

This safety data sheet was created pursuant to the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 16-Jul-2021

Revision Number 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier			
Product Code(s)	DRE-C13713000		
Product Name	Flufenpyr-ethyl		
EC No	606-145-1		
CAS No	188489-07-8		
Chemical name	Flufenpyr-ethyl		
Pure substance/mixture	Substance		
Formula	C16H13CIF4N2O4		
Molecular weight	408.74		
1.2. Relevant identified uses of the s	substance or mixture and uses advised against		
Recommended use	Laboratory use		
Uses advised against	No information available		
1.3. Details of the supplier of the safety data sheet			
<u>Supplier</u>			
LGC Limited Queens Road Teddington Middlesex TW11 0LY UNITED KINGDOM :+44 (0) 20 8943 7000 Fax :+44 (0) 20 8943 2767 eMail : gb@lgcstandards.com			
Web : www.lgcstandards.com			
For further information, please contact	_		
E-mail address	sds-request@lgcgroup.com		
1.4. Emergency telephone number			
Emergency Telephone	For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire Exposure, or Accident Call CHEMTREC: USA & Canada 1-800-424-9300		



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Rest of the world +1 703-741-5970

Emergency Telephone - §45	- (EC)1272/2008	
Europe	112	
Austria		
Croatia		
Cyprus		
Czech Republic		
Denmark		
France		
Hungary		
Ireland		
Italy		
Lithuania		
Luxembourg		
Netherlands		
Norway		
Portugal		
Romania		
Slovakia		
Slovenia		
Spain		
Sweden		
Switzerland		

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008	
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Specific target organ toxicity — single exposure	Category 3 - (H335)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

2.2. Label elements

Contains Flufenpyr-ethyl





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Hazard statements

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves and eye/face protection
P312 - Call a POISON CENTER or doctor if you feel unwell
P391 - Collect spillage

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Flufenpyr-ethyl 188489-07-8	100	No data available	606-145-1	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)			

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate No information available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures



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4.1. Description of first aid measures			
General advice	Show this safety data sheet to the doctor in attendance.		
Inhalation	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Get medical attention immediately if symptoms occur.		
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.		
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.		
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a doctor.		
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).		
4.2. Most important symptoms and effects, both acute and delayed			
Symptoms	May cause redness and tearing of the eyes. Burning sensation.		
4.3. Indication of any immediate medical attention and special treatment needed			
Note to doctors	Treat symptomatically.		

SECTION 5: Firefighting m	neasures	
5.1. Extinguishing media		
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.	
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.	
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.	
5.2. Special hazards arising from the	ne substance or mixture	
Specific hazards arising from the chemical	No information available.	
5.3. Advice for firefighters		
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.	



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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.	
Other information	Refer to protective measures listed in Sections 7 and 8.	
For emergency responders	Use personal protection recommended in Section 8.	
6.2. Environmental precautions		
Environmental precautions	Prevent further leakage or spillage if safe to do so.	
6.3. Methods and material for containment and cleaning up		
Methods for containment	Prevent further leakage or spillage if safe to do so.	
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.	
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.	
6.4. Reference to other sections		
Reference to other sections	See section 8 for more information. See section 13 for more information.	

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Ensure adequate ventilation. Avoid breathing vapours or mists. In case of insufficient ventilation, wear suitable respiratory equipment.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.
7.2. Conditions for safe storage, inc	cluding any incompatibilities
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

7.3. Specific end use(s)



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Identified uses

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL)	No information available.
Predicted No Effect Concentration	No information available.
(PNEC)	

8.2. Exposure controls

Personal protective equipment	
Eye/face protection	If splashes are likely to occur, wear safety glasses with side-shields. Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves. Impervious gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
	Wear protective Viton™ gloves		
Skin and body protection	Long sleeved clothing. Wear s	uitable protective clothing.	
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.		
General hygiene considerations	Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.		
Environmental exposure controls	Do not allow into any sewer, or	n the ground or into any body o	f water.



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties Solid

Powder

Off white

Odourless.

No information available

Physical state Appearance Colour Odour **Odour threshold**

Property	Values
Melting point / freezing point	100 °C
Boiling point / boiling range	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability or explosive	No data available
limits	
Lower flammability or explosive	No data available
limits	
Flash point	No data available
Autoignition temperature	No data available
Decomposition temperature	
рН	No data available
pH (as aqueous solution)	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available
Water solubility	No data available
Solubility(ies)	No data available
Partition coefficient	2.99
Vapour pressure	No data available
Relative density	No data available
Bulk density	No data available
Liquid Density	No data available
Relative vapour density	No data available
Particle characteristics	
Particle Size	No information available
Particle Size Distribution	No information available
0.2 Other information	

9.2. Other information Molecular weight Molecular formula

Not applicable

408.74

C16H13CIF4N2O4 9.2.1. Information with regards to physical hazard classes

None known None known None known None known

Remarks • Method

None known None known None known None known No information available None known None known None known None known None known None known None known

None known

9.2.2. Other safety characteristics No information available

SECTION 10: Stability and reactivity



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10.1. Reactivity	
Reactivity	No information available.
10.2. Chemical stability	
Stability	Stable under normal conditions.
Explosion data Sensitivity to mechanical impact Sensitivity to static discharge	t None. None.
10.3. Possibility of hazardous reaction	ons
Possibility of hazardous reactions	None under normal processing.
10.4. Conditions to avoid	
Conditions to avoid	None known based on information supplied.
10.5. Incompatible materials	
Incompatible materials	Strong acids. Strong bases. Strong oxidising agents.
10.6. Hazardous decomposition proc	ducts

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics



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Symptoms

Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity

Acute toxicity

Component Information

•				
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50	
Flufenpyr-ethyl	>5000 mg/kg (Rat)	5000 mg/kg (Rat)	>5 ppm (Rat) 4h	
Delayed and immediate effects	as well as chronic effects from	n short and long-term exposur	e	
Delayed and minediate encote		in other and long term expected	<u> </u>	
Skin corrosion/irritation	Classification based on da	ta available for ingredients. Irrita	ting to skin.	
Serious eye damage/eye irritati	on Classification based on da	ta available for ingredients. Caus	ses serious eye irritation.	
Respiratory or skin sensitisatio	n No information available.			
Germ cell mutagenicity	No information available.			
Cerm cen matagementy				
Caroline genielty	No information available	No information evaluate		
Carcinogenicity	No mormation available.	No information available.		
Reproductive toxicity	No information available.			
STOT - single exposure	May cause respiratory irrit	May cause respiratory irritation.		
STOT - repeated exposure	No information available.	No information available.		
Aspiration hazard	No information available.			
11.2. Information on other hazards				
11.2.1. Endocrine disrupting properties				
Endeering discusting properties	s No information available.			
Endocrine disrupting properties				



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11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Flufenpyr-ethyl	EC50: 0.012 mg/L (72h, Pseudokirchneriella subcapitata)	LC50: >2.7 mg/L (96h, Oncorhynchus mykiss)	-	EC50: >3.0 mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability	No information available.
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12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused

Dispose of in accordance with local regulations. Dispose of waste in accordance with



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products

environmental legislation.

Contaminated packaging

Do not reuse empty containers.

SECTION 14: Transport information

IATA 14.1 UN number or ID number 14.2 UN proper shipping name 14.3 Transport hazard class(es) 14.4 Packing group Description 14.5 Environmental hazards 14.6 Special precautions for user Special Provisions ERG Code	UN3077 Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl) 9 III UN3077, Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl), 9, III Yes A97, A158, A179, A197, A215 9L
 IMDG 14.1 UN number or ID number 14.2 UN proper shipping name 14.3 Transport hazard class(es) 14.4 Packing group Description 14.5 Marine pollutant Environmental hazards 14.6 Special precautions for user Special Provisions EmS-No 14.7 Maritime transport in bulk according to IMO instruments 	UN3077 Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl) 9 III UN3077, Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl), 9, III, Marine pollutant P Yes 274, 335, 966, 967, 969 F-A, S-F No information available No information available
RID14.1 UN number or ID number14.2 UN proper shipping name14.3 Transport hazard class(es)14.4 Packing group Description14.5 Environmental hazards14.6 Special precautions for user Special Provisions Classification code	UN3077 Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl) 9 III UN3077, Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl), 9, III Yes 274, 335, 375, 601 M7
ADR 14.1 UN number or ID number 14.2 UN proper shipping name 14.3 Transport hazard class(es) 14.4 Packing group Description 14.5 Environmental hazards	UN3077 Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl) 9 III UN3077, Environmentally hazardous substances, solid, n.o.s. (Flufenpyr-ethyl), 9, III, (-) Yes



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14.6 Special precautions for user	
Special Provisions	274, 335, 601, 375
Classification code	M7
Tunnel restriction code	(-)

SECTION 15: Regulatory information

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

National regulations

Germany

Water hazard class (WGK)

non-hazardous to water (nwg)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA
DSL/NDSL
EINECS/ELINCS
ENCS
IECSC
KECL
PICCS
AICS

Contact supplier for inventory compliance status Contact supplier for inventory compliance status

Legend:



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DSL/NDSL - Canadian Domestic Sit EINECS/ELINCS - European Invent ENCS - Japan Existing and New Ch IECSC - China Inventory of Existing KECL - Korean Existing and Evaluar PICCS - Philippines Inventory of Chem	Chemical Substances ted Chemical Substances emicals and Chemical Substances	
15.2. Chemical safety assessment	A Chamical Safaty Assessment has been carried out for this substance	
Chemical Safety Report A Chemical Safety Assessment has been carried out for this substance		
SECTION 16: Other information		
Key or legend to abbreviations and acronyms used in the safety data sheet		

Full text of H-Statements referred to under section 3

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL
Ceiling	Maximum limit value	*

STEL (Short Term Exposure Limit) Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method



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Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database European Food Safety Authority (EFSA) EPA (Environmental Protection Agency) Acute Exposure Guideline Level(s) (AEGL(s)) U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act U.S. Environmental Protection Agency High Production Volume Chemicals Food Research Journal Hazardous Substance Database International Uniform Chemical Information Database (IUCLID) Japan GHS Classification Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS) NIOSH (National Institute for Occupational Safety and Health) National Library of Medicine's ChemID Plus (NLM CIP) National Library of Medicine's PubMed database (NLM PUBMED) National Toxicology Program (NTP) New Zealand's Chemical Classification and Information Database (CCID) Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme Organisation for Economic Co-operation and Development Screening Information Data Set World Health Organization

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This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 Disclaimer

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

End of Safety Data Sheet