratory protection	Use self-contained breathing apparatus (SCBA) in oxygen-deficient or emergency conditions.
General hygiene	Avoid breathing vapor or mist. Avoid contact with eyes and skin. Wash thoroughly after handling and before eating or drinking.

Section 9: Physical and Chemical Properties

Property	Value	Property	Value
Physical state / form	Gas / liquefied gas	Appearance / color	Colorless
Odor	Ethereal odor	Flash point	Not available
Flammability	False / not classified as flammable in source SDS	Partition coefficient	1
Autoignition temperature	Not available	Upper explosive limit	Not available
Lower explosive limit	Not available	Boiling point	-26.5 C
Freezing point	-103.296 C	Vapor pressure	85.804
Vapor density	3.5	Specific gravity	1.2072 g/cu cm at 25 C
Water solubility	Insoluble	pH	0

Property	Value	Property	Value
Evaporation rate	Not available	Viscosity	0.204 cP at 25 C
Molecular weight	102.0316	Molecular formula	CF ₃ CH ₂ F
Density	1.220858	Solvent solubility	Not available

Section 10: Stability and Reactivity

Topic	Information
Stability	Stable at normal conditions.
Conditions to avoid	Not available in source SDS. Avoid heat and direct sunlight on pressurized containers.
Incompatible materials	Not available in source SDS.
Hazardous decomposition products	Not available in source SDS.
Possibility of hazardous reactions	Not available in source SDS.

Section 11: Toxicological Information

Endpoint	Available information
Acute toxicity estimates	Oral ATE: Not available. Inhalation ATE: Not available. Dermal ATE: Not available.
Additional health hazards	May displace oxygen and cause rapid suffocation. Contact with rapidly expanding liquid may cause frostbite.
Skin corrosion/irritation	Not available
Eye damage/irritation	Not available
Respiratory or skin sensitization	Not available
Germ cell mutagenicity	Not available
Carcinogenicity	Not available
Reproductive toxicity	Not available
STOT - single/repeated exposure	Not available
Aspiration hazard	Not available

Section 12: Ecological Information

Fate and transport	Information
Ecotoxicity	Fish toxicity: 450. Invertebrate, algal, phyto and other toxicity: not available in source SDS.
Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Mobility in environment	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Do not dispose to sewers or waterways. Recycle or reclaim product where possible. Return to manufacturer or authorized gas/refrigerant recovery service for disposal if required.

Section 14: Transport Information

Mode / reference	Proper shipping name	UN number	Class	Packing group / remarks
U.S. DOT / general transport	1,1,1,2-Tetrafluoroethane	UN 3159	2.2	Packing group: Not available
TDG / international use	1,1,1,2-Tetrafluoroethane	UN 3159	2.2	Non-flammable gas

Transport classification should be verified against the latest applicable road, sea and air transport regulations before shipment.

Section 15: Regulatory Information

Regulatory area	Status / reference
Saudi Arabia / GCC hazard communication	Prepare, label and communicate hazards in alignment with applicable Saudi requirements and the GCC GHS framework adopted or referenced by competent authorities.
GSO / GHS reference	GSO 2654: The Global Harmonized System (GHS) in GCC countries provides criteria for classification and hazard communication elements, including SDS and labels.
SASO / conformity reference	For placing products on the Saudi market, confirm whether the product falls under a SASO/SABER conformity route or customer/site-specific import controls.
Royal Commission / industrial cities	For industrial facilities in Jubail/Yanbu or customer sites under Royal Commission jurisdiction, comply with applicable site HSE and chemical control requirements.
Environmental handling	Prevent uncontrolled release. Manage recovered refrigerant and cylinders through approved recovery, recycling or waste channels in accordance with applicable Saudi environmental rules.
U.S. source SDS regulatory data	CERCLA: Not regulated. SARA 355.30 / 355.40: Not regulated. SARA 370.21: Not regulated. SARA 372.65: Not regulated. OSHA Process Safety: Not regulated. TSCA: Ethane, 1,1,1,2-tetrafluoro-. Canada DSL: Listed.

Regulatory note: This section is designed for customer-facing use in Saudi Arabia and the GCC. Final legal applicability should be confirmed by RIG HSE/Regulatory Affairs against the latest Saudi, GCC, transport and customer-site requirements before external release.

Section 16: Other Information

Item	Details
NFPA rating	Health = 2; Flammability = 1; Instability = 0. Scale: 0 minimal, 1 slight, 2 moderate, 3 severe, 4 extreme.
Prepared for	Rawabi Integrated Gas Co. - Gulf Cool refrigerant portfolio
Prepared by	Sales / HSE documentation support draft for internal approval
Issue date	12-Aug-2026
Revision	1.0 - Customer-facing audit-ready SDS draft
Disclaimer	The information is provided in good faith based on available R134a SDS data and is intended for safe handling, use, storage, transport and disposal. RIG should approve the final document before external distribution.

Revision Control and Approval

Revision	Date	Description of change	Prepared by	Reviewed by	Approved by
1.0	12-Aug-2026	Customer-facing audit-ready SDS issued for Gulf Cool R134a branding.	Sales / HSE Documentation	HSE / QA Manager	Authorized Signatory

Approval field	Name / title	Signature	Date
Prepared by			
Reviewed by HSE / QA			
Approved for customer release			

Distribution control: This SDS is intended for customers, auditors, logistics providers and internal RIG stakeholders handling Gulf Cool R134a. Printed copies are uncontrolled unless stamped and signed by the document controller.

Branding note: The attached approved Gulf Cool logo has been inserted in this draft. Confirm final artwork and authorized signatures before controlled external release.