

1 Identification

GHS Product Identifier

Product Form: Aerosol
Trade Name: Seachoice Marine Air Horn
Product Numbers: 46103, 46121, 46213

Other means of identification

Synonyms: trans-1,3,3,3-Tetrafluoroprop-1-ene (HFO-1234ze(E))

Recommended use of the chemical and restriction on use

Use of Substance/Mixture: Hand held signaling device; Safety Horn

Supplier's details

Seachoice Products
Pompano Beach, FL USA
www.seachoice.com

Tel.: 954-581-1188

Emergency phone number

CHEMTREC 24 Hour Emergency Response
USA & Canada 800-424-9300

2 Hazard(s) identification

Classification of the substance or mixture

Gases under pressure Liquefied gas

H280 Contains gas under pressure; may explode if heated.

GHS label elements

Warning



Contains gas under pressure; may explode if heated

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

[In case of inadequate ventilation] wear respiratory protection.

IF exposed or concerned: Get medical advice/ attention.

Protect from sunlight. Store in a well-ventilated place.

Other hazards which do not result in classification

Warning! Container under pressure.

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements above. The labeling above applies to industrial/professional products.

3 Composition/information on ingredients

Description	CAS Number	EINECS Number	%	Note
trans-1,3,3,3-Tetrafluoroprop-1-ene (Active ingredient)	29118-24-9		100	

4 First-aid measures

Description of necessary first-aid measures

General advice:	First aider needs to protect himself. Move out of dangerous area. Keep warm and in a quiet place. Show this safety data sheet to the doctor in attendance. Take off all contaminated clothing immediately.
Inhalation:	If inhaled, remove to fresh air. Get medical attention if irritation develops and persists.
Skin contact:	Rapid evaporation of the liquid may cause frostbite. If there is evidence of frostbite, bathe (do not rub) with lukewarm (not hot) water. If water is not available, cover with a clean, soft cloth or similar covering. Call a physician if irritation develops or persists.
Eye contact:	Immediately flush eye(s) with plenty of water. Call a physician immediately.
Ingestion:	Ingestion is unlikely because of the physical properties and is not expected to be hazardous. As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

No data available.

Indication of immediate medical attention and special treatment needed, if necessary

No data available.

5 Fire-fighting measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Water mist

Dry powder

Foam

Carbon dioxide (CO₂)

Extinguishing media which shall not be used for safety reason:

High volume water jet

Specific hazards arising from the chemical

Heating will cause pressure rise with risk of bursting.

Some risk may be expected of corrosive and toxic decomposition products.

Fire may cause evolution of: Hydrogen fluoride

However, this material can ignite when mixed with air under pressure and exposed to strong ignition sources.

Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Special protective actions for fire-fighters

Wear full protective clothing and self-contained breathing apparatus.
Exposure to decomposition products may be a hazard to health.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
In the event of fire, cool tanks with water spray.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing. Avoid skin contact with leaking liquid (danger of frostbite). Use personal protective equipment. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further leakage or spillage if safe to do so. The product evaporates readily. Prevent spreading over a wide area (e.g. by containment or oil barriers).

Methods and materials for containment and cleaning up

Do not direct water spray at the point of leakage. Allow to evaporate.

7 Handling and storage

Precautions for safe handling

Advice on safe handling: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Exhaust ventilation at the object is necessary.

Advice on protection against fire and explosion: Do not spray on a naked flame or any incandescent material. Keep away from direct sunlight. Fire or intense heat may cause violent rupture of packages. Vapours may form explosive mixtures with air. The product is not easily combustible.

Hygiene measures: Avoid breathing vapours, mist or gas. Keep working clothes separately.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep containers tightly closed in a cool, well-ventilated place. Keep only in the original container at temperature not exceeding 50°C Keep away from direct sunlight.

Advice on common storage: Do not store together with: Oxidizing agents

8 Exposure controls/personal protection

Control parameters

Occupational exposure limits:

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
trans-1,3,3,3-Tetrafluoroprop-1-ene	TWA	800 ppm		We are not aware of any national exposure limit.

TWA - Time weighted average

DNEL / PNEC-values

Components	End-use / Impact	Exposure duration	Value	Exposure routes	Remarks
trans-1,3,3,3-Tetrafluoroprop-1-ene	Workers / Long-term systemic effects		3902 mg/m3	Inhalation	
trans-1,3,3,3-Tetrafluoroprop-1-ene	Consumers / Long-term systemic effects		830 mg/m3	Inhalation	

Components	Environmental compartment / Value	Remarks
trans-1,3,3,3-Tetrafluoroprop-1-ene	Fresh water: 0,1 mg/l	Assessment factor: 1000

Appropriate engineering controls**Occupational exposure controls**

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, safety shoes EN-ISO 20345. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Avoid inhalation of vapour or mist.

Engineering measures

Local exhaust

Individual protection measures**Personal protective equipment**

Respiratory protection:

In case of insufficient ventilation wear suitable respiratory equipment.
Self-contained breathing apparatus (EN 133)

Hand protection:

Protective gloves against cold (EN 511) Gloves must be inspected prior to use.
Replace when worn.

Eye protection:

Goggles

Skin and body protection:

Wear suitable protective equipment. Protective footwear.

9 Physical and chemical properties**Physical and chemical properties**

Form:

Liquefied gas

Color:

Colorless

Odor:

Slight ether-like

Boiling point/boiling range:

-19 °C

Flash point:

does not flash

Auto-ignition temperature:

368 °C

Lower explosion limit:	No LEL and UEL was assigned at standard testing conditions, 20°C. Exhibits flame limits at temperatures in excess of 28° C.
Upper explosion limit:	No LEL and UEL was assigned at standard testing conditions, 20°C. Exhibits flame limits at temperatures in excess of 28° C.
Vapour pressure:	4.192 hPa at 20 °C
Vapour pressure:	10.998 hPa at 54,4 °C
Density:	1,17 g/cm ³ at 21,1 °C
pH:	Neutral
Water solubility:	0,373 g/l
Partition coefficient n-octanol/water:	log Pow 1,6
Relative vapor density:	4 (Air = 1.0)

10 Stability and reactivity

Reactivity

Stable under normal conditions.

Chemical stability

Hazardous decomposition products formed under fire conditions. To avoid thermal decomposition, do not overheat.

Possibility of hazardous reactions

Hazardous polymerisation does not occur.

Conditions to avoid

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Can form a combustible mixture with air at pressures above atmospheric pressure.

Incompatible materials

Reactions with alkali metals.

Hazardous decomposition products

Pyrolysis products containing fluoride

Fluorocarbons

Hydrogen fluoride

11 Toxicological information

Toxicological (health) effects

Acute oral toxicity: Not applicable
Study technically not feasible.

Acute dermal toxicity: No data available
Study technically not feasible.

Acute inhalation toxicity:	LC0 Species: Rat Value: > 207000 ppm Method: OECD Test Guideline 403	Exposure time: 4 h
Skin irritation:	Species: Rabbit Method: OECD Test Guideline 404	Result: No skin irritation
Eye irritation: Study technically not feasible.	No data available	
Respiratory or skin sensitisation:	Species: human	Result: Does not cause skin sensitisation.
Repeated dose toxicity:	Species: Rat Exposure time: 90 d Method: OECD Test Guideline 413 Note: Subchronic toxicity	Application Route: Inhalation NOEL: 5000 ppm
Carcinogenicity:	No data available.	
Germ cell mutagenicity: Test Method: Cell type:	Chromosome aberration test in vitro Human lymphocytes Method: OECD Test Guideline 473	Result: negative
Test Method:	Ames test	Result: negative
Test Method:	Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Mouse Application Route: Inhalation	Cell type: Micronucleus Method: OECD Test Guideline 474
Reproductive toxicity: 416	Test Type: Two-generation study Species: Rat General Toxicity - Parent: General Toxicity F1:	Method: OECD Test Guideline Route of Application: Inhalation NOEL: > 20.000 ppm NOEL: > 20.000 ppm
Method:	OECD Test Guideline 414 Species: Rat General Toxicity Maternal: Developmental Toxicity:	Route of Application: Inhalation NOEC: 15.000 ppm NOAEC: 15.000 ppm
Aspiration hazard:	No data available	
Other information: Cardiac Sensitization (dog):	No effects	

12 Ecological information

Toxicity

Toxicity to fish:

LC0

static test

Species: Cyprinus carpio (Carp)

Value: > 117 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to aquatic plants:

NOEC

Growth rate

Species: Algae

Value: > 170 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC

Biomass

Species: Algae

Value: > 170 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to aquatic invertebrates:

EC50

static test

Species: Daphnia magna (Water flea)

Value: > 160 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Persistence and degradability

Biodegradability: Aerobic

Result: Not readily biodegradable.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No data available.

13 Disposal considerations

Disposal methods

Product: Dispose according to legal requirements. Contact manufacturer.

Packaging: Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

Further information

Provisions relating to waste:
EC Directive 2006/12/EC; 2008/98/EEC
Regulation No. 1013/2006
For personal protection see section 8.

14 Transport information

UN Number

UN3163

UN Proper Shipping Name

LIQUEFIED GAS, N.O.S. (TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE)

Transport hazard class(es)

Class: 2
Classification Code: 2A
Hazard Identification Number: 20
ADR/RID-labels: 2.2

Environmental hazards

None

IATA

UN Number: UN3163
Description of the goods: Liquefied gas, n.o.s. (trans-1,3,3,3-Tetrafluoroprop-1-ene)
Class: 2.2
Hazard Labels: 2.2

IMDG

UN Number: UN3163
Description of the goods: LIQUEFIED GAS, N.O.S. (TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE)
Class: 2.2
Hazard Labels: 2.2
EmS Number: F-C, S-V
Marine pollutant: no

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

Other inventory information

US. Toxic Substances Control Act
On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)

All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List

On the inventory, or in compliance with the inventory

Korea. Toxic Chemical Control Law (TCCL) List

On the inventory, or in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act

Not in compliance with the inventory

China. Inventory of Existing Chemical Substances

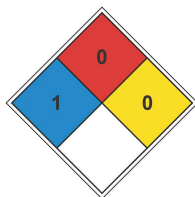
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand

On the inventory, or in compliance with the inventory

A Chemical Safety Assessment has been carried out.

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	



16 Other information

Other information

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