

## Section 1 - Identification of The Material and Supplier

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**Chemical nature:** Fluorinated hydrocarbon.  
**Trade Name:** **Freezer Spray**  
**Other Names:** 1,1,1,2-TETRAFLUOROETHANE (HFC 134A)  
**Product Use:** Dust remover.  
**Creation Date:** **March, 2015**  
**This version issued:** **March, 2015** and is valid for 5 years from this date.

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of SWA.  
Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

**Risk Phrases:** Not Hazardous - No criteria found.

**Safety Phrases:** S23, S25, S51. Do not breathe vapours. Avoid contact with eyes. Use only in well ventilated areas.

**SUSMP Classification:** None allocated.

**ADG Classification:** Class 2.2: Non-flammable, non-toxic gases.

**UN Number:** 3159, 1,1,1,2-Tetrafluoroethane (Refrigerant Gas R 134a)



### GHS Signal word: WARNING

#### HAZARD STATEMENT:

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

#### PREVENTION

P102: Keep out of reach of children.

P262: Do not get in eyes, on skin, or on clothing.

P281: Use personal protective equipment as required.

#### RESPONSE

P353: Rinse skin or shower with water.

P370+P378: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires.

#### STORAGE

P402: Store in a dry place.

P403: Store in a well-ventilated place.

P410+P412: Store below 30°C, protect from direct sunlight and do not expose to temperatures exceeding 50°C.

#### DISPOSAL

P501: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

## Emergency Overview

**Physical Description & Colour:** Colourless gas.

**Odour:** Mild ethereal odour.

**Major Health Hazards:** no significant risk factors have been found for this product.

## Potential Health Effects

### Inhalation:

**Short Term Exposure:** High vapour pressures may cause drowsiness and dizziness. In addition product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort. Intentional misuse by deliberately concentrating and inhaling contents of containers can be harmful or fatal.

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Phone: 02 9979 8311 (office hours)

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)

**Long Term Exposure:** Vapours may cause drowsiness and dizziness.

**Skin Contact:**

**Short Term Exposure:** Major health effect from this product is misuse of the spray function. If sprayed continuously on skin or in eyes, it can cause frostbite.

**Long Term Exposure:** No data for health effects associated with long term skin exposure.

**Eye Contact:**

**Short Term Exposure:** If sprayed directly in the eye, this product will irritate. If spraying is prolonged, it may cause damage through frostbite.

**Long Term Exposure:** No data for health effects associated with long term eye exposure.

**Ingestion:**

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. This product is unlikely to cause any irritation problems in the short or long term.

**Long Term Exposure:** No data for health effects associated with long term ingestion.

**Carcinogen Status:**

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
1,1,1,2-Tetrafluoroethane	811-97-2	pure *	4240	not set

\* Commercially pure. May include small quantities of materials due to manufacturing or reaction processes.

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### Section 4 - First Aid Measures

**General Information:**

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Skin Contact:** Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

**Eye Contact:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

### Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires. Aim to dilute the material with large quantities of water. If practical, contain diluted material and prevent from entering drains and water courses.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus. Cool closed, undamaged containers exposed to fire with water spray.

**Flash point:** Does not burn.

**Upper Flammability Limit:** Does not burn.

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**Lower Flammability Limit:** Does not burn.  
**Autoignition temperature:** Not applicable - does not burn.  
**Flammability Class:** Does not burn.

## Section 6 - Accidental Release Measures

**Accidental release:** This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

## Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** Store in a cool (below 30°C), well ventilated area. Protect from direct sunlight. Check containers and valves periodically for leaks. Check packaging - there may be further storage instructions on the label.

## Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
1,1,1,2-Tetrafluoroethane	4240	not set

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

**Protective Material Types:** There is no specific recommendation for any particular protective material type.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

## Section 9 - Physical and Chemical Properties:

**Physical Description & colour:** Colourless gas.  
**Odour:** Mild ethereal odour.  
**Boiling Point:** -26.4°C at 100kPa  
**Freezing/Melting Point:** -101°C  
**Volatiles:** Completely volatile at 100°C.  
**Vapour Pressure:** No data.  
**Vapour Density:** No data.  
**Specific Gravity:** No data.  
**Water Solubility:** Slightly soluble.  
**pH:** No data.  
**Volatility:** No data.  
**Odour Threshold:** No data.  
**Evaporation Rate:** No data.  
**Coeff Oil/water Distribution:** No data  
**Autoignition temp:** Not applicable - does not burn.

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## Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** This product should be kept in a cool place, preferably below 30°C. Protect this product from light.

**Incompatibilities:** No particular Incompatibilities.

**Fire Decomposition:** Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form hydrogen fluoride gas and other compounds of fluorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

## Section 11 - Toxicological Information

### Local Effects:

**Target Organs:** There is no data to hand indicating any particular target organs.

**Asphyxiant.** Symptoms of exposure are directly related to displacement of oxygen. As the amount of oxygen inhaled is reduced from 21 to 14% volume, the pulse rate may accelerate and the rate and volume of breathing may increase. The ability to maintain attention and think clearly is diminished, muscular co-ordination is somewhat disturbed. As oxygen decreases from 14 to 10% volume, judgement becomes faulty, severe injuries may result in no pain. Muscular effort may lead to rapid fatigue. Further reduction to 6% may result in nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to this low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death may follow in minutes.

**Mild narcotic properties.** Induces dizziness at 1,1,1,2 tetrafluoroethane concentrations of 5% and loss of consciousness can result at 15%. At high levels cardiac arrhythmia may occur. Chronic exposure may result in sensitisation to the effects of adrenalin on the heart. Not carcinogenic, mutagenic and no specific reproductive effects.

## Classification of Hazardous Ingredients

Ingredient	Risk Phrases
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No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.

### Toxicity Data

LC<sub>50</sub> (Inhalation): 1500 g/m<sup>3</sup>/4 hour (rat)

TCLo (Inhalation): 5000 ppm/6 hour/2 years intermittently (rat)

## Section 12 - Ecological Information

Insufficient data to be sure of status. Expected to not be an environmental hazard.

## Section 13 - Disposal Considerations

**Disposal:** Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

## Section 14 - Transport Information

**Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.**

**UN Number:** 3159, 1,1,1,2-Tetrafluoroethane (Refrigerant Gas R 134a)

**Hazchem Code:** 2TE

**Special Provisions:** None allocated

**Limited quantities:** ADG 7 specifies a Limited Quantity value of 120 ml for this class of product.

**Dangerous Goods Class:** Class 2.2: Non-flammable, non-toxic gases.

**Packaging Group:** No packing group specified.

**Packaging Method:** P200

Class 2.2 Non-Flammable, Non-Toxic gases shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 4.2 (Spontaneously Combustible Substances), and 5.2 (Organic Peroxides). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases), 2.3 (Toxic Gases), 3 (Flammable Liquids), 4.1 (Flammable Solids), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 6 (Toxic Substances), 7 (Radioactive Substances), 8 (Corrosive Substances) 9 (Miscellaneous Dangerous Goods), Foodstuffs and foodstuff empties.

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## Section 15 - Regulatory Information

**AICS:** This product is compliant with NICNAS regulations.

## Section 16 - Other Information

**This SDS contains only safety-related information. For other data see product literature.**

### Acronyms:

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>UN Number</b>	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)  
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