



## Lo-GWP Duster #745-7548

RS Components Pty Ltd

Chemwatch: 5162-77

Version No: 5.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 07/01/2016

Print Date: 08/01/2016

Initial Date: Not Available

L.GHS.AUS.EN

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### Product Identifier

Product name	Lo-GWP Duster #745-7548
Synonyms	Not Available
Proper shipping name	AEROSOLS, NON-FLAMMABLE
Other means of identification	Not Available

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

Relevant identified uses	Application is by spray atomisation from a hand held aerosol pack Cleaners - Precision.
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#### Details of the supplier of the safety data sheet

Registered company name	RS Components Pty Ltd
Address	25 Pavesi Street NSW 2164 Australia
Telephone	1300 656 636
Fax	1300 656 696
Website	Not Available
Email	Not Available

#### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008
Other emergency telephone numbers	03 95733112

### SECTION 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

#### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	0	
Toxicity	1	
Body Contact	1	
Reactivity	1	
Chronic	0	

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

Poisons Schedule	Not Applicable
GHS Classification <sup>[1]</sup>	Gas under Pressure (Compressed gas)
<i>1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI</i>	

#### Label elements

Continued...

## GHS label elements



## SIGNAL WORD | NOT APPLICABLE

## Hazard statement(s)

H280	Contains gas under pressure; may explode if heated
AUH044	Risk of explosion if heated under confinement

## Precautionary statement(s) Prevention

Not Applicable

## Precautionary statement(s) Response

Not Applicable

## Precautionary statement(s) Storage

P410+P403	Protect from sunlight. Store in a well-ventilated place.
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## Precautionary statement(s) Disposal

Not Applicable

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

## Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
29118-24-9	>60	<u>1,3,3,3-tetrafluoropropene</u>

## SECTION 4 FIRST AID MEASURES

## Description of first aid measures

Eye Contact	If aerosols come in contact with the eyes: ▶ Immediately hold the eyelids apart and flush the eye with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If solids or aerosol mists are deposited upon the skin: ▶ Flush skin and hair with running water (and soap if available). ▶ Remove any adhering solids with industrial skin cleansing cream. ▶ <b>DO NOT use solvents.</b> ▶ Seek medical attention in the event of irritation.
Inhalation	If aerosols, fumes or combustion products are inhaled: ▶ Remove to fresh air. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor.
Ingestion	Not considered a normal route of entry. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol.

## Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Treat symptomatically.

## SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

## SMALL FIRE:

- ▶ Water spray, dry chemical or CO<sub>2</sub>

## LARGE FIRE:

- ▶ Water spray or fog.

## Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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## Advice for firefighters

Fire Fighting	▶ Alert Fire Brigade and tell them location and nature of hazard.
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## Lo-GWP Duster #745-7548

	<ul style="list-style-type: none"> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> </ul>
Fire/Explosion Hazard	<ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ Aerosol cans may explode on exposure to naked flames.</li> </ul> <p>Decomposition may produce toxic fumes of; carbon monoxide (CO) carbon dioxide (CO<sub>2</sub>) hydrogen fluoride, other pyrolysis products typical of burning organic material</p> <p><b>Contains low boiling substance:</b> Closed containers may rupture due to pressure buildup under fire conditions.</p>

## SECTION 6 ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

Minor Spills	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Wear protective clothing, impervious gloves and safety glasses.</li> <li>▶ Shut off all possible sources of ignition and increase ventilation.</li> </ul>
Major Spills	<ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 HANDLING AND STORAGE

## Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> </ul>
Other information	<ul style="list-style-type: none"> <li>▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> </ul>

## Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> <li>▶ <b>DO NOT</b> use aluminium or galvanised containers</li> <li>▶ Aerosol dispenser.</li> <li>▶ Check that containers are clearly labelled.</li> </ul>
Storage incompatibility	<ul style="list-style-type: none"> <li>▶ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances</li> </ul>

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA

Not Available

## EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Lo-GWP Duster #745-7548	Not Available	Not Available	Not Available	Not Available
Ingredient	Original IDLH			Revised IDLH
1,3,3,3-tetrafluoropropene	Not Available			Not Available

## MATERIAL DATA

## Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
Personal protection	   
Eye and face protection	<p>No special equipment for minor exposure i.e. when handling small quantities.</p> <p><b>OTHERWISE:</b> For potentially moderate or heavy exposures:</p> <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ <b>NOTE:</b> Contact lenses pose a special hazard; soft lenses may absorb irritants and <b>ALL</b> lenses concentrate them.</li> </ul>
Skin protection	See Hand protection below

Continued...

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Hands/feet protection	<ul style="list-style-type: none"> <li>► No special equipment needed when handling small quantities.</li> <li>► <b>OTHERWISE:</b></li> <li>► For potentially moderate exposures:</li> <li>► Wear general protective gloves, eg. light weight rubber gloves.</li> <li>► For potentially heavy exposures:</li> <li>► Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul>
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p><b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>► Overalls.</li> <li>► Skin cleansing cream.</li> <li>► Eyewash unit.</li> </ul>
Thermal hazards	Not Available

**Respiratory protection**

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS	-	A-PAPR-AUS / Class 1
up to 50 x ES	-	A-AUS / Class 1	-
up to 100 x ES	-	A-2	A-PAPR-2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

Appearance	Colourless liquified gas with a neutral odour; partly soluble in water.		
Physical state	Compressed Gas	Relative density (Water = 1)	1.18 @ 20 deg.C
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	288-293
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	-19	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	0.4192 @ 20 deg.C	Gas group	Not Available
Solubility in water (g/L)	Partly miscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

**SECTION 10 STABILITY AND REACTIVITY**

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> <li>► Elevated temperatures.</li> <li>► Presence of open flame.</li> <li>► Product is considered stable.</li> <li>► Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

**SECTION 11 TOXICOLOGICAL INFORMATION**

Continued...

## Information on toxicological effects

	<p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p>				
<b>Inhaled</b>	<p>Common, generalised symptoms associated with toxic gas inhalation include:</p> <ul style="list-style-type: none"> <li>▶ central nervous system effects such as depression, headache, confusion, dizziness, progressive stupor, coma and seizures;</li> <li>▶ respiratory system complications may include acute pulmonary oedema, dyspnoea, stridor, tachypnoea, bronchospasm, wheezing and other reactive airway symptoms, and respiratory arrest;</li> <li>▶ cardiovascular effects may include cardiovascular collapse, arrhythmias and cardiac arrest;</li> <li>▶ gastrointestinal effects may also be present and may include mucous membrane irritation, nausea and vomiting (sometimes bloody), and abdominal pain.</li> </ul> <p>The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.</p> <p><b>WARNING:</b> Intentional misuse by concentrating/inhaling contents may be lethal.</p>				
<b>Ingestion</b>	<p>Overexposure is unlikely in this form.</p> <p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p>				
<b>Skin Contact</b>	<p>Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.</p> <p>Spray mist may produce discomfort</p>				
<b>Eye</b>	<p>Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures..</p>				
<b>Chronic</b>	<p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>Principal route of occupational exposure to the gas is by inhalation.</p> <p><b>WARNING:</b> Aerosol containers may present pressure related hazards.</p>				
Lo-GWP Duster #745-7548	<table border="1"> <tr> <td><b>TOXICITY</b></td><td><b>IRRITATION</b></td></tr> <tr> <td>Not Available</td><td>Not Available</td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Not Available	Not Available
<b>TOXICITY</b>	<b>IRRITATION</b>				
Not Available	Not Available				
1,3,3,3-tetrafluoropropene	<table border="1"> <tr> <td><b>TOXICITY</b></td><td><b>IRRITATION</b></td></tr> <tr> <td>Inhalation (rat) LC50: &gt;5.4 mg/L/4h *<sup>[2]</sup></td><td>Not Available</td></tr> </table>	<b>TOXICITY</b>	<b>IRRITATION</b>	Inhalation (rat) LC50: >5.4 mg/L/4h * <sup>[2]</sup>	Not Available
<b>TOXICITY</b>	<b>IRRITATION</b>				
Inhalation (rat) LC50: >5.4 mg/L/4h * <sup>[2]</sup>	Not Available				
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances				

1,3,3,3-TETRAFLUOROPROPENE	<p>The fluoroalkenes vary widely in acute inhalation toxicity. Those, such as perfluoroisobutylene, PFIB, the most highly toxic member, attacks the pulmonary epithelium of rats eventuating in edema and death after a delay of about one day. Other fluoroalkenes, such as hexafluoropropylene (HFP) or chlorotrifluoroethylene (CTFE), also cause pulmonary injury but at lower concentrations produce concentration dependent changes in the renal concentrating mechanism of the rat. Changes in the CNS of rats and rabbits have also been reported for CTFE.</p> <p>Disinfection by products (DBPs) re formed when disinfectants such as chlorine, chloramine, and ozone react with organic and inorganic matter in water. The observations that some DBPs such as trihalomethanes (THMs), di-/trichloroacetic acids, and 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone (MX) are carcinogenic in animal studies have raised public concern over the possible adverse health effects of DBPs. To date, several hundred DBPs have been identified.</p> <p>Numerous haloalkanes and haloalkenes have been tested for carcinogenic and mutagenic activities.</p> <p>Inhalation (rat) NOEL (28 days): &gt;1.5 mg/l * Vendor HFO-1234ze is not likely to accumulate in the bodies of humans or animals HFO-1234ze is practically non-toxic. Short-term exposures at levels higher than 10% have not induced cardiac sensitization to adrenalin nor induced serious toxic effects. Rats and rabbits did not exhibit any serious toxic, developmental or reproductive effects even with exposures to high levels of HFO-1234ze. Based on a series of mutagenicity and genomics studies, the cancer risk for HFO-1234ze is LOW</p>
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<b>Acute Toxicity</b>	<input checked="" type="checkbox"/>	<b>Carcinogenicity</b>	<input checked="" type="checkbox"/>
<b>Skin Irritation/Corrosion</b>	<input checked="" type="checkbox"/>	<b>Reproductivity</b>	<input checked="" type="checkbox"/>
<b>Serious Eye Damage/Irritation</b>	<input checked="" type="checkbox"/>	<b>STOT - Single Exposure</b>	<input checked="" type="checkbox"/>
<b>Respiratory or Skin sensitisation</b>	<input checked="" type="checkbox"/>	<b>STOT - Repeated Exposure</b>	<input checked="" type="checkbox"/>
<b>Mutagenicity</b>	<input checked="" type="checkbox"/>	<b>Aspiration Hazard</b>	<input checked="" type="checkbox"/>

**Legend:**  – Data available but does not fill the criteria for classification  
 – Data required to make classification available  
 – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Continued...

## Lo-GWP Duster #745-7548

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

**DO NOT** discharge into sewer or waterways.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

**Bioaccumulative potential**

Ingredient	Bioaccumulation
	No Data available for all ingredients

**Mobility in soil**

Ingredient	Mobility
	No Data available for all ingredients

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

Product / Packaging disposal	<ul style="list-style-type: none"> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Discharge contents of damaged aerosol cans at an approved site.</li> <li>▶ Allow small quantities to evaporate.</li> <li>▶ <b>DO NOT incinerate or puncture aerosol cans.</b></li> </ul>
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**SECTION 14 TRANSPORT INFORMATION****Labels Required**

	
Marine Pollutant	NO
HAZCHEM	Not Applicable

**Land transport (ADG)**

UN number	1950
Packing group	Not Applicable
UN proper shipping name	AEROSOLS, NON-FLAMMABLE
Environmental hazard	No relevant data
Transport hazard class(es)	Class 2.2 Subrisk Not Applicable
Special precautions for user	Special provisions 63 190 277 327 344 Limited quantity 1000ml

**Air transport (ICAO-IATA / DGR)**

UN number	1950
Packing group	Not Applicable
UN proper shipping name	Aerosols, non-flammable (containing biological products or a medicinal preparation which will be deteriorated by a heat test); Aerosols, non-flammable
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class 2.2 ICAO / IATA Subrisk Not Applicable ERG Code 2L
Special precautions for user	Special provisions A98A145A167A802 Cargo Only Packing Instructions 204; 203 Cargo Only Maximum Qty / Pack 150 kg Passenger and Cargo Packing Instructions 204; 203 Passenger and Cargo Maximum Qty / Pack 75 kg Passenger and Cargo Limited Quantity Packing Instructions Y204; Y203

Continued...

	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G
<b>Sea transport (IMDG-Code / GGVSee)</b>		
UN number	1950	
Packing group	Not Applicable	
UN proper shipping name	AEROSOLS, NON-FLAMMABLE	
Environmental hazard	Not Applicable	
Transport hazard class(es)	IMDG Class 2.2 IMDG Subrisk Not Applicable	
Special precautions for user	EMS Number F-D, S-U Special provisions 63 190 277 327 344 959 Limited Quantities 1000ml	

## SECTION 15 REGULATORY INFORMATION

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

#### 1,3,3,3-TETRAFLUOROPROPENE(29118-24-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

National Inventory	Status
Australia - AICS	N (1,3,3,3-tetrafluoropropene)
Canada - DSL	Y
Canada - NDSL	N (1,3,3,3-tetrafluoropropene)
China - IECSC	N (1,3,3,3-tetrafluoropropene)
Europe - EINEC / ELINCS / NLP	N (1,3,3,3-tetrafluoropropene)
Japan - ENCS	N (1,3,3,3-tetrafluoropropene)
Korea - KECI	N (1,3,3,3-tetrafluoropropene)
New Zealand - NZIoC	N (1,3,3,3-tetrafluoropropene)
Philippines - PICCS	N (1,3,3,3-tetrafluoropropene)
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

## SECTION 16 OTHER INFORMATION

### Other information

#### Ingredients with multiple cas numbers

Name	CAS No
1,3,3,3-tetrafluoropropene	1645-83-6, 29118-24-9, 29118-25-0

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

### Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average  
 PC – STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 OSF: Odour Safety Factor  
 NOAEL: No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index

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