SAFETY DATA SHEET

fluorochem.

1. Identification of Substance / Mixture

Product Identifier

1.1.2 Product Name	Dichloroacetic acid
1.1.2 Other Names	
1.1.1 Product Code	F095059
1.1.3 CAS	79-43-6
1.1.4 MDL	MFCD00004223
1.1.5 EINECS	201-207-0
1.1.6 REACH Registration Number	
1.2.1 Relevant Uses	For research and development purposes only.
1.2.2 Uses Advised Against	No uses advised against.

1.3 Supplier Details

1.3.1 Company	Fluorochem Ltd
1.3.2 Address	Unit 14, Graphite Way Hadfield Glossop Derbys. SK13 1QH United Kingdom
1.3.3 Telephone	01457 860111
1.3.4 Email	sds@fluorochem.co.uk
1.4.1 Emergency Telephone	+44 20 3807 3798

2. Hazards Identification

2.1.1 Classification

Acute Tox. 3
Aquatic Acute 1
Carc. 2
Eye Dam. 1
Met. Corr. 1
Repr. 1A
Repr. 2
Skin Corr. 1B
STOT RE 2

2.2.1 Signal Word

Danger

2.2.2 Pictograms

GHS05 **GHS06** **GHS08** **GHS09**

2.2.3 Hazards

EUH071 Corrosive to the respiratory tract.
H290 Maybe corrosive to metals.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H362 May cause harm to breast-fed children.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.

2.2.4 Precautions

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P234 Keep only in original packaging.
P260.1 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280.4 Wear protective gloves/protective clothing and eye/face protection.
P301+P310.1 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352.2 IF ON SKIN: Wash with plenty of water and soap.
P303+P361+P353.2 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P310.1 Immediately call a POISON CENTER/doctor.
P321 Specific treatment.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P390 Absorb spillage to prevent material damage.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in a corrosion resistant container with a resistant inner liner.
P501.3 Dispose of contents/container to hazardous waste disposal.

2.2.5 Other Classification Hazards

3. Composition

SUBSTANCE

3.1.1 Name	3.1.2 CAS	Einecs	3.1.3 Composition	Hazards
Dichloroacetic acid	79-43-6	201-207-0		EUH071 H290 Met. Corr. 1 H311 Acute Tox. 3 H314 Skin Corr. 1B H318 Eye Dam. 1 H351 Carc. 2 H360 Repr. 1A H362 Repr. 2 H373 STOT RE 2 H400 Aquatic Acute 1

4. First Aid Measures

4.1.1 Eye contact Where Diphoterine is not available, rinse eyes with copious amounts of water for at least 20 minutes. Protect uninjured eye. Remove contact lenses if present and easy to do. Continue rinsing and seek immediate medical attention.

4.1.2 Ingestion Where Diphoterine is not available, rinse mouth with copious amounts of water. Seek urgent medical advice.

4.1.3 Inhalation Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration and seek immediate medical attention.

4.1.4 Skin Contact Where Diphoterine is not available, wash immediately with plenty of water and soap. Remove contaminated clothing immediately. Immediately seek medical attention.

4.1.5 General Advice No additional advice.

4.2.1 Most Important Symptoms and Effects Severe burns may occur. Corrosive to the respiratory tract.

4.3.1 Immediate First Aid Measures No special immediate treatment required

5. Fire Fighting Measures

5.1.1 Suitable Fire Extinguishing Media Carbon dioxide, alcohol resistant foam or dry chemical powder. Use water to extinguish fire.

5.1.2 Unsuitable Fire Extinguishing Media No known unsuitable media.

5.2.1 Special Hazards Thermal decomposition can lead to release of irritating gases and vapours.

5.3.1 Advice for Fire Fighters As in any fire, wear self-contained breathing apparatus and full protective gear.

6. Accidental Release Measures

6.1.1 Personal Precautions	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Keep personnel away from spill/leak.
6.2.1 Environmental Precautions	Prevent further leakage if safe to do so. Prevent product from entering drains. Do not let product enter waterways or sewer systems. Discharge into the environment must be avoided.
6.3.1 Containment - Methods and Materials	Absorb the spilled material with an inert absorbent (e.g. sand, silica gel, rag, vermiculite) before transferring into an airtight container. Remove all sources of ignition. Dispose of appropriately according to local regulations.
6.4.1 Referenced SDS Sections	For personal protection see section 8. For disposal see section 13.

7. Handling and Storage

Personal Precautions

7.1.1 Safe Handling	Wear appropriate personal protective equipment. Use only under a chemical fume hood. Keep away from heat/ sparks/open flame/hot surfaces. Take measures to prevent the build-up of electrostatic charge. Ensure adequate exhaust ventilation, especially if dust, aerosol or fumes will be generated. Avoid contact with skin, eyes and clothing. For precautions see section 2.2.
7.1.2 Protection Against Explosion and Fire	Where possible, use anti static and spark proof equipment when handling.
7.1.3 General Occupational Hygiene	Handle in accordance with good industrial hygiene and safety practice. Wash hands before and after use. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use.

Conditions for Safe Storage and Incompatabilities

7.2.1 Managing Storage Risks	Do not pack in metal.,Keep container tightly closed and upright. Store in a cool, dry and well-ventilated place.
7.2.2 Storage Controls	Do not pack in metal.,Keep container tightly closed in a cool area away from sunlight or heat sources.
7.2.3 Maintaining Integrity	Do not pack in metal.,Keep container tightly closed in a cool area away from sunlight or heat sources.
7.2.4 Other Advice	No other specific advice available.
7.3.1 Specific End Use(s)	No specific end uses are advised. The products supplied are for research purposes only.

8. Exposure Controls / Personal Protection

8.1.1 Control Parameters	
8.2.1 Engineering Measures	Use only under a chemical fume hood ensuring adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.
8.2.2 Face Protection	Wear tightly fitting safety goggles which adhere to European standard EN 166. Ensure eye bath is to hand.
8.2.3 Hand Protection	Handle with impermeable gloves. Inspect gloves before use. Gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
8.2.4 Skin Protection	Wear appropriate protective clothing ensuring all skin is covered. Wear safety shoes that meet at least S1 standards. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
8.2.5 Respiratory Protection	Product should be handled in a fume cupboard with adequate extraction. No respiratory equipment is needed under normal use conditions.
8.2.6 Hygiene Protection	Ensure hair or skin particles cannot enter the chemical container.
8.2.7 Environment Exposure Controls	Avoid discharge into the environment, see section 6.2.

9. Physical and Chemical Properties

9.1.1 State	Liquid
9.1.2 Appearance	No data available.
9.1.3 Odour	Pungent
9.1.4 Odour Threshold	No data available.
9.1.5 pH	1.2 at 129g/L (129g/L H2O soln.)
9.1.6 Melting Point / Freezing Point	13.5°C
9.1.7 Initial Boiling Point	194°C
9.1.8 Boiling Range	No data available.
9.1.9 Flash Point	195.5°C Method: Closed Cup
9.1.10 Evaporation Rate	No data available.
9.1.11 Flammability	No data available.
9.1.12 Upper / Lower Flammability or Explosion Limits	No data available.

9.1.13 Vapour Pressure	23.9 Pa at 25°C
9.1.14 Vapour Density	4.4 g/cm³
9.1.15 Relative Density	1.563 g/cm³ at 20°C
9.1.16 Solubility	1000 g/L at 20°C in Water
9.1.17 Partition Coefficient	0.92
9.1.18 Auto Ignition Temperature	No data available.
9.1.19 Decomposition Temperature	No data available.
9.1.20 Viscosity	1.696 mm2s at 20°C
9.1.21 Explosive Properties	No data available.
9.1.22 Oxidising Properties	No data available.
9.2.1 Other information	No additional information available.

10. Stability and Reactivity

10.1.1 Reactivity	No known reactivity, based on information available.
10.2.1 Stability	Stable under recommended storage conditions.
10.3.1 Possibility of Hazardous Reactions	None under normal storage conditions.
10.4.1 Conditions To Avoid	Heat, sparks, open flames, sources of ignition. Exposure to moisture.
10.5.1 Incompatible Materials	Strong oxidising agents.
10.6.1 Hazardous Decomposition Products	No Data Available.

11. Toxicology Information

11.1.1 Acute Toxicity	Oral LD50, Rat, 2820mg/kg Dermal LD50, Rabbit, 0.51ml/kg
11.1.2 Skin Corrosion / Irritation	Strong corrosive effect on skin and mucous membranes.
11.1.3 Serious Eye Damage / Irritation	Causes serious eye damage.,Strong corrosive effect.
11.1.4 Respiratory or Skin Sensitisation	Corrosive to the respiratory tract.,Toxic in contact with skin.
11.1.5 Germ Cell Mutagenicity	May cause damage to organs through prolonged or repeated exposure.
11.1.6 Carcinogenicity	Suspected of causing cancer.
11.1.7 Reproductive Toxicity	May cause harm to breast-fed children.,May damage fertility or the unborn child.
11.1.8 STOT-single Exposure	May cause damage to organs through prolonged or repeated exposure.
11.1.9 STOT-repeated Exposure	May cause damage to organs through prolonged or repeated exposure.
11.1.10 Aspiration Hazard	No Toxicology data available for this product.
11.2.1 Additional Toxicology Information	No Toxicology data available for this product.

12. Ecological Information

12.1.1 Toxicity	Toxicity to fish: Cyprinodon variegatus LC50 - 2000mg/l/72 h Toxicity to aquatic invertebrates: Daphnia magna EC50 - 106mg/l/24 h Toxicity to aquatic algae and cyanobacteria: Desmodesmus subspicatus EC50 - 148.2mg/l/72 h
12.2.1 Persistence and Degradability	No Ecological data available for this product.
12.3.1 Bio-Accumulative Potential	No Ecological data available for this product.
12.4.1 Mobility in Soil	Log Pow: 0.92
12.5.1 Results of PBT and vPvB assessment	No Ecological data available for this product.
12.7.1 Endocrine Disrupting Properties	Avoid release to the environment.
12.6.1 Other Adverse Effects	Very toxic to aquatic life.

13. Disposal Considerations

13.1.1 Disposal Operations	Ensure product is disposed of by licensed waste carriers.
13.1.2 Disposal of Packaging	Ensure INNER PACKAGING is disposed of by licensed waste carriers. Some OUTER PACKAGING MAY be recyclable if not contaminated.

14. Transport Information

IATA UN Number	1764	**ADR UN Number**	1764	**IMDG UN Number**	1764

14.1.2 IATA Proper Shipping Name	Dichloroacetic acid (Dichloroacetic acid)	**ADR Proper Shipping Name**	Dichloroacetic acid (Dichloroacetic acid)	**IMDG Proper Shipping Name**	Dichloroacetic acid (Dichloroacetic acid)
IATA Packing Group	II	**ADR Packing Group**	II	**IMDG Packing Group**	II
14.1.4 IATA Hazard Class	8	**ADR Hazard Class**	8	**IMDG Hazard Class**	8
14.1.5 IATA Sub Class	- None -	**ADR Sub Class**	- None -	**IMDG Sub Class**	- None -

15. Regulatory Information

15.1.1 Regulatory Information	As far as Fluorochem is aware, there are no further regulations controlling this product.
15.2.1 Chemical Safety Assessment	No Chemical Safety Assessment is available for this product.

16. Other Information

16.1.2 Information Not Covered in Other Sections	ADR: Accord Europeen sur le transport des merchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road) RID:Reglement International concernant le transport des merchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail) IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association ICAO:International Civil Aviation Organization ICAO-TI: Technical Instructions by the ICAO GHS: Globally Harmonized System of Classification and Labelling of Chemicals CAS:Chemical Abstracts Service
Revision	1
Date Modified	Feb 19, 2024 1:19:00 PM
16.1.1 Disclaimer	The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user. This SDS adheres to Regulation (EC) No 1907/2006, and as of 13th April 2023, also conforms to EU Regulation 2020/878.