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

1.1. Product identifier

Product form: Mixture
Trade name: CL110 R-134a REFRIGERANT PLUS
CAS No: 811-97-2
Product code: CL110

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):

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-tetrafluoroethane</td>
<td>(CAS No) 811-97-2</td>
<td>80 - 90</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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.
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.
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

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
CL110 R-134a REFRIGERANT PLUS  
Safety Data Sheet  
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>2000 mg/kg (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rabbit</td>
<td>2000 mg/kg (Rabbit)</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>2000.000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>2000.000 mg/kg body weight</td>
</tr>
</tbody>
</table>

**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
**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**

**CL110 R-134a REFRIGERANT PLUS (811-97-2)**

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

**15.2. International regulations**

**CANADA**

**CL110 R-134a REFRIGERANT PLUS (811-97-2)**

Listed on the Canadian DSL (Domestic Sustances List).

**EU-Regulations**

No additional information available.


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**

**CL110 R-134a REFRIGERANT PLUS(811-97-2)**

| 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-BENZENEDI CARBOXYLIC 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-BENZENEDI CARBOXYLIC 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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