1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
- **Product Name**: Smoke Sabre.
- **Trade Name**: Smokesabre-01-XXX (XXX denotes customer variant).
- **CAS No.**: Mixture.
- **EINECS No.**: Mixture.

1.2 Recommended use of the chemical and restrictions on use
- **Identified Use(s)**: Smoke simulation.
- **Uses Advised Against**: None known.

1.3 Details of the supplier of the safety data sheet
- **Company Identification**
  - **SDi**
  - 1345 Campus Parkway, Suite A18
  - Wall Township, NJ 07753 6815
- **Telephone**: (732) 751 9266
- **Fax**: (732) 751 9241
- **E-mail**: sales@sdifire.com

1.4 Emergency telephone number
- **Info Trac**: 1-800-535-5053

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.2 Label elements
- **Product Name**: Smoke Sabre.
- **Hazard Pictogram(s)**: GHS02
- **Signal Word(s)**: Danger.
- **Hazard Statement(s)**: H222: Extremely flammable aerosol.
- **Precautionary Statement(s)**:
  - P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P211: Do not spray on an open flame or other ignition source.
  - P251: Do not pierce or burn, even after use.
  - P410+P412: Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C).

- **Additional Information**: Pressurized container: May burst if heated.

2.3 Other hazards
- **None.**
3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Product as supplied: Aerosol.

3.1 Mixtures

<table>
<thead>
<tr>
<th>Hazardous Ingredient(s)</th>
<th>CAS No.</th>
<th>%W/W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>106-97-8</td>
<td>50 – 100</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>10 – 25</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>0 – 5</td>
</tr>
</tbody>
</table>

3.2 Additional Information
None.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures
- Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Skin Contact: Wash with plenty of water.
- Eye Contact: Flush eyes with water for at least 15 minutes while holding eyelids open.
- Ingestion: Unlikely route of exposure.

4.2 Most important symptoms and effects, both acute and delayed
None anticipated.

4.3 Indication of any immediate medical attention and special treatment needed
Unlikely to be required but if necessary treat symptomatically.

5. SECTION 5: FIRE-FIGHTING MEASURES

Pressurized container: May burst if heated.

5.1 Extinguishing Media
- Suitable Extinguishing Media: Extinguish with carbon dioxide, dry chemical, foam or water spray.
- Unsuitable Extinguishing Media: Do not use water jet.

5.2 Special hazards arising from the substance or mixture
Heating may cause pressure rise with risk of bursting.

5.3 Advice for fire-fighters
Fire fighters should wear complete protective clothing including self-contained breathing apparatus. If it is safe to do so, containers should be removed from fire area because they are likely to rupture under fire conditions.
6. SECTION 6: ACCIDENTAL RELEASE MEASURES

The product is an aerosol. It is unlikely to present spillage or leakage hazard. In case of rupture, released content should be contained as any other solvent spill.

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Wear suitable gloves and eye/face protection.

6.2 Environmental precautions

Do not release large quantities into the surface water or into drains.

6.3 Methods and material for containment and cleaning up

Collect mechanically and dispose of according to Section 13. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a lidded container for disposal or recovery. Containers must not be punctured or destroyed by burning, even when empty.

6.4 Reference to other sections

See Also Section: 8, 13.

7. SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Provide adequate ventilation. Do not eat, drink or smoke during work. Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Observe official regulations on storing packagings with pressurized containers. Storage temperature: Pressurized container: May burst if heated. Protect from sunlight and do not expose to temperatures exceeding 122ºF (50ºC).

Storage life: Stable under normal conditions.

Incompatible materials: None anticipated.

7.3 Specific end use(s)

Smoke simulation.

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>LTEL (8 hr TWA mg/m³)</th>
<th>STEL (ppm)</th>
<th>STEL (mg/m³)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>106-97-8</td>
<td>800</td>
<td>1900</td>
<td>-</td>
<td>-</td>
<td>NIOSH</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>1000</td>
<td>1800</td>
<td>-</td>
<td>-</td>
<td>NIOSH</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>1000</td>
<td>1900</td>
<td>-</td>
<td>-</td>
<td>PEL (OSHA)</td>
</tr>
</tbody>
</table>

Source:
NIOSH = National Institute of Occupational Safety & Health
OSHA = Occupational Safety and Health Administration
8.2 Appropriate engineering controls
Provide adequate ventilation.

8.3 Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection
If eye contact is likely: Wear protective eyewear (goggles, face shield, or safety glasses).

Skin protection (Hand protection/ Other)
Wear suitable gloves if prolonged skin contact is likely. Gloves: Nitrile rubber, NBR.

Respiratory protection
No personal respiratory protective equipment normally required. Handling of larger amounts: In case of insufficient ventilation, wear suitable respiratory equipment.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
Appearance Aerosol.
Color Colorless.
Odor Characteristic.
Odor Threshold Not determined.
pH Not determined.
Melting Point/Freezing Point Not determined.
Initial boiling point and boiling range -47.4°F (-44°C)
Flash Point <32°F (<0°C)
Evaporation Rate Not available.
Flammability (solid, gas) Extremely flammable.
Upper/lower flammability or explosive limits Explosive Limit Ranges: 1.5 – 15.0 Vol.-%
Vapor pressure 62.4 psig (4.3 bar) @ 68°F
Density 36.2 lb/ft³ (0.58 g/cm³) @ 68°F
Vapor density Not determined.
Relative density Not determined.
Solubility(ies) Immiscible with water.
Partition coefficient: n-octanol/water Not determined.
Ignition temperature 689°F (365°C)
Auto-ignition temperature Product is not self-igniting.
Decomposition Temperature Not determined.
Kinematic Viscosity Not determined.
Explosive properties Not explosive.
Oxidizing properties Not oxidizing.

9.2 Other information
Organic solvents – Content 96.4%

10. SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity Stable under normal conditions.
10.2 Chemical stability Stable under normal conditions.
10.3 Possibility of hazardous reactions Stable under normal conditions.
10.4 Conditions to avoid Heat and direct sunlight.
10.5 Incompatible materials None anticipated.
10.6 Hazardous decomposition product(s) None known.
11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 Mixtures

**Acute toxicity**  Low acute toxicity.

**Irritation**  Non-irritant.

**Corrosivity**  Not classified.

**Sensitization**  It is not a skin sensitizer.

**Repeated dose toxicity**  None anticipated.

**Carcinogenicity**  No evidence of carcinogenicity.

**Mutagenicity**  There is no evidence of mutagenic potential.

**Toxicity for reproduction**  None anticipated.

**Aspiration hazard**  None anticipated.

11.2 Other information  None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity  Low toxicity to aquatic organisms.

12.2 Persistence and degradability  The product is readily biodegradable. Unlikely to persist.

12.3 Bioaccumulative potential  The product has no potential for bioaccumulation.

12.4 Mobility in soil  Immiscible with water. The product is predicted to have low mobility in soil.

12.5 Other adverse effects  None.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  Recycle only completely emptied packaging. Containers must not be punctured or destroyed by burning, even when empty. Non-emptied aerosol: Dispose of wastes in an approved waste disposal facility. Do NOT landfill.

13.2 Additional Information  Disposal should be in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

14.1 UN number  UN 1950

**ADR, IMDG, IATA**

14.2 UN proper shipping name  1950 AEROSOLS

**ADR**

**IMDG**

**IATA**

AEROSOLS, Flammable

14.3 Transport hazard class(es)  2 5F Gases.

**ADR**

Class / Classification  2.1

**IMDG, IATA**

Class / Division  2.1

Label  2.1

14.4 Packing group

**ADR, IMDG, IATA**

None.

14.5 Environmental hazards

**Marine Pollutant**

No.

14.6 Special precautions for user  Warning: Gases.

**Kemler Code**

-  

**IMDG EMS**

F-D, S-U

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  Not applicable.

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14.8 Additional Information

ADR
Limited Quantity (LQ) 1 L

ADR Transport Category 2
Tunnel Restriction Code Not applicable in Limited Quantities.

IMDG
Limited Quantity (LQ) 1 L

IATA
Limited Quantity (LQ) 1 L

UN Model Regulation US
IMDG Limited Quantity (LQ) 1L
IATA Limited Quantity (LQ) 1L
UN 1950, AEROSOLS, 2.1 ORM-D when transported in limited quantities (< 30kg or 66lb gross weight).

15. SECTION 15: REGULATORY INFORMATION

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

15.1.1 OSHA
Toxic and hazardous substances (29 CFR 1910; Subpart Z) Listed: Propane (CAS No.: 74-98-6)
National emission standards for hazardous air pollutants (40 CFR 61.01) Listed: Ethanol (CAS No.: 64-17-5)
All chemicals are not listed.

15.1.2 Title III Consolidated List of Lists
Clean Air Act Section 112(r) Threshold Quantity
Listed: Butane (CAS No.: 106-97-8)
Listed: Propane (CAS No.: 74-98-6)
10000

15.1.3 OSPAR List of Chemicals for Priority Action
All chemicals are not listed.

15.1.4 State Right to Know Lists
Butane (CAS No.: 106-97-8):
New Jersey, Pennsylvania, Massachusetts, Rhode Island.
Propane (CAS No.: 74-98-6):
New Jersey, Pennsylvania, Massachusetts.
Ethanol (CAS No.: 64-17-5):
New Jersey, Pennsylvania, Massachusetts.

15.1.5 TSCA (Toxic Substance Control Act)
All chemicals listed.

15.1.6 Proposition 65 (California)
All chemicals are not listed.

15.1.7 CAA 602 - Ozone Depleting Substances (ODS)
All chemicals are not listed.
## 16. SECTION 16: OTHER INFORMATION

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

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Fire</td>
<td>4</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
</tr>
</tbody>
</table>

**LEGEND**

- LTEL: Long Term Exposure Limit
- STEL: Short Term Exposure Limit
- NIOSH: National Institute of Occupational Safety & Health
- PEL: Permissible Exposure Limits
- CAA: Clean Air Act
- OSHA: Occupational Safety and Health Administration
- OSPAR: Oslo and Paris Convention
- ADR: Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association

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