

Safety Data Sheet



International Chemicals Engineering Hazardous, Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: Mercaptan Stench Cartridge

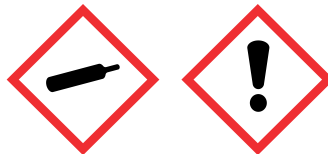
Recommended use: Mine warning device.

Supplier: International Chemicals Engineering Pty Ltd
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2. HAZARDS IDENTIFICATION

This material is hazardous according to health criteria of Safe Work Australia.



Signal Word

Warning

Hazard Classifications

Gases Under Pressure - Liquefied Gas
Acute Toxicity - Inhalation - Category 4
Sensitisation - Skin - Category 1B

Hazard Statements

H280 Contains gas under pressure; may explode if heated.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.

Prevention Precautionary Statements

P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P261 Avoid breathing dust, fume, gas, mist, vapours or spray..
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing protective clothing, gloves, eye/face protection and suitable respirator.

Response Precautionary Statements

Product Name: Mercaptan Stench Cartridge

Reference No: ICE000104

Issued: 2021-05-29

Version: 3.0

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P101	If medical advice is needed, have product container or label at hand.
P302+P352	IF ON SKIN: Wash with plenty of water .
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

Storage Precautionary Statement

P410+P403 Protect from sunlight. Store in a well-ventilated place.

Disposal Precautionary Statement

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

Poison Schedule: Not Applicable

DANGEROUS GOOD CLASSIFICATION

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

Dangerous Goods Class: 2.2

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Ethane, 1,1,1,2-tetrafluoro-	811-97-2	70 - 90 % (w/w)
Ethanethiol	75-08-1	10 - 30 % (w/w)
Ingredients determined to be Non-Hazardous		Balance
		100%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing laboured and patient cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through a facemask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. Seek immediate medical advice.

Skin Contact: Effects may be delayed. If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance. For freeze burns, immediately flood burnt area with plenty of warm water (40 - 44 °C) and cover with a clean, dry dressing. Seek immediate medical assistance.

Eye contact: If in eyes wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice. For freeze burns, Immediately irrigate with copious quantities of warm (40 - 44 °C) water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin.

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Urgently seek medical assistance. Transport to hospital or medical centre.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

PPE for First Aiders: Wear safety shoes, overalls, gloves, safety glasses, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically. Effects may be delayed.

5. FIRE FIGHTING MEASURES

Hazchem Code: 2TE

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Contains gas under pressure; may explode if heated.

Fire fighting further advice: Heating can cause expansion or decomposition leading to violent rupture of containers. If safe to do so, remove containers from path of fire. Keep containers cool with water spray. On burning or decomposing may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion or decomposition.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of gas. If safe to do so, isolate the leak. Increase ventilation to assist with dispersion. To neutralise contaminated area of odour, use ICE Mercaptan Odour Neutraliser. If unavailable, use a 10% aqueous solution of sodium hypochlorite. Sodium hypochlorite can be found in White King and Pool Chlorine products. Do not use undiluted as a vigorous, exothermic reaction may result. As sodium hypochlorite is highly corrosive, ensure surfaces are rinsed with clean water after hypochlorite

LARGE SPILLS

Clear area of all unprotected personnel. If safe to do so, isolate the leak. Increase ventilation to assist with dispersion. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods - Initial Emergency Response Guide No: 6

7. HANDLING AND STORAGE

Handling: Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Do not expose to temperatures exceeding 50 °C/122 °F. Keep containers closed when not in use - check regularly

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for leaks.

This material is classified as a Division 2.2 Non Flammable, Non Toxic Gas as per the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and/or the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and must be stored in accordance with the relevant regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	
1,1,1,2-Tetrafluoroethane	1000	4240	-	-	-
Ethyl mercaptan	0.5	1.3	-	-	-

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator. Vapour heavier than air - prevent concentration in hollows or sumps. Do NOT enter confined spaces where vapour may have collected.

Personal Protection Equipment: SAFETY SHOES, OVERALLS, GLOVES, SAFETY GLASSES, RESPIRATOR.

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

Wear safety shoes, overalls, gloves, safety glasses, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or

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smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Gas
Colour: Colourless
Odour: Pungent

Solubility: Insoluble in water
Specific Gravity: 1.2
Relative Vapour Density (air=1): >1
Vapour Pressure (20 °C): 574 kPa @ 20°C (1,1,2,2-tetrafluoroethane)
Flash Point (°C): N App
Flammability Limits (%): N App
Autoignition Temperature (°C): N App
Melting Point/Range (°C): N Av
Boiling Point/Range (°C): N Av
pH: N App
Viscosity: N App
Total VOC (g/Litre): 45

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: None known

Hazardous decomposition products: Oxides of sulphur

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Harmful if inhaled. Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin may result in irritation. A skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis. Liquid splashes or spray may cause freeze burns.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

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Eye contact: May be an eye irritant. Liquid splashes or spray may cause freeze burns to the eye.

Acute toxicity

Inhalation: This material has been classified as a Category 4 Hazard. Acute toxicity estimate (based on ingredients): $2,500 < LC50 \leq 20,000$ ppm

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): $>2,000$ mg/Kg bw

Ingestion: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): $>2,000$ mg/Kg bw

Corrosion/Irritancy: Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as a Category 1B Hazard (skin sensitiser).

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation): This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as a Category Acute 1 Hazard. Acute toxicity estimate (based on ingredients): <1 mg/L

Long-term aquatic hazard: This material has been classified as a Category Chronic 1 Hazard. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): <1 mg/L, where the substance is not rapidly degradable and/or $BCF \geq 500$ and/or $\log Kow \geq 4$.

Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

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13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".



UN No: 1956
Dangerous Goods Class: 2.2
Packing Group: None
Hazchem Code: 2TE
Emergency Response Guide No: 6

Proper Shipping Name: COMPRESSED GAS, N.O.S. (1,1,2,2-TETRAFLUOROETHANE)

Segregation Dangerous Goods: Not to be loaded with explosives (Class 1), spontaneously combustible substances (Class 4.2) or organic peroxides (Class 5.2). Exemptions may apply.

MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea. This material is classified as a Marine Pollutant (P) according to the International Maritime Dangerous Goods Code.



UN No: 1956
Dangerous Goods Class: 2.2
Packing Group: None

Proper Shipping Name: COMPRESSED GAS, N.O.S. (1,1,2,2-TETRAFLUOROETHANE)

AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

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UN No: 1956
Dangerous Goods Class: 2.2
Packing Group: None

Proper Shipping Name: COMPRESSED GAS, N.O.S. (FLUORINATED HYDROCARBON, NITROGEN)

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)

This material is subject to the following international agreements:

Basel Convention (Hazardous Waste)
• Organohalogen compounds other than substances referred to in this Annex (e.g. Y39, Y41, Y42, Y43, Y44)

International Convention for the Prevention of Pollution from Ships (MARPOL)
• Annex III - Harmful Substances carried in Packaged Form

This material/constituent(s) is covered by the following requirements:

• All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC).

16. OTHER INFORMATION

Reason for issue: Revised

This Safety Data Sheet has been prepared by Chemical Data Services Pty Ltd on behalf of its client.

Safety Data Sheets are updated frequently. Please ensure that you have a current copy.

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.