SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200, WHMIS 2022 and Safe Work Australia

Revision date: 20 August 2025 **Date of previous issue:** 10 May 2023 **SDS No.** 314A-14

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

1.1. Product identifier

279 PCS (Aerosol)

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

Relevant identified uses: Cleaning product for removal of grease, flux and other soils from electrical equipment or electronics.

Uses advised against: No information available

Reason why uses advised against: Not applicable

1.3. Details of the supplier of the safety data sheet

Company:
A.W. CHESTERTON COMPANY
860 Salem Street
Groveland, MA 01834-1507, USA
Tel. +1 978-469-6446
(Mon. - Fri. 8:30 - 5:00 PM EST)
SDS requests: www.chesterton.com
E-mail (SDS questions): ProductSDSs@chesterton.com
E-mail: customer.service@chesterton.com

Canada: A.W. Chesterton Company Ltd., 889 Fraser Drive,
Unit 105, Burlington, Ontario L7L 4X8 – Tel. 905-335-5055

Supplier:

1.4. Emergency telephone number

24 hours per day, 7 days per week
Call Infotrac: 1-800-535-5053
Outside N. America: +1 352-323-3500 (collect)
NSW Poisons Information Centre (Australia): 13 11 26

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification according to 29 CFR 1910.1200 / WHMIS 2022 / Safe Work Australia / GHS

Aerosol, Category 3, H229
Skin irritation, Category 2, H315
Eye irritation, Category 2A, H319
Specific target organ toxicity – single exposure, Category 3, H335

2.1.2. Additional information

For full text of H-statements: see SECTIONS 2.2 and 16.

2.2. Label elements

Labeling according to 29 CFR 1910.1200 / WHMIS 2022 / Safe Work Australia / GHS

Hazard pictograms:



Signal word: Warning

Hazard statements:

H229	Pressurized container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

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Precautionary statements:	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P251	Do not pierce or burn, even after use.
	P261	Avoid breathing vapours.
	P264	Wash skin thoroughly after handling.
	P271	Use only outdoors or in a well-ventilated area.
	P280	Wear protective gloves and eye/face protection.
	P302/352	IF ON SKIN: Wash with plenty of soap and water.
	P304/340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P312	Call a POISON CENTER or doctor if you feel unwell.
	P332/313	If skin irritation occurs: Get medical advice/attention.
	P337/313	If eye irritation persists: Get medical advice/attention.
	P362	Take off contaminated clothing.
	P403	Store in a well-ventilated place.
	P405	Store locked up.
	P410/412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
	P501	Dispose of contents/container to an approved waste disposal plant.

Supplemental information: May displace oxygen and cause rapid suffocation.

2.3. Other hazards

Direct skin contact may cause frostbite.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous Ingredients[1]	% Wt.	CAS No.	GHS Classification
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethylether	65-75	406-78-0	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
1,1,1,2-Tetrafluoroethane	25-35	811-97-2	Press. Gas (Liq.), H280

For full text of H-statements: see SECTIONS 2.2 and 16.

[1] Classified according to: 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F), WHMIS 2022, Safe Work Australia, GHS

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Remove to fresh air. If not breathing, administer artificial respiration. Do not administer adrenaline (epinephrine). Contact physician.

Skin contact: If there is evidence of frostbite, bathe with lukewarm water. Wash skin with soap and water. Contact physician if irritation persists.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Contact physician if irritation persists.

Ingestion: Do not induce vomiting. If person is conscious, rinse mouth with water. Contact physician.

Protection of first-aiders: No special precautions.

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

Causes serious eye irritation. Direct skin contact causes skin irritation and may cause frostbite. Vapor in high concentrations may irritate the respiratory tract and cause drowsiness, unconsciousness, headache, dizziness and other central nervous system effects. Cardiac arrhythmia has been reported in animal studies.

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

Treat symptoms. Do not administer adrenaline (epinephrine).

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SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Nonflammable. Use extinguisher appropriate to the surrounding fire.

Unsuitable extinguishing media: Not applicable

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Hydrogen Fluoride, Carbonyl Halides, Halogen acids, oxides of Carbon.

Other hazards: Pressurized containers, when heated, are a potential explosive hazard.

5.3. Advice for firefighters

Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus.

Australian HAZCHEM Emergency Action Code: 1 Y

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Utilize exposure controls and personal protection as specified in Section 8.

6.2. Environmental Precautions

Keep out of sewers, streams and waterways.

6.3. Methods and material for containment and cleaning up

Evacuate area. Provide adequate ventilation. Contain spill to a small area. Pick up with absorbent material (sand, sawdust, clay, etc.) and place in a suitable container for disposal.

6.4. Reference to other sections

Refer to section 13 for disposal advice.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Shake well before using. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No Smoking. Avoid breathing vapours. Vapors are heavier than air and will collect in low areas. Utilize exposure controls and personal protection as specified in Section 8. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C (120°F). Do not pierce or burn, even after use.

7.3. Specific end use(s)

No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limit values

Ingredients	OSHA PEL[1]		ACGIH TLV[2]		AUSTRALIA ES[3]	
	ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethylether	N/A	N/A	N/A	N/A	N/A	N/A
1,1,1,2-Tetrafluoroethane*	N/A	N/A	N/A	N/A	1,000	4,240

*American Industrial Hygiene Association (AIHA) recommended limit: 1,000 ppm (4,240 mg/m^3).

[1] United States Occupational Health & Safety Administration permissible exposure limits
[2] American Conference of Governmental Industrial Hygienists threshold limit values
[3] Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants

Biological limit values

No biological exposure limits noted for the ingredient(s).

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8.2. Exposure controls

8.2.1. Engineering measures

Provide sufficient ventilation to keep the vapor concentrations below the exposure limits.

8.2.2. Individual protection measures

Respiratory protection:	In case of insufficient ventilation, utilize an approved organic vapor respirator (e.g., EN filter type A).
Protective gloves:	Chemical resistant gloves (e.g., natural rubber, neoprene or PVC)
Eye and face protection:	Safety goggles or face shield.
Other:	Impervious gloves and clothing (e.g., natural rubber, neoprene or PVC) as necessary for repetitive, prolonged contact with liquid.

8.2.3. Environmental exposure controls

Refer to sections 6 and 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid	**pH**	not applicable
Colour	clear, colorless	**Kinematic viscosity**	not determined
Odour	faint odor	**Solubility in water**	insoluble
Odour threshold	not determined	**Partition coefficient n-octanol/water (log value)**	not applicable
Boiling point or range	56°C (133°F)	**Vapour pressure @ 20°C**	not determined
Melting point/freezing point	-89°C (-128°F)	**Density and/or relative density**	1.487 kg/l
% Volatile (by volume)	100%	**Weight per volume**	12.41 lbs/gal.
Flammability	nonflammable	**Vapour density (air=1)**	> 1
Lower/upper flammability or explosion limits	7.4 (Lower explosion level)	**Rate of evaporation (ether=1)**	< 1
Flash point	not applicable	**% Aromatics by weight**	0%
Method	not applicable	**Particle characteristics**	not applicable
Autoignition temperature	not determined	**Explosive properties**	not applicable
Decomposition temperature	not determined	**Oxidising properties**	not applicable

9.2. Other information

None

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Refer to sections 10.3 and 10.5.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

No dangerous reactions known under conditions of normal use.

10.4. Conditions to avoid

None

10.5. Incompatible materials

Alkali and alkaline earth metals. Finely divided powdered metals such as Aluminum, Magnesium or Zinc. Strong oxidizing agents.

10.6. Hazardous decomposition products

Hydrogen Fluoride, Carbonyl Halides, Halogen acids and other toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Primary route of exposure under normal use:	Inhalation, skin and eye contact. Personnel with eye and skin disorders, heart disease and respiratory disorders are generally aggravated by exposure.
Acute toxicity -	
Oral:	No information available
Dermal:	No information available

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Inhalation: Based on available data on components, the classification criteria are not met. Vapor in high concentrations may irritate the respiratory tract and cause drowsiness, unconsciousness, headache, dizziness and other central nervous system effects. Cardiac arrhythmia has been reported in animal studies (NOEL: 50000 ppm; LOEL: 75000 ppm)

Substance	Test	Result
1,1,1,2-Tetrafluoroethane	LC50, rat, 4 h	567,000 ppm

Skin corrosion/irritation: Direct skin contact causes skin irritation and may cause frostbite.

Substance	Test	Result
1,1,1,2-Tetrafluoroethane	Skin irritation, rabbit	Slightly irritating
1,1,1,2-Tetrafluoroethane	Skin irritation, human	Not irritating

Serious eye damage/ irritation: Causes serious eye irritation.

Substance	Test	Result
1,1,1,2-Tetrafluoroethane	Eye irritation, rabbit	Slightly irritating
1,1,1,2-Tetrafluoroethane	Eye irritation, human	Not irritating

Respiratory or skin sensitisation:

Substance	Test	Result
1,1,1,2-Tetrafluoroethane	Skin irritation, guinea pig	Not sensitizing

Germ cell mutagenicity: 1,1,1,2-Tetrafluoroethane: based on available data, the classification criteria are not met.

Carcinogenicity: This product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or the European Chemicals Agency (ECHA).

Reproductive toxicity: 1,1,1,2-Tetrafluoroethane: based on available data, the classification criteria are not met.

STOT – single exposure: May cause respiratory irritation.

STOT – repeated exposure: 1,1,1,2-Tetrafluoroethane: NOEL, rat = 40000 ppm.

Aspiration hazard: Based on available data, the classification criteria are not met.

Other information: None known

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar substances.

12.1. Toxicity

Contains a greenhouse gas which may contribute to global warming. Ozone-depletion potential: none (0).

12.2. Persistence and degradability

1,1,1,2-Tetrafluoroethane: oxidizes slowly by photochemical reactions in air; atmospheric half-life: 1,878 days; atmospheric lifetime: 12.5 - 24 years.

12.3. Bioaccumulative potential

1,1,1,2-Tetrafluoroethane: log Kow = 1.06, not expected to bioaccumulate.

12.4. Mobility in soil

Liquid. Insoluble in water. This substance is highly volatile and will rapidly evaporate to the air if released into the environment. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

12.5. Endocrine disrupting properties

12.6. Other adverse effects

Contains a greenhouse gas which may contribute to global warming.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Reclaim or recycle if possible. Incinerate absorbed material with a properly licensed facility. Do not incinerate sealed containers. Check local, state and national/federal regulations and comply with the most stringent requirement.

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SECTION 14: TRANSPORT INFORMATION

14.1. UN number or ID number

ADG/ADR/RID/ADN/IMDG/ICAO:	UN1950
TDG:	UN1950
US DOT:	UN1950

14.2. UN proper shipping name

ICAO:	AEROSOLS, NON-FLAMMABLE
ADG/IMDG:	AEROSOLS
ADR/RID/ADN:	AEROSOLS, ASPHYXIANT
TDG:	AEROSOLS, NON-FLAMMABLE
US DOT:	AEROSOLS, NON-FLAMMABLE

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO:	2.2
TDG:	2.2
US DOT:	2.2

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO:	NOT APPLICABLE
TDG:	NOT APPLICABLE
US DOT:	NOT APPLICABLE

14.5. Environmental hazards

NO ENVIRONMENTAL HAZARDS

14.6. Special precautions for user

NO SPECIAL PRECAUTIONS FOR USER

14.7. Maritime transport in bulk according to IMO instruments

NOT APPLICABLE

14.8. Other information

US DOT: SHIPPED AS LIMITED QUANTITY IN PACKAGING HAVING A RATED CAPACITY GROSS WEIGHT OF 66 LB. OR LESS (49 CFR 173.306(A),(3),(I)).

ERG NO. 126

IMDG: EMS. F-D, S-U, SHIPPED AS LIMITED QUANTITY

ADR: CLASSIFICATION CODE 5A, TUNNEL RESTRICTION CODE (E), SHIPPED AS LIMITED QUANTITY

ADG HAZCHEM CODE: N/A **HIN:** (1)

SECTION 15: REGULATORY INFORMATION

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

15.1.1. National regulations

US EPA SARA TITLE III

312 Hazards:

Gases under pressure
Simple asphyxiant
Skin irritation
Eye irritation
Specific target organ toxicity – single exposure
Hazard not otherwise classified (HNOC)

Chemicals subject to reporting requirements of Section 313 of EPCRA and of 40 CFR 372:

None

TSCA: All chemical components are listed in the TSCA inventory.

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Other national regulations: Contains a greenhouse gas which may contribute to global warming. Do not vent to the atmosphere. Recover residual material.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms:
ADG: Australian Dangerous Goods Code
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE: Acute Toxicity Estimate
BCF: Bioconcentration Factor
cATpE: Converted Acute Toxicity point Estimate
ES: Exposure Standard
GHS: Globally Harmonized System
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
LC50: Lethal Concentration to 50 % of a test population
LD50: Lethal Dose to 50% of a test population
LOEL: Lowest Observed Effect Level
N/A: Not Applicable
NA: Not Available
NOEC: No Observed Effect Concentration
NOEL: No Observed Effect Level
OECD: Organization for Economic Co-operation and Development
(Q)SAR: Quantitative Structure-Activity Relationship
REL: Recommended Exposure Limit
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
STOT RE: Specific Target Organ Toxicity, Repeated Exposure
STOT SE: Specific Target Organ Toxicity, Single Exposure
TDG: Transportation of Dangerous Goods (Canada)
TWA: Time Weighted Average
US DOT: United States Department of Transportation
WHMIS: Workplace Hazardous Materials Information System
Other abbreviations and acronyms can be looked up at www.wikipedia.org.

Key literature references and sources for data:
Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST)
Chemical Classification and Information Database (CCID)
European Chemicals Agency (ECHA) - Information on Chemicals
Hazardous Chemical Information System (HCIS)
National Institute of Technology and Evaluation (NITE)
U.S. National Library of Medicine Toxicology Data Network (TOXNET)

Procedure used to derive the classification for mixtures according to GHS:

Classification	Classification procedure
Aerosol 3, H229	Based on component data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2A, H319	Calculation method
STOT SE 3, H335	Calculation method

Relevant H-statements:
H229: Pressurized container: May burst if heated.
H280: Contains gas under pressure; may explode if heated.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Hazard pictogram names: Exclamation mark

Further information: None

Date of last revision: 20 August 2025

Changes to the SDS in this revision: Sections 2.1, 2.2, 16.

This information is based solely on data provided by suppliers of the materials used, not on the mixture itself. No warranty is expressed or implied regarding the suitability of the product for the user's particular purpose. The user must make their own determination as to suitability.

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