# SAFETY DATA SHEET

Techspray Dusting Gas / Freeze Spray

## Section 1. Identification

**GHS product identifier** : Techspray Dusting Gas / Freeze Spray

**Chemical name** : 1,1,1,2-Tetrafluoroethane

**Other means of identification** : Inert Dusting Gas, HFC-134a
1671-10S (NSN 6830-01-335-9925)
1672 (NSN 6850-01-406-1356)

**Product type** : Aerosol.

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

Not applicable.

**Supplier's details** : Techspray
8125 Cobb Center Drive
Kennesaw, GA 30152
Tel: 800-858-4043
1 703-527-3887

**Emergency telephone number (with hours of operation)** : Chemtrec - 1-800-858-4043
CANTUC (Canadian Transportation): (613) 996-6666
Emergency phone: (800) 858-4043
24/7

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : GASES UNDER PRESSURE - Compressed gas

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Warning

**Hazard statements** : Contains gas under pressure; may explode if heated.

**Precautionary statements**

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Protect from sunlight. Store in a well-ventilated place.

**Disposal** : Not applicable.

**Hazards not otherwise classified** : None known.

# Section 3. Composition/information on ingredients

**Substance/mixture** : Substance

**Chemical name** : 1,1,1,2-Tetrafluoroethane

**Other means of identification** : Inert Dusting Gas, HFC-134a
1671-10S (NSN 6830-01-335-9925)
1672 (NSN 6850-01-406-1356)

## CAS number/other identifiers

**CAS number** : Not available.

**Product code** : 1671, 1672

| Ingredient name | % | CAS number |
|---|---|---|
| 1,1,1,2 Tetrafluoroethane | 99.9 - 100 | 811-97-2 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

# Section 4. First aid measures

## Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : May cause eye irritation.

**Inhalation** : At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

**Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Ingestion** : Ingestion of liquid can cause burns similar to frostbite.

## Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:
frostbite
irritation
redness

# Section 4. First aid measures

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing

**Skin contact** : Adverse symptoms may include the following:
frostbite
irritation
dryness
cracking

**Ingestion** : Adverse symptoms may include the following:
frostbite
Irritating to mouth, throat and stomach.

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from a fire at high speed.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

# Section 6. Accidental release measures

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| 1,1,1,2 Tetrafluoroethane | **AIHA WEEL (United States, 10/2011).** TWA: 1000 ppm 8 hours. |

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

## Section 8. Exposure controls/personal protection

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Gas. [Aerosol.]

**Color** : Colorless.

**Odor** : Faint odor. Ethereal.

**Odor threshold** : Not available.

**pH** : Not applicable.

**Melting point** : -101°C (-149.8°F)

**Boiling point** : -26.2°C (-15.2°F)

**Flash point** : [Product does not sustain combustion.]

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : 3.5 [Air = 1]

**Relative density** : Not available.

**Solubility** : Very slightly soluble in the following materials: cold water and hot water.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : >750°C (>1382°F)

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

**Aerosol product**

**Type of aerosol** : Spray

# Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| 1,1,1,2 Tetrafluoroethane | LC50 Inhalation Vapor | Rat | 1500 g/m³ | 4 hours |

### Irritation/Corrosion

Not available.

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : May cause eye irritation.

**Inhalation** : At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

**Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Ingestion** : Ingestion of liquid can cause burns similar to frostbite.

# Section 11. Toxicological information

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:
frostbite
irritation
redness

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing

**Skin contact** : Adverse symptoms may include the following:
frostbite
irritation
dryness
cracking

**Ingestion** : Adverse symptoms may include the following:
frostbite
Irritating to mouth, throat and stomach.

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

Not available.

# Section 12. Ecological information

## Toxicity

Not available.

## Persistence and degradability

Not available.

## Bioaccumulative potential

# Section 12. Ecological information

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| 1,1,1,2 Tetrafluoroethane | 1.06 | - | low |

**Mobility in soil**

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

# Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

# Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | ADR/RID | IMDG | IATA |
|---|---|---|---|---|---|---|
| **UN number** | - | - | - | UN3159 | UN3159 | UN3159 |
| **UN proper shipping name** | Consumer commodity ORM-D DOT-SP 15146 | Packaging Not approved For export to Canada | Consumer commodity ORM-D | 1,1,1,2-Tetrafluoroethane | 1,1,1, 2-Tetrafluoroethane | (1,1,1,2 Tetrafluoroethane) |
| **Transport hazard class(es)** | ORM-D | - | ORM-D | 2 | 2.2 | 2.2 |
| **Packing group** | - | - | - | - | - | - |
| **Environmental hazards** | No. | - | No. | No. | No. | No. |
| **Additional information** | **Packaging instruction** **Passenger aircraft** Packaging instructions: 200 **Cargo aircraft** Packaging instructions: 200 **Special provisions** Must have a copy of DOT- | Packaging Not approved For export to Canada | - | Pkg. Insr. 200.; Authorization: DOT-SP 15146.; NOTE: Copy of the Exemption is required with all shipments. | Pkg. Insr. 200.; Authorization: DOT-SP 15146.; NOTE: Copy of the Exemption is required with all shipments. Limited quantity: 120mL | - |

## Section 14. Transport information

| | | | | | | |
|---|---|---|---|---|---|---|
| | SP 15146 with each shipment. | | | | | |

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

All components are listed or exempted.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Sudden release of pressure

**Composition/information on ingredients**

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|---|
| 1,1,1,2 Tetrafluoroethane | 99.9 - 100 | No. | Yes. | No. | No. | No. |

**State regulations**

**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : None of the components are listed.

**Pennsylvania** : None of the components are listed.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol (Annexes A, B, C, E)**

Not listed.

# Section 15. Regulatory information

## Stockholm Convention on Persistent Organic Pollutants

Not listed.

## Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

## UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

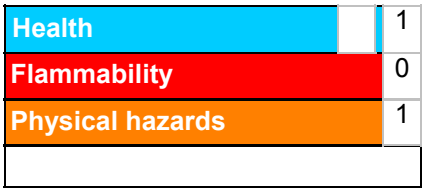
## International lists

### National inventory

| | | |
|---|---|---|
| **Australia** | : | All components are listed or exempted. |
| **Canada** | : | All components are listed or exempted. |
| **China** | : | All components are listed or exempted. |
| **Europe** | : | All components are listed or exempted. |
| **Japan** | : | All components are listed or exempted. |
| **Malaysia** | : | Not determined. |
| **New Zealand** | : | All components are listed or exempted. |
| **Philippines** | : | All components are listed or exempted. |
| **Republic of Korea** | : | All components are listed or exempted. |
| **Taiwan** | : | All components are listed or exempted. |

# Section 16. Other information

## Hazardous Material Information System (U.S.A.)




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

## National Fire Protection Association (U.S.A.)

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**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

## History

| | | |
|---|---|---|
| **Date of printing** | : | 4/27/2015. |
| **Date of issue/Date of revision** | : | 4/27/2015. |

# Section 16. Other information

**Date of previous issue** : 4/27/2015.

**Version** : 5

**Key to abbreviations** : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

**References** : Not available.

**Indicates information that has changed from previously issued version.**

## Notice to reader

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**