



# Safety Data Sheet

SDS has been prepared in accordance with Regulation (EC) No. 453/2010

**This Safety Data Sheet is written in reference to a sealed glass ampoule containing 10ml of the product named below.**

## Section 1 Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Substance name:** Tetrachloroethylene

<b>Synonyms:</b> Perchloroethylene Perklone	<b>Product type:</b> Liquid density standard	<b>Date revised:</b> Apr 2024 <b>Previous:</b> Jun 2022
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**EC No:** 204-825-9      **CAS No.:** 127-18-4

### 1.2 Relevant identified uses of the substance or mixture

**Relevant identified uses:** For use in the calibration of density meters.

### 1.3 Details of the supplier of the Safety Data Sheet

**Company:** H&D Fitzgerald Ltd.  
**Address:** Cefn Du, Tremeirchion, St Asaph, Denbighshire, LL17 0US, UK  
**Telephone #:** +44 (0)1352 720 774  
**Email address:** admin@density.co.uk

### 1.4 Emergency telephone number

+44 (0)1352 720 774

## Section 2 Hazards identification

### 2.1 Classification of the substance or mixture

#### 2.1.1 Classification according to Regulation (EC) No1272/2008 [CLP]:

Skin irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Skin sensitisation (Category 1), H317  
Carcinogenicity (Category 2), H351  
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336  
Chronic aquatic toxicity (Category 2), H411

### 2.2 Label elements

**Pictogram:**



**Signal word:** Warning

**Hazard statement(s):**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer
H411	Toxic to aquatic life with long lasting effects.

**Precautionary statement(s):**

P273	Avoid release to the environment
P280	Wear protective/ protective clothing/ eye protection/ face protection.

P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P391	Collect spillage.
<b>Supplemental hazard statement(s):</b>	None.
<b>2.3 Other hazards</b>	This substance/ mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

<b>Section 3 Composition / Information on ingredients</b>				
<b>Substance name:</b> Tetrachloroethylene			<b>Synonyms:</b> Perchloroethylene (PCE), Perklone	
<b>C.A.S. No.</b>	<b>EINECS No.</b>	<b>Index-No. in CLP Annex IV</b>	<b>Classification</b>	<b>Concentration</b>
127-18-4	204-825-9	602-028-00-4	Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; Carc. 2; STOT SE 3; Aquatic Chronic 2; H315, H317, H319, H336, H351, H411	<=100%
For full text of H-statements mentioned in this section, see Section 16.				
<b>Formula:</b>		C <sub>2</sub> Cl <sub>4</sub>		
<b>Molecular Weight:</b>		165.83g/mol		

<b>Section 4 First Aid measures</b>	
<b>4.1 Description of first aid measures</b>	
<b>General advice:</b>	Consult a physician. Show this safety data sheet to the doctor in attendance.
<b>Following inhalation:</b>	Move the person into fresh air. If not breathing give artificial respiration. Consult a physician.
<b>Following ingestion:</b>	Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth with water and consult a physician without delay.
<b>Following eye contact:</b>	Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician.
<b>Following skin contact:</b>	Wash off with soap and plenty of water. Consult a physician.
<b>4.2 Most important symptoms and effects, both acute and delayed</b>	
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.	
<b>4.3 Indication of any immediate medical attention and special treatment needed</b>	
No data available.	

<b>Section 5 Fire fighting measures</b>	
<b>5.1 Extinguishing media</b>	
<b>Extinguishing media:</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>5.2 Special hazards arising from the substance or mixture</b>	
<b>Hazardous combustion products:</b>	Carbon oxides, Hydrogen chloride gas
<b>5.3 Advice for firefighters</b>	
<b>Special protective equipment for fire-fighters:</b>	Wear protective clothing and self contained breathing apparatus for fire fighting if necessary.

<b>Section 6 Accidental release measures</b>	
<b>6.1 Personal precautions, protective equipment and emergency procedures</b>	
<b>Protective equipment:</b>	Wear safety glasses with side shields and gloves.
<b>Personal precautions:</b>	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation
<b>6.2 Environmental precautions</b>	
	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
<b>6.3 Methods and material for containment and cleaning up</b>	
	Ventilate area. Soak up liquid with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

<b>Section 7 Handling and storage</b>	
<b>7.1 Precautions for safe handling</b>	
<b>Handling precautions:</b>	Avoid contact with skin or eyes. Avoid inhalation of vapour or mist. Use personal protective equipment. Handle in accordance with good industrial hygiene and safety practise. For precautions see section 2.2.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	
<b>Storage precautions:</b>	Store ampoule in the outer packaging until ready to use. Store in a cool (less than 25°C) and well-ventilated place. Do not store the ampoule once opened, dispose of as hazardous waste.
<b>7.3 Specific end use</b>	Liquid density standard for calibration of density meters.

## Section 8 Exposure controls and personal protection

### 8.1 Control parameters

#### Components with work place control parameters

Components	CAS-No.	Value	Control Parameters	Basis
Tetrachloroethylene	127-18-4	TWA	20 ppm 138 mg/m <sup>3</sup>	Europe. Commission Directive 2017/164/ EU establishing a fourth list of indicative occupational exposure limit values
		STEL	40 ppm 275 mg/m <sup>3</sup>	Europe. Commission Directive 2017/164/ EU establishing a fourth list of indicative occupational exposure limit values
		STEL	40 ppm 275 mg/m <sup>3</sup>	UK. EH40 WEL - Workplace Exposure Limits
		TWA	20 ppm 138 mg/m <sup>3</sup>	UK. EH40 WEL - Workplace Exposure Limits

### 8.2 Exposure controls

#### Personal protective equipment

<b>Eye/Face protection:</b>	Wear safety glasses with side shields conforming to EN166
<b>Hand protection:</b>	Handle with gloves conforming to EN374
<b>Other skin protection:</b>	Use of protective clothing is good industrial practise.
<b>Respiratory protection:</b>	Use in a well ventilated area.
<b>Hygiene measures:</b>	Handle in accordance with good industrial hygiene and safety practise. Wash hands with soap before breaks and at the end of the workday.

#### Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.  
Keep in suitable, closed containers for disposal.  
Dispose of as hazardous waste.

## Section 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Appearance:</b> Colourless, liquid	<b>Odour:</b> strong, dry cleaning fluid	<b>Odour threshold:</b> no data available	<b>pH:</b> no data available
<b>Freezing point:</b> -22°C	<b>Boiling point &amp; range:</b> 121°C	<b>Flash point:</b> not applicable	<b>Evaporation rate:</b> no data available
<b>Flammability:</b> not applicable	<b>Upper/lower flammability or explosive limits:</b> not applicable	<b>Vapour pressure:</b> 25.3 hPa at 25°C 17.3 hPa at 20°C	<b>Vapour density:</b> no data available
<b>Density of liquid:</b> ≈1623 kgm <sup>-3</sup> at 25°C	<b>Water solubility:</b> 0.15 g/l at 25°C	<b>Partition coefficient: n-octanol/water</b> log Pow: 2.53 at 23°C	<b>Auto-ignition temperature:</b> no data available
<b>Decomposition temperature:</b> no data available	<b>Viscosity:</b> no data available	<b>Explosive properties:</b> not applicable	<b>Oxidising properties:</b> no data available

### 9.2 Other information

**Surface tension:** 32.1 mN/m at 20 °C

<b>Section 10 Stability and reactivity</b>	
<b>10.1 Reactivity</b>	No data available.
<b>10.2 Chemical stability</b>	Stable under recommended storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	No data available.
<b>10.4 Conditions to avoid</b>	No data available.
<b>10.5 Incompatible materials</b>	Strong oxidizing agents, Strong bases.
<b>10.6 Hazardous decomposition products</b>	Other decomposition products - No data available In the event of fire: see section 5

<b>Section 11 Toxicological information</b>	
<b>11.1 Information on toxicological effects</b>	
<b>Acute toxicity</b>	
<b>Inhalation:</b>	LC <sub>50</sub> (rat - male & female): 28 mg/l - 6 hr.
<b>Ingestion:</b>	LD <sub>50</sub> (rat - female): 3005 mg/kg. (OECD Test Guideline 401)
<b>Skin corrosion/irritation:</b>	LD <sub>50</sub> (rabbit) 5000 mg/kg. Result: Skin irritation - 4 h (OECD Test Guideline 404)
<b>Serious eye damage/irritation:</b>	Rabbit. Result: Mild eye irritation - 24h
<b>Respiratory or skin sensitisation:</b>	Mouse. Result: May cause sensitisation by skin contact. (OECD Test Guideline 429)
<b>Germ cell mutagenicity:</b>	Hamster - ovary. Result: negative OECD Test Guideline 474. Mouse - male. Result: negative
<b>Carcinogenicity:</b>	Limited evidence of carcinogenicity in animal studies IARC: 2A – Group 2A: Probably carcinogenic to humans
<b>Reproductive toxicity:</b>	No data available.
<b>Specific target organ toxicity – single exposure:</b>	May cause drowsiness or dizziness.
<b>Specific target organ toxicity – repeated exposure:</b>	No data available
<b>Aspiration hazard:</b>	No data available
<b>Additional information:</b>	RTECS: KX3850000 Repeated dose toxicity - Mouse - female - Oral - Lowest observed adverse effect level - 390 mg/kg Narcosis, liver injury may occur., kidney injury may occur.

## Section 12 Ecological information

Toxic to aquatic organisms. Ecological risk is limited in the quantity supplied in a 10ml ampoule.	
<b>12.1 Toxicity</b>	
<b>Toxicity to fish:</b>	LC <sub>50</sub> – Oncorhynchus mykiss (rainbow trout) – 5 mg/l – 96.0 h
<b>Toxicity to daphnia and other aquatic invertebrates:</b>	EC <sub>50</sub> – Daphnia magna (Water flea) – 7.50 mg/l – 48 h
<b>Toxicity to algae</b>	Static test EC <sub>50</sub> - Skeletonema costatum - > 16 mg/l - 7 h
<b>12.2 Persistence and degradability</b>	
<b>Biodegradability:</b>	Aerobic - Exposure time 28 d. Result: 11 % - Not readily biodegradable. (OECD Test Guideline 301C)
<b>12.3 Bioaccumulative potential</b>	
<b>Bioaccumulation:</b>	Lepomis macrochirus (Bluegill) – 21 d - 0.00343 mg/l Bioconcentration factor (BCF): 49
<b>12.4 Mobility in soil</b>	No data available
<b>12.5 Results of PBT and vPvB assessment</b>	
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.	
<b>12.6 Other adverse effects</b>	Toxic to aquatic life with long lasting effects.

## Section 13 Disposal considerations

<b>13.1 Waste treatment methods</b>	
<b>General requirements:</b>	Observe all national and local environmental regulations.
<b>For small quantities:</b>	Mop up with inert material and dispose of as chlorinated waste.
<b>Contaminated packaging:</b>	Dispose of as unused product.

## Section 14 Transport information

<b>UN Number</b> 1897	<b>UN proper shipping name</b> tetrachloroethylene	<b>Transport hazard class(es)</b> 6.1
<b>Environmental hazards</b> Marine pollutant: Marine pollutant	<b>EMS-No:</b> F-A, S-A	<b>Packing group</b> packing group III

## Section 15 Regulatory information

<b>15.1 Safety health and environmental regulations/legislation specific for the substance or mixture</b>	
This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010.	
<b>15.2 Chemical safety assessment</b>	
No chemical assessment has been carried out for this substance by the supplier.	

## Section 16 Other information

### Text of H-code(s) mentioned in Section 2 & 3

Aquatic chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.
Skin Irrit.	Skin irritation
Skin Sens	Skin sensitisation

**Reason for revision:** Biennial review.

### Disclaimer

H&D Fitzgerald Ltd believes that data given here is accurate. It is derived from published information about tetrachloroethylene. No warranty, expressed or implied, is intended. The data is provided for your information and consideration when using tetrachloroethylene as a liquid density standard for the calibration of density meters. H&D Fitzgerald Ltd assumes no legal responsibility for its use.