



R1234yf w/Safe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.
Issue date: 10/2/2023 Revision date: 10/2/2023 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : R1234yf w/Safe Seal 10oz
Product code : BLA602yfD, BLA603yfD, BLA605yfC, BLA607yfP

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Automotive AC

1.3. Supplier

Manufacturer
AC Avalanche LLC
809 110th Street
Arlington, Texas 76011
USA
T 737-377-0194

1.4. Emergency telephone number

Emergency number : CHEMTREC 800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flam. Aerosol, Category 1
Gas Under Pressure, Liquefied Gases
Simple Asphy

Extremely flammable gas
Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Extremely flammable gas
Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation

Precautionary statements (GHS US) :

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
Eliminate all ignition sources if safe to do so.
Store in a well-ventilated place.
Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardi-ac effects. Rapid evaporation of the product may cause frostbite.

R1234yf wSafe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
1-Propene, 2,3,3,3-tetrafluoro-	CAS-No.: 754-12-1	80 - 100
2,6-Di-tert-butyl-p-cresol	CAS-No.: 128-37-0	1 – 5

Comments : *Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.
First-aid measures after eye contact	: IF IN EYES: 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	: Not expected to be a primary route of exposure. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Symptoms of oxygen deficiency include respiratory difficulty, headache, dizziness, nausea, unconsciousness or death.
Symptoms/effects after skin contact	: May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion	: None under normal use. May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not use water jet.

R1234yf wSafe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

5.2. Specific hazards arising from the chemical

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| Fire hazard | : Extremely flammable gas. Products of combustion may include, and are not limited to: oxides of carbon. Hydrogen fluoride. |
| Explosion hazard | : May form flammable/explosive vapor-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Ruptured cylinders may rocket. |

5.3. Special protective equipment and precautions for fire-fighters

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| Firefighting instructions | : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Move containers away from the fire area if this can be done without risk. Cool closed containers exposed to fire with water spray. |
| Protection during firefighting | : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| General measures | : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges. Eliminate every possible source of ignition. Isolate from fire, if possible, without unnecessary risk. |
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6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

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| For containment | : Stop leak if safe to do so. Remove all sources of ignition. Wear recommended personal protective equipment. |
| Methods for cleaning up | : Provide ventilation. |

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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| Additional hazards when processed | : Handle empty containers with care because residual vapors are flammable. Hazardous waste due to potential risk of explosion. |
| Precautions for safe handling | : Do not pierce or burn, even after use. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. |
| Hygiene measures | : Wash contaminated clothing before reuse. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

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| Technical measures | : Proper grounding procedures to avoid static electricity should be followed. |
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R1234yf wSafe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Protect containers from physical damage.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

R1234yf wSafe Seal 10oz	
No additional information available	
1-Propene, 2,3,3,3-tetrafluoro- (754-12-1)	
USA - AIHA - Occupational Exposure Limits	
WEEL TWA [ppm]	500 ppm
2,6-Di-tert-butyl-p-cresol (128-37-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	2 mg/m³ (inhalable fraction and vapor)
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	10 mg/m³

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear suitable gloves. Consult glove manufacturer's product information on material suitability and material thickness.
Eye protection:
Safety glasses or goggles are recommended when using product.
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas
Appearance : Liquefied compressed gas.

R1234yf wSafe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Color	: Colorless Clear
Odor	: Slight ether
Odor threshold	: No data available
pH	: No data available
Melting point	: -152.2 °C (-242 °F)
Freezing point	: No data available
Boiling point	: -29 °C (-20 °F)
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Extremely flammable gas.
Vapor pressure	: 5800 hPa (68 °F / 20 °C)
Relative vapor density at 20°C	: 4 (Air = 1)
Relative density	: No data available
Density	: 0.0048 g/cm³ (68 °F / 20 °C)
Solubility	: Water: 0.1982 g/l
Partition coefficient n-octanol/water	: 2 (77 °F / 25 °C)
Auto-ignition temperature	: 405 °C (761 °F)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not explosive.
Oxidizing properties	: Not oxidizing.

9.2. Other information

Minimum ignition energy	: 5 - 10 J
Gas group	: Press. Gas (Liq.)

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions. Extremely flammable gas. Contains gas under pressure; may explode if heated.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials. Sources of ignition. Direct sunlight.

10.5. Incompatible materials

Acids. Bases. Oxidizing agents. Oxygen. Peroxides. Powdered metals.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Hydrogen fluoride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
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R1234yf wSafe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

1-Propene, 2,3,3,3-tetrafluoro- (754-12-1)

LC50 inhalation rat	> 405800 ppm/4h
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2,6-Di-tert-butyl-p-cresol (128-37-0)

LD50 oral rat	> 2930 mg/kg
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LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
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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

2,6-Di-tert-butyl-p-cresol (128-37-0)

NOAEL (chronic,oral,animal/male,2 years)	25 mg/kg body weight Animal: rat, Animal sex: male, Remarks on results: other:
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IARC group	3 - Not classifiable
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Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Symptoms of oxygen deficiency include respiratory difficulty, headache, dizziness, nausea, unconsciousness or death.
Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion : None under normal use. May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

1-Propene, 2,3,3,3-tetrafluoro- (754-12-1)

LC50 - Fish [1]	> 197 mg/l Test organisms (species): Cyprinus carpio
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EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
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LC50 - Fish [2]	33 mg/l Test organisms (species): Oryzias latipes
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EC50 - Crustacea [2]	65 mg/l Test organisms (species): Daphnia magna
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EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
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EC50 72h - Algae [2]	> 2.5 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
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LOEC (chronic)	> 15.2 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
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NOEC (chronic)	15.2 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
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R1234yf wSafe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

1-Propene, 2,3,3,3-tetrafluoro- (754-12-1)	
NOEC chronic fish	2.7 mg/l Test organisms (species): Cyprinus carpio Duration: '28 d'
2,6-Di-tert-butyl-p-cresol (128-37-0)	
LC50 - Fish [1]	> 0.57 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.48 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 0.4 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	> 0.42 mg/l (Species: Desmodesmus subspicatus)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.023 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.053 mg/l Test organisms (species): Oryzias latipes Duration: '42 d'

12.2. Persistence and degradability

R1234yf wSafe Seal 10oz	
Persistence and degradability	Not established.
2,6-Di-tert-butyl-p-cresol (128-37-0)	
Not rapidly degradable	

12.3. Bioaccumulative potential

R1234yf wSafe Seal 10oz	
Partition coefficient n-octanol/water	2 (77 °F / 25 °C)
Bioaccumulative potential	Not established.
1-Propene, 2,3,3,3-tetrafluoro- (754-12-1)	
Partition coefficient n-octanol/water	2 (at 25 °C (at pH 7))
2,6-Di-tert-butyl-p-cresol (128-37-0)	
BCF - Fish [1]	230 – 2500
Partition coefficient n-octanol/water	5.1

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.
Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Container under pressure. Do not drill or burn even after use.

R1234yf wSafe Seal 10oz

Safety Data Sheet

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Additional information : Handle empty containers with care because residual vapors are flammable. Hazardous waste due to potential risk of explosion.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

DOT NA No : UN3161

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Liquefied gas, flammable, n.o.s. (2,3,3,3-Tetrafluoropropene)

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 2.1

Hazard labels (DOT) : 2.1



14.4. Packing group

Packing group (DOT) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

No additional information available

15.3. US 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

R1234yf wSafe Seal 10oz

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

SECTION 16: Other information

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

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Other information : None.
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com



Full text of H-phrases	
Flam. Gas 1	Flammable gases Category 1
Press. Gas (Liq.)	Gases under pressure Liquefied gas
Simple Asphy	Simple Asphyxiant

Safety Data Sheet (SDS), USA

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