



24261 R-134a REFRIGERANT PLUS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 12/22/2014

Supersedes:10/19/2012

Version: 4.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : 24261 R-134a REFRIGERANT PLUS
CAS No : 811-97-2
Product code : 24261

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : R-134a Refrigerant Plus is used as Oil Charge, Performance Enhancer, and Leak Stop in R-134a refrigeration systems.
Use of the substance/mixture : Refrigerant gas

1.3. Details of the supplier of the safety data sheet

Tire Seal, Inc.
3574 Corona Street
33461 Lake Worth, Florida - USA
T 561-582-2245 - F 561-582-1499
www.supercool.ac

1.4. Emergency telephone number

Emergency number : USA PHONE:1-800-373-7542, INT'L: 1-484-951-2432
DGA/AAG ENVIRONMENTAL CONTRACT: DGA4000-048

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Not classified

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS04

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated
H281 - Contains refrigerated gas; may cause cryogenic burns or injury
H380 - May displace oxygen and cause rapid suffocation

2.3. Other hazards

Other hazards not contributing to the classification : Contains gas under pressure; may burst if heated.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
1,1,1,2-tetrafluoroethane (Main constituent)	(CAS No) 811-97-2	80 - 90	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Content under pressure. "Frostbite-like" effects may occur if the liquid or escaping vapors contact the eyes or skin. Gross inhalation over exposure may cause: Central nervous system depression with dizziness, confusion, incoordination, drowsiness or unconsciousness or death. Vomiting: prevent asphyxia/aspiration pneumonia.

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First-aid measures after inhalation	: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
First-aid measures after skin contact	: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and shoes, and launder before reuse. Use approved skin lotions or creams to replace lost skin oils. Treat for frostbite if necessary by gently warming affected area.
First-aid measures after eye contact	: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
First-aid measures after ingestion	: DO NOT INDUCE VOMITING. Give nothing by mouth. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Central nervous system depression. Dizziness. Mental confusion.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. BC powder. Water fog, carbon dioxide, foam, dry chemical. Use water spray to keep containers cool that are exposed to heat or flames.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Warning!! Contents under pressure. Container may rupture under fire conditions. Decomposition may occur. Wear approved positive-pressure self-contained breathing apparatus and protective clothing.

6.1.1. For non-emergency personnel

Protective equipment : Wear appropriate protective clothing and equipment to prevent skin and eye contact.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Keep away from drains.

6.3. Methods and material for containment and cleaning up

For containment : Increase area ventilation. Do not puncture or incinerate container. Contents under pressure.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : CAUTION: COMPRESSED GAS. Do not puncture, incinerate or store above 120°F. Do not store in passenger compartment of automobile. Avoid breathing vapors, if exposed to high vapor concentration, leave area at once. Avoid contact with skin and eyes. Should not be mixed with air for leak testing or used for any other purpose above atmospheric pressure.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Do not store above 120°F.
Storage temperature : < 49 °C Do not store in passenger compartment of automobiles.
Storage area : Store in a dry area. Store in a cool area.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls : Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Showers. Eyewash stations.

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Hand protection	: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Suggested protective material: Nitrile, 4.5 mil thickness, tested at 3.5 ml and above with no breakthrough time after 240 minutes.
Eye protection	: Wear safety glasses or goggles to protect against exposure.
Skin and body protection	: Avoid skin contact. Wear protective clothing and gloves.
Respiratory protection	: Where there is potential for airborne exposure above the exposure limit an approved air purifying respirator equipped with Type P2 - Medium efficiency particle filters may be used.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid or gas at ambient temperatures.
Color	: Green-Yellow Tint.
Odor	: Ether-like odour.
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: -26.5 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

Gas group	: Liquefied gas
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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions. Stable under normal temperatures and pressures.

10.3. Possibility of hazardous reactions

Hazardous Polymerization: WILL NOT OCCUR.

10.4. Conditions to avoid

Do not expose to heat or store at temperatures above 120°F.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Carbon monoxide. Carbon Dioxide. This material can be decomposed by high temperatures forming hydrofluoric acid and possibly carbonyl fluoride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
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1,2-BENZENEDICARBOXYLIC ACID DIC9-11 BRANCHED ALKYLESTERS, C10 RICH (68515-49-1)	
LD50 oral rat	2000 mg/kg (Rat)
LD50 dermal rabbit	2000 mg/kg (Rabbit)
ATE CLP (oral)	2000.000 mg/kg body weight
ATE CLP (dermal)	2000.000 mg/kg body weight
Additional information	Di-isodecyl phthalate (DIDP) has been tested in reproductive toxicology studies in laboratory rats (two-generation studies). There were no effects on fertility, reproductive performance, or evidence of alteration of endocrine processes. A small, statistically significant decrease in offspring survival was observed. In evaluating these and related studies, the EU Risk Assessment for DIDP has concluded that classification and labeling is not required for any effect including reproductive and developmental effects. In addition the NTP Center for Evaluation of Risks to Human Reproduction has concluded that there is negligible concern for reproductive effects in adults and minimal concern for developmental effects in fetuses and children due to DIDP exposure.

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
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: Central nervous system depression. Dizziness. Mental confusion.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

1,2-BENZENEDICARBOXYLIC ACID DIC9-11 BRANCHED ALKYLESTERS, C10 RICH (68515-49-1)	
Persistence and degradability	Expected to be readily biodegradable.

12.3. Bioaccumulative potential

1,2-BENZENEDICARBOXYLIC ACID DIC9-11 BRANCHED ALKYLESTERS, C10 RICH (68515-49-1)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

1,2-BENZENEDICARBOXYLIC ACID DIC9-11 BRANCHED ALKYLESTERS, C10 RICH (68515-49-1)	
Surface tension	0.033 N/m

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Disposal should be made in accordance with federal, state and local regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT) : 3159

14.2. UN proper shipping name

Proper Shipping Name (DOT) : 1,1,1,2-Tetrafluorethane
Department of Transportation (DOT) Hazard Classes : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT) : 2.2 - Non-flammable gas



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14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

24261 R-134a REFRIGERANT PLUS (811-97-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations

No additional information available

15.3. US State regulations

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U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

1,2-BENZENEDICARBOXYLIC ACID DIC9-11 BRANCHED ALKYLESTERS, C10 RICH (68515-49-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	Yes	No	No	

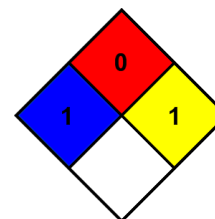
1,2-BENZENEDICARBOXYLIC ACID DIC9-11 BRANCHED ALKYLESTERS, C10 RICH (68515-49-1)

State or local regulations

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

SECTION 16: Other information

- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 0 - Materials that will not burn.
- NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



SDS US (GHS HazCom 2012) - TSI

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