Fiamm Sports Marine Big Horn
Safety Data Sheet
According to Federal Register Rules and Regulations
Revision date: 01/15/2015

SECTION 1: Identification of the Substance/Mixture and Company Identification

1.1. Product identifier

| Product form | : Substance |
| Trade name  | : Fiamm Sports Marine Big Horn 8 oz. |
| CAS No      | : 811-97-2 |
| Formula     | : C2H2F4 |

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

Use of the substance/mixture : Follow Label Directions
Use of the substance/mixture : Aerosol Horn

1.3. Details of the supplier of the safety data sheet

MAX PRO
P.O. BOX 9962
FTLAUDERDALE
FL, 33310
T 954-972-3338

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Classification (GHS-US) : Compressed gas H280

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US) : GHS04

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated
Precautionary statements (GHS-US) : P410+P403 - Protect from sunlight. Store in a well-ventilated place
P251 - Pressurized container: Do not pierce or burn, even after use
P412 - Do not expose to temperatures exceeding 50°C/122°F

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.

2.4. Unknown acute toxicity (GHS-US)

No data available
SECTION 3: Composition/Information on Ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-tetrafluoroethane</td>
<td>(CAS no:811-97-2)</td>
<td>&gt; 99</td>
<td>Compressed gas, H280</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First Aid Measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Rinse with water. Take victim to a doctor if irritation persists. In case of frostbites: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.

First-aid measures after ingestion: Not applicable.

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

Symptoms/injuries: Not expected to present a significant hazard under anticipated conditions of normal use.


Symptoms/injuries after eye contact: Not applicable.

Symptoms/injuries after ingestion: Not applicable.

Chronic symptoms: No effects known.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Fire Fighting Measures

5.1. Extinguishing media

suitable extinguishing media: EXTINGUISHING MEDIA FOR SURROUNDING FIRES: Adapt extinguishing media to the environment.

Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. Non combustible.

Explosion hazard: INDIRECT EXPLOSION HAZARD. Heat may cause pressure rise in tanks/drums: explosion risk.
Reactivity: On burning: release of toxic and corrosive gases/vapors (hydrofluoric acid, carbon monoxide - carbon dioxide, carbonylfluoride). Reacts with (some) acids.

5.3. Advice for firefighters
Precautionary measures fire: Exposure to fire/heat: consider evacuation.
Firefighting instructions: Cool tanks/drum with water spray/remove them into safety. Physical explosion risk: cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion. Dilute toxic gases with water spray.
Other information: NFPA Aerosol Level 1.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency 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: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Tip the container on one side to stop the leakage. Do not spray water on unheated tank walls.
Methods for cleaning up: Damaged/cooled tanks must be emptied.

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: Comply with the legal requirements. Handle and open the container with care. Thoroughly clean/dry the installation before use. Keep away from naked flames/heat. Observe normal hygiene standards. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Measure the oxygen concentration in the air.

7.2. Conditions for safe storage, including any incompatibilities
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 temperature: < 50 °C
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage: KEEP SUBSTANCE AWAY FROM: (strong) acids.
Special rules on packaging: SPECIAL REQUIREMENTS: with pressure relief valve. clean. correctly labeled. meet the legal requirements.
Packaging materials: SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

7.3. Specific end use(s)
Follow Label Directions.

SECTION 8: Exposure Controls/Personal Protection
8.1. Control parameters

8.2. Exposure controls

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

Materials for protective clothing: GIVE GOOD RESISTANCE: neoprene. nitrile rubber. butyl rubber.
Hand protection: Insulated gloves.
Eye protection: Safety glasses.
Skin and body protection: Protective clothing.
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: Gas.
Molecular mass: 102.03 g/mol
Color: Colorless.
Odor: Ether-like odor.
Odor threshold: No data available
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: -101 °C
Freezing point: No data available
Boiling point: -26 °C
Flash point: Not applicable
Critical temperature: 101 °C
Self ignition temperature: > 743 °C
Decomposition temperature: 368 °C
Flammability (solid, gas): No data available
Vapor pressure: 5720 hPa
Critical pressure: 40560 hPa
Relative vapor density at 20 °C: 3.52 (20 °C)
Relative density: 1.2 (-27 °C)
Density: 1206 kg/m³ (-27 °C)
Water: 0.15 g/100ml (25 °C)
Log Pow : 1.06 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosive limits : No data available

9.2. Other information
VOC content : 0 %
Gas group : Compressed gas
Other properties : Gas/vapor heavier than air at 20°C. Substance has neutral reaction. May generate electrostatic charges.

SECTION 10: Stability and Reactivity

10.1. Reactivity
On burning: release of toxic and corrosive gases/vapours (hydrofluoric acid, carbon monoxide - carbon dioxide, carbonylfluoride). Reacts with (some) acids.

10.2. Chemical stability
Stable under normal conditions.

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

SECTION 11: Toxicological Information

11.1. Information on toxicological effects
Acute toxicity : Not classified

134a (811-97-2)
LC50 inhalation rat (mg/l) > 2000 mg/l/4h (Rat)
LC50 inhalation rat (ppm) > 359300 ppm/4h (Rat)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified based on available data, the classification criteria are not met
Carcinogenicity : Not classified
Reproductive toxicity: Not classified based on available data, the classification criteria are not met. Specific target organ toxicity (single exposure): Not classified.

Specific target organ toxicity (repeated): Not classified based on available data, the classification criteria are not met.

Aspiration hazard: Not classified based on available data, the classification criteria are not met.

Potential Adverse human health effects and symptoms:
- Symptoms/injuries after eye contact: Not applicable.
- Symptoms/injuries after ingestion: Not applicable.

Chronic symptoms: No effects known.

SECTION 12: Ecological information

12.1. Toxicity
- Ecology - general: No environmental hazard.
- Ecology - air: TA-LuftKlasse 5.2.5.
- Ecology - water: Mild water pollutant (surface water). Maximum concentration in drinking water: 1.5 mg/l (fluoride) (Directive 98/83/EC). Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h): 100 - 1000 mg/l).

134a (811-97-2)

LC50 fish 1 450 mg/l 96 h; Salmogairdneri (Oncorhynchusmykiss)
EC50 Daphnia 1 980 mg/l (48 h; Daphnia magna)

12.2. Persistence and degradability

134a (811-97-2)

Persistence and degradability: Not readily biodegradable in water.

12.3. Bioaccumulative potential

134a (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: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Refer to manufacturer/supplier for information on recovery/recycling.
**Additional information**: LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.

**Ecology - waste materials**: Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

<table>
<thead>
<tr>
<th>US DOT (ground)</th>
<th>UN3159, 1,1,1,2-Tetrafluoroethane, 2.2, Limited Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICAO/IATA (air)</td>
<td>UN3159, 1,1,1,2-Tetrafluoroethane, 2.2, Limited Quantity</td>
</tr>
<tr>
<td>IMO/IMDG (water)</td>
<td>UN3159, 1,1,1,2-Tetrafluoroethane, 2, Limited Quantity</td>
</tr>
</tbody>
</table>

**Special Provisions**: DOT-SP 10232: In accordance with this special permit, the product container is marked with DOT-SP10232 instead of 2Q. This packaging is approved for shipping as a Consumer Commodity.

DOT-SP 15146: In accordance with this special permit, the product container is marked with DOT-SP15146 instead of 2Q. This packaging is approved for shipping as a Consumer Commodity.

#### 14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>DOT Proper Shipping Name</th>
<th>1,1,1,2-Tetrafluoroethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Transportation (DOT) Hazard Classes</td>
<td>2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115</td>
</tr>
<tr>
<td>Hazard labels (DOT)</td>
<td>2.2 - Non-flammable gas, ORM-D</td>
</tr>
</tbody>
</table>

**DOT Special Provisions (49 CFR 172.102)**

DOT-SP 10232: In accordance with this special permit, the product container is marked with DOT-SP10232 instead of 2Q. This packaging is approved for shipping as a Consumer Commodity.

DOT-SP 15146: In accordance with this special permit, the product container is marked with DOT-SP15146 instead of 2Q. This packaging is approved for shipping as a Consumer Commodity.

<table>
<thead>
<tr>
<th>Transportation Canada</th>
<th>TC-SU 11282</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Packaging Exceptions (49 CFR 173.xxx)</td>
<td>306</td>
</tr>
<tr>
<td>DOT Packaging Non Bulk (49 CFR 173.xxx)</td>
<td>304</td>
</tr>
<tr>
<td>DOT Packaging Bulk (49 CFR 173.xxx)</td>
<td>314;315</td>
</tr>
</tbody>
</table>

#### 14.3. Additional information

**Other information**: No supplementary information available.

**State during transport (ADR-RID)**: as liquefied gas, under pressure.

**Overland transport**

<table>
<thead>
<tr>
<th>Class (ADR)</th>
<th>2 - Gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard identification number (Kemler No.)</td>
<td>20</td>
</tr>
<tr>
<td>Classification code (ADR)</td>
<td>2A</td>
</tr>
</tbody>
</table>

**Danger labels (ADR)**: 2.2 - Non-flammable compressed gas

**Orange plates**: 20

| 3159 |
Tunnel restriction code: C/E

**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.

EmS-No. (1): F-C
EmS-No. (2): S-V

**Air transport**

DOT Quantity Limitations
- Passenger aircraft/rail: 75 kg (49 CFR 173.27)
- Cargo aircraft only: 150 kg (49 CFR 175.75)

**SECTION 15: Regulatory information**

### 15.1. US Federal regulations

**134a (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**

**134a (811-97-2)**

WHMIS Classification: Class A - Compressed Gas

**EU-Regulations**

No additional information available

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

Press. Gas

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC Not classified

### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

No additional information available
SECTION 16: Other information

Indication of changes: Revision - See *. Other information: None. Full text of H-phrases: see section 16:

Compressed gas
H280
Gases under pressure
Compressed gas
Contains gas under pressure; may explode if heated

NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment 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: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability: 0 Minimal Hazard
Physical: 1 Slight Hazard
Personal Protection: B