

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product identifier**

GHS Product Identifier **Boat Horn**
 Chemical Name 1, 1, 1, 2-Tetrafluoroethane, HFC 134a
 Trade name **Boat Horn**
 CAS No. 811-97-2

**Relevant identified uses of the substance or mixture and uses advised against**

Identified use(s) Signaling Device
 Uses advised against Users are recommended to seek further advice.

Details of the supplier of the safety data sheet

Company Identification **Unified Marine, Inc.**
 Address **1190 Old Asheville Hwy. Newport, TN 37821 USA**
 Telephone **800-282-8275**
 E-Mail (competent person)

Emergency telephone number – ChemTel Inc.

Emergency Phone No. (800) 255-3924 , (813) 248-0585

SECTION 2: HAZARDS IDENTIFICATION**Classification of the substance or mixture**

GHS Classification - Hazardous according to GHS-compliant regulations in Japan, as well as the UN model regulations. Liquefied pressure gas 1 (2.5/1)

Label elements

GHS Product Identifiers


Hazard pictogram(s)  Signal word(s) **WARNING**

Hazard statement(s) H280: Contains gas under pressure; may explode if heated.

Precautionary statement(s) P410 + P403: Protect from sunlight. Store in a well-ventilated place.


Other hazards **OSHA Classification (USA):** Hazardous under OSHA Hazard Communication Standard – Compressed gas.

HMIS: Health –0, Flammability – 0 Reactivity – 0

WHMIS Classification (Canada): Hazardous under WHMIS. Classification A: Compressed Gas. 

Additional Information **None**

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**GHS Classification**

Hazardous ingredient(s)	%W/W	CAS No.	Hazard pictogram(s) and Hazard statement(s)
1, 1, 1, 2-Tetrafluoroethane, HFC 134a	>95	811-97-2	 2.5/1: H280

Additional Information - For full text of H phrases see section 16. Non-Hazardous ingredients are not listed and make up the balance of the product.

SECTION 4: FIRST AID MEASURES**Description of first aid measures**

Inhalation Remove patient from exposure. Keep patient at rest and give oxygen if breathing difficult. If symptoms develop, obtain medical attention.

Skin Contact Unlikely route of exposure. Wash skin with water. If skin irritation occurs: Get medical advice/attention.

Eye Contact Unlikely route of exposure. Remove any contact lenses. Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

Ingestion Unlikely route of exposure.

Most important symptoms and effects, both acute and delayed**Acute:** Asphyxiation. Inhalation: May cause drowsiness or dizziness.
Delayed and chronic effects: Expected to be similar to acute exposures.**Indication of the immediate medical attention and special treatment needed**

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURESCombustible at fire temperatures. Not Sensitive to mechanical impact and static discharge.
Flash Point > 93.3°C / 200°F. Explosive Limits: NA Auto-Ignition Temperatures: NA**Extinguishing media**

Suitable Extinguishing Media

As appropriate for surrounding fire.

Unsuitable Extinguishing Media

None known.

Special hazards arising from the substance or mixture

Containers may rupture from exposure to high temperatures.

Advice for fire-fighters

A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Nitrile gloves are suggested for spill cleanup. Ensure suitable personal protection (including respiratory protection) during removal of spillages.

Environmental Precautions

None.

Methods and material for containment and cleaning up

Simply allow gas to dissipate. Do not crush aerosol cans.

Reference to other sections

See Also Sections 7, 8, 13.

Additional Information

None

SECTION 7: HANDLING AND STORAGE**Precautions for safe handling**

Use only in well-ventilated areas. Heating of containers may cause pressure rise, with risk of bursting. Do not crush, puncture, or attempt to dismantle aerosol cans.

Conditions for safe storage, including any incompatibilities

Gases under pressure. Do not use or store near heat or open flame. Do not crush or puncture cans.

Storage Temperature

Ambient.

Storage Life

Not available.

Incompatible materials

Not known.

Specific end use(s)

Consult the supplier.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Occupational Exposure Limits**

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note:
1, 1, 1, 2-Tetrafluoroethane, HFC 134a	811-97-2	1000	NE	NE	NE	UK HSE
		1000	NE	NE	NE	Dupont AEL

AEL – Acceptable Exposure Limit.





Biological limit value

Limit value type (country of origin)	SUBSTANCE	CAS No.	Biological limit value	Note:
No Biological Limit Values are available for this product				

PNECs and DNELs

No PNECs or DNELs are available for this product. As with all chemical products, users are cautioned to avoid unnecessary exposures.

Personal protection equipment

	Respirators	Usually Not Needed.
	Eye Protection	Usually Not Needed. Safety glasses are suggested as good practice.
	Gloves	Usually Not Needed.
	Body protection	Usually Not Needed.
	Engineering Controls	No special controls required.
	Other	None known.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Appearance	Liquefied gas	Color	Colourless
Odor	None	Odor Threshold (ppm)	Not available
Melting Point (°C) / Freezing Point (°C)	Not available	Boiling point/boiling range (°C):	-26.5° C / -15.7° F (736 mm Hg)
Flash Point (°C)	> 200°F / 93°C	Explosive limit ranges	Not Flammable
Auto Ignition Temperature (°C)	Not Flammable	Decomposition Temperature (°C)	Not available
Explosive properties	Not Flammable	Oxidizing properties	Not an Oxidizer
Flammability (solid, gas)	Not Flammable	pH (Value)	Not available
Evaporation rate	> water	Vapor Pressure (mm Hg)	5000 mm Hg (25 °C / 77 °F)
Vapor Density (Air=1)	3.6 @ 25° C	Density (g/ml)	1.20 ± 0.05
Solubility (Water)	Slight.	Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available	Viscosity	Liquefied gas.

Other information Volatile Organic Chemical (VOC) Content: <35% by weight.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Slight
Chemical stability	Stable
Possibility of hazardous reactions	Slight
Conditions to avoid	Heating may cause pressure rise with risk of bursting.
Incompatible materials	Alkali metals.
Hazardous Decomposition Product(s)	Carbon monoxide, Carbon dioxide, Fluorine compounds

SECTION 11: TOXICOLOGICAL INFORMATION

SUBSTANCE	CAS No.	LD ₅₀ (Oral, Rat)	LC ₅₀ (Inhalation, Rat)	LD ₅₀ (Dermal, Rat)
1, 1, 1, 2-Tetrafluoroethane, HFC 134a	811-97-2	NE	567000 ppm / 4 Hours	NE

Information on toxicological effects

Acute toxicity and Exposure Effects

Ingestion	Not a likely route of exposure.
Inhalation	Asphyxiation. May cause drowsiness or dizziness.
Skin Contact	Frostbite (cold burn).
Eye Contact	Not a likely route of exposure.
Irritation	Frostbite (cold burn).
Corrosivity	None
Repeated dose toxicity	Expected to be similar to single exposures.
Carcinogenicity	No data.

Mutagenicity No data.
Toxicity for reproduction No data.

Other information None

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not known.
Persistence and degradability Partially persistent
Bioaccumulative potential Material may accumulate in atmosphere.
Mobility in soil Unlikely route of exposure.
Other adverse effects Environmental hazards cannot be excluded by inappropriate handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods Disposal should be in accordance with local, state or national legislation. Containers must not be punctured or destroyed by burning, even when empty.
Additional Information None

SECTION 14: TRANSPORT INFORMATION

Land transport (Within Canada) (a)(b)		Land transport (Within USA) (a)(b)	
UN number	UN1950	UN number	UN1950
Proper Shipping Name	Aerosols, Non-Flammable	Proper Shipping Name	Aerosols, Non-Flammable
Transport hazard class(es)	2.2	Transport hazard class(es)	2.2
Packing Group	NA	Packing Group	NA
Hazard label(s)	Non-Flammable Gas	Hazard label(s)	Non-Flammable Gas
Environmental hazards	None	Environmental hazards	None
Special precautions for user	None	Special precautions for user	None
Sea transport (IMDG) (a)(b)		Air transport (ICAO/IATA) (a)(b)	
UN number	UN1950	UN number	UN1950
Proper Shipping Name	Aerosols, Non-Flammable	Proper Shipping Name	Aerosols, Non-Flammable
Transport hazard class(es)	2.2	Transport hazard class(es)	2.2
Packing Group	NA	Packing Group	NA
Marine Pollutant	None	Environmental hazards	None
Special precautions for user	None	Special precautions for user	None

(a)– Consult with transport provider.

(b)– Check relevant regulations for Special Provisions.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

USA

TSCA (Toxic Substance Control Act)	All chemicals listed.
SARA 311/312 - Hazard Categories	Pressurized
SARA 302 - Extremely Hazardous Substances	Listed - None
SARA 313 - Toxic Chemicals	Listed
CERCLA (Comprehensive Environmental Response Compensation and Liability Act)	Listed
CAA (Clean Air Act 1990)	Listed - None
CWA (Clean Water Act)	Listed - None
State Right to Know Lists	Listed as required.
Proposition 65 (California)	Listed - None

Canada

WHMIS Classification	A – Compressed Gas.
Canada (DSL/NDL)	Listed as required.

Canada Ingredient Disclosure List (CIDL)

Listed as required.

Chemical Safety Assessment

Hazardous – Liquefied pressure gas

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

LEGEND

ACGIH	American Conference of Governmental Industrial Hygienists	NA	not applicable, not available
AICS	Australian Inventory of Chemical Substances	NIOSH	National Institute for Occupational Safety and Health
ANSI	American National Standards Institute	ND	not determined
atm	atmosphere (pressure unit)	NFPA	National Fire Prevention Association
BOD	biological oxygen demand	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OC	open cup
CC	closed cup	OSHA	Occupational Safety and Health Administration
CDTA	Chemical Drug and Trafficking Act	Part	partition
COC	Cleveland Open Cup	PEL	permissible exposure limits
COD	chemical oxygen demand	ppb	parts per billion
coeff.	coefficient	PPE	personal protective equipment
CFR	Code of Federal Regulations	ppm	parts per million
CPR	cardio-pulmonary resuscitation	psi	pounds per square inch
DEA	Drug Enforcement Agency	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	RQ	Reportable quantity
DSCCL	Dangerous Substances Classification and Labeling	RTK	Right to Know
EEC	European Economic Community	SARA	Superfund Amendments and Reauthorization Act
FDA	Food and Drug Administration	STEL	short-term exposure limit
HMIS	Hazardous Materials Information System	SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons (Australia)
IARC	International Agency for Research on Cancer	TCC	Tagliabue Closed Cup
IDLH	immediate danger to life or health	TDG	Transportation of Dangerous Goods
kg	kilogram	TPQ	threshold planning quantity
L	liter	TQ	threshold quantity
LC50	median lethal concentration	TSCA	Toxic Substances Control Act
LD50	median lethal dose	TWA	time-weighted average
LEL	lower explosive limit	UEL	upper explosive limit
mg	milligram	WES	Workplace Exposure Standard (New Zealand)
mL	milliliter	WHMIS	Workplace Hazardous Material Information System

References: RTECS, CAS Registry, EINECS/ESIS, *Casarett & Doull's Toxicology*, *Goldfrank's Toxicological Emergencies*, Manufacturer Information

Hazard statement(s) and Precautionary statement(s)

H280: Contains gas under pressure; may explode if heated.

P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Training advice: None**Additional Information:** Replaces all previous editions.

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