

1 Identification**GHS Product Identifier**

Product Form: Aerosol
Trade Name: Fiamm Sport Horn 1.4 oz. & Fiamm Big Horn 8 oz.
Product Numbers: 29112 & 20008

Other means of identification

Synonyms: 1,1-difluoroethane / 1,1-difluoroethane (refrigerant gas R 152a)

Recommended use of the chemical and restriction on use

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

Supplier's details

Fiamm Technologies, LLC
1550 Leeson Ave
Cadillac, MI 49601 USA

Tel.: 231-779-3516

Emergency phone number

CHEM-TEL 24 Hour Emergency Response
USA & Canada 1-800-255-3924

2 Hazard(s) identification**Classification of the substance or mixture**

FLAMMABLE GASES - Category 2
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Warning



Flammable gas

Contains gas under pressure; may explode if heated

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Do not pierce or burn, even after use.

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Other hazards which do not result in classification

N/A

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	%
1,1-Difluoroethane, liquefied, under pressure	75-37-6	200-866-1	100

4 First-aid measures

Description of necessary first-aid measures

General Advice	Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt, seek medical advice.
Inhalation	Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
Skin	Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.
Eye	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion	Is not considered a potential route of exposure.

Most important symptoms/effects, acute and delayed

Anaesthetic effects:	Light-headedness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness
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Indication of immediate medical attention and special treatment needed, if necessary

Protection of First-aiders	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to Physician	Because of possible disturbances of cardiac rhythm catecholamine drugs, such as epinephrine, which may be used in situations of emergency life support, should be used with special caution.

5 Fire-fighting measures

Suitable extinguishing media

Water spray, water fog, dry chemical, alcohol resistant foam, carbon dioxide (CO₂)

Specific hazards arising from the chemical

Flammable. This substance's fire decomposition by-products will include hydrofluoric acid and possibly carbonyl fluoride. Avoid contact with these materials, which are toxic and irritating. Evacuate personnel immediately in the event of a fire involving this substance. Vapors may form explosive mixtures with air. Vapors are heavier than air and may spread along floors. Vapors or gases may travel considerable distances to ignition source and flash back.

Special protective actions for fire-fighters

Use personal protective equipment. Wear neoprene gloves during cleaning up work after a fire. Exposure to decomposition products may be a hazard to health.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up

Safeguards (Personnel) Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8.

Accidental Release Measures Wear self-contained breathing apparatus (SCBA).

Methods and materials for containment and cleaning up

Spill Clean-up If this product is spilled and not recovered, or is recovered as a waste for treatment and disposal, the CERCLA Reportable Quantity is 100 lbs. (release of an Unlisted Hazardous Waste with the Characteristic of Ignitability). Evaporates. Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.

7 Handling and storage

Precautions for safe handling

Handling (Personnel) Avoid breathing vapors or mist. Avoid contact with skin, eyes and clothing.

Provide

sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. Handle in accordance with good industrial hygiene and safety practice.

Handling (Physical Aspects) Vapors are heavier than air and may spread along floors. Vapors may form flammable mixture with air. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. No sparking tools should be used. Take measures to prevent the build up of electrostatic charge. Keep away from open flames, hot surfaces and sources of ignition. When using DO NOT SMOKE. Do not use in areas where vapors may accumulate such as paper shredders .

Conditions for safe storage, including any incompatibilities

Storage Keep container tightly closed and in a dry, well-ventilated location. Store in original container. The product has an indefinite shelf life when stored properly.

Storage Period Recommended shelf life - 4 years provided product is stored in a dry location as directed.

Storage Temperature Do not expose to temperatures above 120 degrees F (49 degrees C) as overheating could cause can to burst. DO NOT leave in direct sunlight or enclosed vehicle.

8 Exposure controls/personal protection

Control parameters

Component Name	CAS No.	ACGIH TLV	OSHA PEL	STEL
1,1-Difluoroethane	75-37-6	N/A	N/A	N/A

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Use respiratory protection if needed.

Individual protection measures

Personal Protective Equipment	N/A
Eye/Face Protection	Wear safety glasses with side shields. Direct contact with liquid may cause frostbite.
Respiratory Protection	For rescue use self-contained breathing apparatus. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Skin and body protection	As required by employer code. If there is risk of skin contact, wear protective clothing, gloves, etc. Direct contact with liquid can cause frostbite.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practices.

9 Physical and chemical properties

Physical and chemical properties

Physical State:	Gas
Appearance:	Liquefied gas
Molecular Mass:	66.05 g/mol
Color:	Colorless
Odor:	Mild odor. Slight Ether-like odor.
Odor Threshold:	No data available.
pH:	No data available.
Relative evaporation rate (butyl acetate = 1):	No data available.
Melting point:	-117 °C
Freezing Point:	No data available.
Boiling point:	-25 °C
Flash point:	< -50 °C
Critical temperature:	114 °C
Auto-ignition temperature:	455 °C
Decomposition temperature:	No data available.
Flammability (solid, gas):	No data available.
Vapor pressure:	5100 hPa
Vapor pressure at 50 °C:	11700 hPa
Critical pressure:	44960 hPa
Relative vapor density at 20 °C:	2.3
Relative density:	1.0 (-25 °C)
Specific gravity / density:	1004 kg/m ³ (-25 °C)
Solubility:	Poorly soluble in water. Soluble in organic solvents. Water: 0.54 g/100ml (0 °C)
Log Pow:	0.75 (Experimental value)
Log Kow:	No data available.
Viscosity, kinematic:	No data available.
Viscosity, dynamic:	0.37 Pa.s (-31°C)
Explosive properties:	No data available.
Oxidizing properties:	No data available.
Explosive limits:	4 - 19 vol % 112 - 518 g/m ³

10 Stability and reactivity

Reactivity

On heating/burning: release of toxic and corrosive gases/vapor e.g.: hydrofluoric acid, carbonyl fluoride. Reacts violently with (strong) oxidizers.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Not established.

Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

Incompatible materials

Strong acids. Strong bases.

Hazardous decomposition products

Toxic fume. Carbon monoxide. Carbon dioxide.

11 Toxicological information

Information on the likely routes of exposure

Eyes, inhalation, and skin

Symptoms related to the physical, chemical and toxicological characteristics

Eyes: See skin summary.

Skin: Contact with the liquid may cause frostbite due to heat lost caused by rapid evaporation. Aerosol jet can reach sub-zero temperatures; exposure to jet can lead to frostbites.

Inhalation: Extreme exposure due to misuse and inhalation abuse may cause central nervous system depression and irregular heart beat.

Ingestion: Highly unlikely under normal use and conditions. See inhalation and skin summaries.

Chronic: Not applicable.

Numerical measures of toxicity (such as acute toxicity estimates)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation	TCLo inhalation
1,1-difluoroethane	Not available	Not available	1,500 g/m ³ 4h Rat	Not available

Interactive effects

Skin corrosion/irritation: None known or expected.

Serious eye damage/irritation: None known or expected.

Sensitization

(allergic reactions):	None known or expected.
Carcinogenicity (risk of cancer):	Not classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.
Mutagenicity (risk of heritable genetic effects):	No data available.
Reproductive Toxicity (risk to sex functions):	No data available.
Teratogenicity (risk of fetus malformation):	No data available.
STOT-single exposure:	Data does not give rise to classification. At extreme doses, can affect the central nervous system and cardiovascular systems by inhalation. CNS anesthetic effects are based on rat studies with TCLo of 25 pph. Cardiac effects are based on exposure of $\geq 150,000$ ppm in study on dogs. Misuse and inhalation abuse can lead to dizziness, confusion, drowsiness, unconsciousness, irregular heartbeat, heart thumping, apprehension, and weakness.
STOT-repeated exposure:	No data available.
Aspiration hazard:	Not applicable.

12 Ecological information

Toxicity

Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Included in the list of substances which may contribute to the greenhouse effect (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5

Ecology - water: Mild water pollutant (surface water). No data available on ecotoxicity.

Persistence and degradability

R152A (75-37-6)

Persistence and degradability Biodegradability in water: no data available.

Bioaccumulative potential

R152A (75-37-6)

Log Pow 0.75 (Experimental value)
Bioaccumulative potential Low potential for bioaccumulation (Log Kow < 4).

Mobility in soil

No additional information available.

Other adverse effects

Other information: Avoid release to the environment.

13 Disposal considerations

Disposal methods

Dispose of contents in accordance with all local, regional, national, and international regulations.

14 Transport information

UN Number

UN1030

UN Proper Shipping Name

1,1-Difluoroethane

Transport hazard class(es)

2.1

Packing group, if applicable

N/A

Packaging Exceptions

Note: The manufacturer has been granted a DOT special permit.

Transportation of Dangerous Goods (TDG - Canada)

Proper Shipping name: 1,1-Difluoroethane Hazard Class: 2.1 UN number: 1030
Packaging Exceptions: Limited quantity (containers up to 125mL)

IATA/ICAO (Air)

Proper Shipping Name: 1,1-Difluoroethane. Hazard Class: 2.1. UN Number: 1030.
Maximum Net Quantity Packaging: Cargo Aircraft only - 150 kg maximum
(forbidden on passenger aircraft). Maximum Net Quantity packaging cargo
only: 150 kg.

IMDG (Marine Transport)

Proper Shipping Name:

1,1-DIFLUOROETHANE. Hazard Class: 2.1. UN Number: 1030.

Additional Information

TDG Canada: The manufacturer has been granted Equivalency Certificate
SU 12300 by the TCSS, TDGD to offer for transport by road, rail and

15 Regulatory information

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

US Federal Regulations

R152A (75-37-6)

SARA Section 311/312

Hazard Classes:

Fire hazard
Sudden release of pressure hazard
Immediate (acute) health hazard

International Regulations

Canada R152A (75-37-6):

Products conform to the Canadian Consumer Labeling Regulations.

Europe R152A (200-866-1):

Classification and labelling have been determined according to EU Aerosol Directives 94/1/EC and 2008/47/EC and take into account the intended use of the product.

State Regulations

California Proposition 65

WARNING: This product can expose you to chemicals including lead which are known to the state of California to cause cancer, and chemicals including lead known to the state of California to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov

16 Other information

Other information

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