

SAFETY DATA SHEET

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

1.1. Product identifier

Product form : Mixture
 Trade name : R134A STOP LEAK 4 OZ.
 Product code : 9140

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

Use of the substance/mixture : Oil Charge

1.3. Details of the supplier of the safety data sheet

FJC INC
 101 Commercial Drive
 Mooresville, NC 28115
 704-664-3587
 FAX 704-664-5522

1.4. Emergency telephone number

Emergency number : INFO TRAC 1-352-323-3500 (International) 1-800-535-5053 (North Am.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Liquefied gas H280
 Repr. 1B H360

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS04

GHS08

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H280 - Contains gas under pressure; may explode if heated
 H360 - May damage fertility or the unborn child

Precautionary statements (GHS-US)

: P201 - Obtain special instructions
 P202 - Do not handle until all safety precautions have been read and understood
 P280 - Wear protective gloves, protective clothing, eye protection, face protection
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P405 - Store locked up
 P410+P403 - Protect from sunlight. Store in a well-ventilated place
 P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards

Other hazards not contributing to the classification

: Contains gas under pressure; may explode if heated. Intentional misuse and inhalation abuse may cause cardiac or central nervous systems effects. Warning. May Cause frostbite in contact with skin. May Cause frostbite in contact with skin. (Liquid form can be ejected if the aerosol can is not held upright during use.) Warning.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
1,1,1,2-Tetrafluoroethane	(CAS No) 811-97-2	50 - 70	Liquefied gas, H280
Polyalkylene Glycol Alkyl Ether 100	(CAS No) Proprietary	30 - 50	Acute Tox. 4 (Oral), H302
Benzyl Butyl Phthalate	(CAS No) 85-68-7	1-5	Repr. 1B, H360

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries	: May damage fertility or the unborn child.
Symptoms/injuries after inhalation	: Coughing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Slight irritation. Possible inflammation of the respiratory tract.
Symptoms/injuries after skin contact	: Blisters. Causes skin irritation. Red skin. Itching. Skin rash/inflammation.
Symptoms/injuries after eye contact	: May cause slight eye irritation. Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	: May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

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	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: NFPA Aerosol Level 1.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Remove ignition sources.
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6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Safety glasses.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Dam up the liquid spill. Contain released substance, pump into suitable containers.
Methods for cleaning up	: Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Pressurized container: Do not pierce or burn, even after use.
Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not handle until all safety precautions have been read and understood. Obtain special instructions.

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Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. :

Storage area : Store in a well-ventilated place.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls : Local exhaust ventilation, vent hoods.

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.



Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses. : Wear

Skin and body protection : suitable protective clothing. : Wear

Respiratory protection : appropriate mask.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance : Liquid.

Color : Red.

Odor : Characteristic. Petroleum-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 : No data available :

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 : 0.99

Solubility Log : Insoluble in water. :

Pow Log : No data available : No

Kow : data available : No

Viscosity, kinematic : data available : No

Viscosity, dynamic : data available : No

Explosive properties : data available

Oxidizing properties : No data available :

Explosive limits : No data available

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9.2. Other information

VOC content : 0%

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)	
LD50 oral rat	500 mg/kg

Benzyl Butyl Phthalate (85-68-7)	
LD50 oral rat	2330 mg/kg (Rat) 6700
LD50 dermal rat	mg/kg (Rat)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 6.7 mg/l/4h (Rat)

1,1,1,2-Tetrafluoroethane (811-97-2)	
LC50 inhalation rat (mg/l)	> 2000 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	> 359300 ppm/4h (Rat; Literature study)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified : Not
Respiratory or skin sensitization	classified : Not
Germ cell mutagenicity	classified : Not
Carcinogenicity	classified

Benzyl Butyl Phthalate (85-68-7)	
IARC group	3
Reproductive toxicity	: May damage fertility or the unborn child.
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: Coughing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Slight irritation. Possible inflammation of the respiratory tract.
Symptoms/injuries after skin contact	: Blisters. Causes skin irritation. Red skin. Itching. Skin rash/inflammation.
Symptoms/injuries after eye contact	: May cause slight eye irritation. Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	: May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

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Benzyl Butyl Phthalate (85-68-7)	
LC50 fish 1	1.5 mg/l (96 h; Pimephales promelas; Measured concentration)
EC50 Daphnia 1	1.6 - 1.8 mg/l (48 h; Daphnia magna)
EC50 other aquatic organisms 1	0.64 mg/l (72 h; Diatomeae; Growth rate)
LC50 fish 2	0.82 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Measured concentration)
EC50 Daphnia 2	0.97 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	0.20 mg/l (72 h; Diatomeae; Growth rate)
Threshold limit algae 2	0.31 mg/l (72 h; Scenedesmus subspicatus; Growth rate)
1,1,1,2-Tetrafluoroethane (811-97-2)	
LC50 fish 1	450 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	980 mg/l (48 h; Daphnia magna)
12.2. Persistence and degradability	
Persistence and degradability	Not established.
Polyalkylene Glycol Alkyl Ether 100 (Proprietary)	
Persistence and degradability	Not established.
Benzyl Butyl Phthalate (85-68-7)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradability in soil: no data available. Adsorbs into the soil.
1,1,1,2-Tetrafluoroethane (811-97-2)	
Persistence and degradability	Not readily biodegradable in water.
12.3. Bioaccumulative potential	
Bioaccumulative potential	Not established.
Polyalkylene Glycol Alkyl Ether 100 (Proprietary)	
Bioaccumulative potential	Not established.
Benzyl Butyl Phthalate (85-68-7)	
BCF fish 1	188 (408 h; Lepomis macrochirus) 663
BCF fish 2	(504 h; Lepomis macrochirus)
BCF other aquatic organisms 1	26 - 270
Log Pow	3.57 - 5.8
Bioaccumulative potential	Not established.
1,1,1,2-Tetrafluoroethane (811-97-2)	
BCF other aquatic organisms 1	5 - 58 (Estimated value)
Log Pow	1.06 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
12.4. Mobility in soil	
No additional information available	
12.5. Other adverse effects	
Other information	: Avoid release to the environment.
SECTION 13: Disposal considerations	
13.1. Waste treatment methods	
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.
Ecology - waste materials	: Avoid release to the environment.

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SECTION 14: Transport information

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

US DOT (ground):	UN1078, Refrigerant gases, n.o.s., 2.2, Limited Quantity
ICAO/IATA (air):	UN1078, Refrigerant gases, n.o.s., 2.2, Limited Quantity
IMO/IMDG (water):	UN1078, Refrigerant gases, n.o.s. (1,1,1,2-Tetrafluoroethane, Petroleum Distillates), 2.2
Special Provisions:	T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Refrigerant gases, n.o.s.
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



DOT Symbols

DOT Special Provisions (49 CFR 172.102)

: G - Identifies PSN requiring a technical name

: T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx)

: 306 : 304

DOT Packaging Non Bulk (49 CFR 173.xxx)

: 314;315

DOT Packaging Bulk (49 CFR 173.xxx)

14.3. Additional information

Other information	: No supplementary information available.
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Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
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Air transport

DOT Quantity Limitations Passenger aircraft/rail : 75 kg
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 150 kg
CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard Sudden release of pressure hazard
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Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

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

1,1,1,2-Tetrafluoroethane (811-97-2)

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

SARA Section 311/312 Hazard Classes Sudden release of pressure hazard

15.2. International regulations

CANADA

WHMIS Classification	Class A - Compressed Gas
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Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

Listed on the Canadian DSL (Domestic Substances List)

Safety Data Sheet

1,1,1,2-Tetrafluoroethane (811-97-2)

WHMIS Classification

Class A - Compressed Gas

EU-Regulations

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

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

Repr.Cat.2; R61

Xn; R22

Full text of R-phrases: see section 16

15.2.2. National regulations

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

Listed on KECI (Korean Existing Chemicals Inventory)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Connecticut Right to Know

Florida Right to Know Illinois Right

to Know

Louisiana Right to Know Michigan

Right to Know

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Liquefied gas	Gases under pressure Liquefied gas
Repr. 1B	Reproductive toxicity Category 1B
H280	Contains gas under pressure; may explode if heated
H302	May cause damage to health
H360	May damage fertility or the unborn child

NFPA health hazard

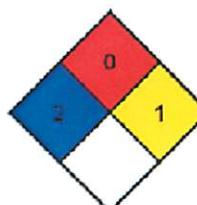
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

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.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 0 Minimal Hazard

Physical

: 1 Slight Hazard

Personal Protection

: B

SDS US (GHS HazCom 2012) - TCC

Safety Data Sheet

Issue Date	01-Jan-2009
Revision Date	28-May-2015
Revision Note	New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data
Sheet**



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

1.1. Product identifier

Product form : Mixture
Trade name : R134A STOP LEAK 4 OZ.
Product code : 9140

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

Use of the substance/mixture : Oil Charge

1.3. Details of the supplier of the safety data sheet

FJC INC
101 Commercial Drive
Mooresville, NC 28115
704-664-3587
FAX 704-664-5522

1.4. Emergency telephone number

Emergency number : INFO TRAC 1-352-323-3500 (International) 1-800-535-5053 (North Am.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Liquefied gas H280
Repr. 1B H360

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS04

GHS08

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H280 - Contains gas under pressure; may explode if heated
H360 - May damage fertility or the unborn child

Precautionary statements (GHS-US)

: P201 - Obtain special instructions
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves,protective clothing,eye protection,face protection
P308+P313 - If exposed or concerned: Get medical advice/attention
P405 - Store locked up
P410+P403 - Protect from sunlight. Store in a well-ventilated place
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards

Other hazards not contributing to the classification

: Contains gas under pressure; may explode if heated. Intentional misuse and inhalation abuse may cause cardiac or central nervous systems effects. Warning. May Cause frostbite in contact with skin. May Cause frostbite in contact with skin. (Liquid form can be ejected if the aerosol can is not held upright during use.) Warning.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
1,1,1,2-Tetrafluoroethane	(CAS No) 811-97-2	50 - 70	Liquefied gas, H280
Polyalkylene Glycol Alkyl Ether 100	(CAS No) Proprietary	30 - 50	Acute Tox. 4 (Oral), H302
Benzyl Butyl Phthalate	(CAS No) 85-68-7	1-5	Repr. 1B, H360

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries	: May damage fertility or the unborn child.
Symptoms/injuries after inhalation	: Coughing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Slight irritation. Possible inflammation of the respiratory tract.
Symptoms/injuries after skin contact	: Blisters. Causes skin irritation. Red skin. Itching. Skin rash/inflammation.
Symptoms/injuries after eye contact	: May cause slight eye irritation. Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	: May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

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	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: NFPA Aerosol Level 1.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources.

6.1.1. For non-emergency personnel

Protective equipment	: Gloves. Safety glasses.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Dam up the liquid spill. Contain released substance, pump into suitable containers.
Methods for cleaning up	: Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Pressurized container: Do not pierce or burn, even after use.
Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not handle until all safety precautions have been read and understood. Obtain special instructions.

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Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. :

Storage area : Store in a well-ventilated place.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls : Local exhaust ventilation, vent hoods.

Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.



Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses. : Wear

Skin and body protection suitable protective clothing. : Wear

Respiratory protection appropriate mask.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance : Liquid.

Color : Red.

Odor : Characteristic. Petroleum-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 : No data available :

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 : 0.99

Solubility Log : Insoluble in water. :

Pow Log : No data available : No

Kow : data available : No

Viscosity, kinematic : data available : No

Viscosity, dynamic : data available : No

Explosive properties : data available

Oxidizing properties : No data available :

Explosive limits : No data available

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9.2. Other information

VOC content : 0%

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

LD50 oral rat	500 mg/kg
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Benzyl Butyl Phthalate (85-68-7)

LD50 oral rat	2330 mg/kg (Rat) 6700
LD50 dermal rat	mg/kg (Rat)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 6.7 mg/l/4h (Rat)

1,1,1,2-Tetrafluoroethane (811-97-2)

LC50 inhalation rat (mg/l)	> 2000 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	> 359300 ppm/4h (Rat; Literature study)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified : Not

Respiratory or skin sensitization : Not classified : Not

Germ cell mutagenicity : Not classified : Not

Carcinogenicity : Not classified

Benzyl Butyl Phthalate (85-68-7)

IARC group	3
Reproductive toxicity	: May damage fertility or the unborn child.
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: Coughing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness. May cause respiratory irritation. Slight irritation. Possible inflammation of the respiratory tract.
Symptoms/injuries after skin contact	: Blisters. Causes skin irritation. Red skin. Itching. Skin rash/inflammation.
Symptoms/injuries after eye contact	: May cause slight eye irritation. Inflammation/damage of the eye tissue. Irritation of the eye tissue. Redness of the eye tissue.
Symptoms/injuries after ingestion	: May be harmful if swallowed and enters airways. May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

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Benzyl Butyl Phthalate (85-68-7)	
LC50 fish 1	1.5 mg/l (96 h; Pimephales promelas; Measured concentration)
EC50 Daphnia 1	1.6 - 1.8 mg/l (48 h; Daphnia magna)
EC50 other aquatic organisms 1	0.64 mg/l (72 h; Diatomeae; Growth rate)
LC50 fish 2	0.82 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Measured concentration)
EC50 Daphnia 2	0.97 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	0.20 mg/l (72 h; Diatomeae; Growth rate)
Threshold limit algae 2	0.31 mg/l (72 h; Scenedesmus subspicatus; Growth rate)

1,1,1,2-Tetrafluoroethane (811-97-2)	
LC50 fish 1	450 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	980 mg/l (48 h; Daphnia magna)

12.2 Persistence and degradability

Persistence and degradability	Not established.
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Polyalkylene Glycol Alkyl Ether 100 (Proprietary)	
Persistence and degradability	Not established.

Benzyl Butyl Phthalate (85-68-7)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradability in soil: no data available. Adsorbs into the soil.

1,1,1,2-Tetrafluoroethane (811-97-2)	
Persistence and degradability	Not readily biodegradable in water.

12.3 Bioaccumulative potential

Bioaccumulative potential	Not established.
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Polyalkylene Glycol Alkyl Ether 100 (Proprietary)	
Bioaccumulative potential	Not established.

Benzyl Butyl Phthalate (85-68-7)	
BCF fish 1	188 (408 h; Lepomis macrochirus) 663
BCF fish 2	(504 h; Lepomis macrochirus)
BCF other aquatic organisms 1	26 - 270
Log Pow	3.57 - 5.8
Bioaccumulative potential	Not established.

1,1,1,2-Tetrafluoroethane (811-97-2)	
BCF other aquatic organisms 1	5 - 58 (Estimated value)
Log Pow	1.06 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4 Mobility in soil

No additional information available

12.5 Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Ecology - waste materials : Avoid release to the environment.

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SECTION 14: Transport information

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

US DOT (ground):	UN1078, Refrigerant gases, n.o.s., 2.2, Limited Quantity
ICAO/IATA (air):	UN1078, Refrigerant gases, n.o.s., 2.2 , Limited Quantity
IMO/IMDG (water):	UN1078, Refrigerant gases, n.o.s. (1,1,1,2-Tetrafluoroethane, Petroleum Distillates), 2.2
Special Provisions:	T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.

14.2 UN proper shipping name

Proper Shipping Name (DOT)	: Refrigerant gases, n.o.s.
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



DOT Symbols	: G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102)	: T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 306 : 304
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 314;315
DOT Packaging Bulk (49 CFR 173.xxx)	

14.3 Additional information

Other information	: No supplementary information available.
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Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
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Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 75 kg
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DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 150 kg
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SECTION 15: Regulatory information

15.1. US Federal regulations

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard Sudden release of pressure hazard
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Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

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

1,1,1,2-Tetrafluoroethane (811-97-2)

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

SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard
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15.2. International regulations

CANADA

WHMIS Classification	Class A - Compressed Gas
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Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

Listed on the Canadian DSL (Domestic Substances List)

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1,1,1,2-Tetrafluoroethane (811-97-2)

WHMIS Classification

Class A - Compressed Gas

EU-Regulations

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

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

Repr.Cat.2; R61

Xn; R22

Full text of R-phrases: see section 16

15.2.2. National regulations

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

Listed on KECI (Korean Existing Chemicals Inventory)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.3. US State regulations

Polyalkylene Glycol Alkyl Ether 100 (Proprietary)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Connecticut Right to Know

Florida Right to Know Illinois Right

to Know

Louisiana Right to Know Michigan

Right to Know

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Liquefied gas	Gases under pressure Liquefied gas
Repr. 1B	Reproductive toxicity Category 1B
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H360	May damage fertility or the unborn child

NFPA health hazard

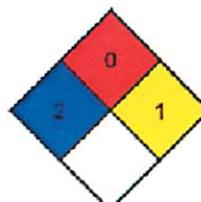
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

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.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 0 Minimal Hazard

Physical

: 1 Slight Hazard

Personal Protection

:B

SDS US (GHS HazCom 2012) - TCC

Safety Data Sheet

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Revision Note	New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data
Sheet