



64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 3/18/2022 Revision date: 3/17/2022 Supersedes: 8/20/2019 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : 64861 HFO-1234yf POE Electric & Hybrid Compressor Oil
Product code : 64861

1.2. Recommended use and restrictions on use

Use of the substance/mixture : HFO-1234yf POE Electric & Hybrid Compressor Oil.

1.3. Supplier

TSI Supercool Inc.
3574 Corona Street
Lake Worth, Florida, Palm Beach, 33461
USA
T 561-582-2245
paul.erdek@supercool.ac - www.supercool.ac
Contact: Paul J. Erdek

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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning

Hazard statements (GHS US) : H317 - May cause an allergic skin reaction
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see supplemental first aid instruction on this label).

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

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	%	GHS US classification
tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95%	CAS-No.: 1330-78-5	0.5 – 1.5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
[[[2-ethylhexyl)oxy]methyl]oxirane	CAS-No.: 2461-15-6	0.5 – 1.5	Skin Irrit. 2, H315 Skin Sens. 1A, H317

Full text of hazard classes and H-statements : see section 16

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 : Allow affected person to breathe fresh air. 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 persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Suspected of damaging fertility or the unborn child.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

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. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. 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

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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep cool. Keep container closed when not in use. Store in dry protected location to prevent any moisture contact.
Incompatible products : Strong bases. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

No additional information available

tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95% (1330-78-5)

No additional information available

[[2-ethylhexyl]oxy]methyl]oxirane (2461-15-6)

No additional information available

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

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:

Chemical goggles or safety glasses

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.

Personal protective equipment symbol(s):



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	: Liquid
Appearance	: Clear.
Color	: colorless to slightly yellow
Odor	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Unknown.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: 80 mm²/s @40°C
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

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

Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95% (1330-78-5)

ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

[[[(2-ethylhexyl)oxy]methyl]oxirane (2461-15-6)]	
LD50 oral rat	> 5000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 25 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: 80 mm²/s @40°C
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Suspected of damaging fertility or the unborn child.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

[[[(2-ethylhexyl)oxy]methyl]oxirane (2461-15-6)]	
LC50 - Fish [1]	> 5000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Read-across, Nominal concentration)

12.2. Persistence and degradability

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil	
Persistence and degradability	May cause long-term adverse effects in the environment. Not established.
tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95% (1330-78-5)	
Persistence and degradability	Readily biodegradable in water.
[[[(2-ethylhexyl)oxy]methyl]oxirane (2461-15-6)]	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil	
Bioaccumulative potential	Not established.
tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95% (1330-78-5)	
Partition coefficient n-octanol/water (Log Pow)	5.11 (Experimental value)
[[[(2-ethylhexyl)oxy]methyl]oxirane (2461-15-6)]	
Partition coefficient n-octanol/water (Log Pow)	3.83 (Experimental value, EU Method A.8: Partition Coefficient)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

12.4. Mobility in soil

[[[(2-ethylhexyl)oxy]methyl]oxirane (2461-15-6)]

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	> 5.63 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Read-across, GLP)
Ecology - soil	Adsorbs into the soil.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Disposal should be made in accordance with federal, state and local regulations. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

TDG

No data available

IMDG

No data available

IATA

No data available

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

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95%	1330-78-5	Not present	-	
[[[(2-ethylhexyl)oxy)methyl]oxirane	2461-15-6	Not present	-	

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

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

Revision date : 03/17/2022

Other information : None.

Full text of H- and EUH-statements: see section 16

H302	Harmful if swallowed
------	----------------------

64861 HFO-1234yf POE Electric & Hybrid Compressor Oil

Safety Data Sheet

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

Full text of H- and EUH-statements: see section 16	
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard

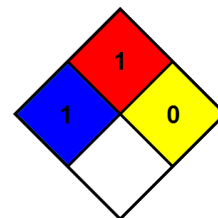
: 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Safety Data Sheet (SDS), USA

This information is furnished without warranty, expressed or implied, except that is accurate to the best knowledge of Tire Seal, Inc. The data on this sheet related only to the specific material designed herein. Tire Seal, Inc. assumes no legal responsibility for the use or reliance upon these data.