


1. Identification of Substance / Mixture**Product Identifier**

Product Name	3,3-DIFLUOROPYRROLIDIN-2-ONE
Other Names	
Product Code	473680
CAS	162970-49-2
MDL	MFCD13186732
EINECS	N/A
REACH Registration Number	
Relevant Uses	Research and Development
Uses Advised Against	No uses advised against.

Supplier Details

Company	Fluorochem Limited
Address	Unit 14, Graphite Way, Hadfield. SK13 1QH. UK
Telephone	+44(0)1457 860111
Email	sds@fluorochem.co.uk
Emergency Telephone	+44(0)1457 860111 (08:00 - 17:30)

2. Hazards Identification

Classification	Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2A STOT SE 3
Signal Word	Warning
Pictograms	 GHS07
Hazards	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.
Precautions	P261 Avoid breathing 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. P280 Wear face protection. P301+P312 IF SWALLOWED: Call a doctor if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of water. 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. P312 Call a POISON CENTER/doctor if you feel unwell. P321 Specific treatment. P330 Rinse mouth. P337+P313 If eye irritation persists: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Other Classification Hazards	

3. Composition of Ingredients

SUBSTANCE				
Name	CAS	Einecs	Composition	Hazards
3,3-DIFLUOROPYRROLIDIN-2-ONE	162970-49-2	N/A	<= 100%	H302 Acute Tox. 4 H315 Skin Irrit. 2 H319 Eye Irrit. 2A H335 STOT SE 3

4. First Aid Measures

Eye contact	Where Diphoterine is not available, rinse eyes with copious amounts of water for at least 20 minutes.
Ingestion	Where Diphoterine is not available, rinse mouth with copious amounts of water. Seek urgent medical advice.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If victim begins to feel unwell, seek urgent medical advice.
Skin Contact	Where Diphoterine is not available, rinse skin with copious amounts of water for at least 20 minutes.
General Advice	No additional advice.
Most Important Symptoms and Effects	No known symptoms or effects.
Immediate First Aid Measures	No additional first aid measures required.

5. Fire Fighting Measures

Suitable Fire Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Fire Extinguishing Media	No known unsuitable media.
Special Hazards	Thermal decomposition can lead to release of irritating gases and vapours.
Advice for Fire Fighters	As in any fire, wear self-contained breathing apparatus and full protective gear.

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Keep personnel away from spill/leak.
Environmental Precautions	Do not let product enter drains or waterways. Avoid discharge into the environment.
Containment - Methods and Materials	Spill Response should only be carried out by trained or qualified personnel.
Referenced SDS Sections	For personal protection see section 8. For disposal see section 13.

7. Handling and Storage

Personal Precautions

Safe Handling	Wear appropriate personal protective equipment. Use only under a chemical fume hood ensuring adequate ventilation, especially if dust, aerosol or fumes will be generated. Avoid contact with skin, eyes and clothing. For precautions see section 2.2.
Protection Against Explosion and Fire	Where possible, use anti static and spark proof equipment when handling.
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 Incompatibilities

Managing Storage Risks	Keep container tightly closed and upright. Store in a cool, dry and well-ventilated place.
Storage Controls	No special requirements
Maintaining Integrity	Keep container tightly closed in a cool area away from sunlight or heat sources.
Other Advice	No other specific advice available.
Specific End Use(s)	No specific end uses are advised. The products supplied are for research purposes only.

8. Exposure Controls / Personal Protection

Control Parameters

Country	Info	Long Term (ppm)	Long Term (mgm3)	Short Term (ppm)	Short Term (mgm3)	Ceiling (ppm)	Ceiling (mgm3)	Other Unit	Remarks
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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.
Face Protection	Wear tightly fitting safety goggles which adhere to European standard EN 166. Ensure eye bath is to hand.
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.
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.
Respiratory Protection	Product should be handled in a fume cupboard with adequate extraction. No respiratory equipment is needed under normal use conditions.
Hygiene Protection	Ensure hair or skin particles cannot enter the chemical container.
Environment Exposure Controls	Avoid discharge into the environment, see section 6.2.

9. Physical and Chemical Properties

State	Solid
Appearance	Solid
Odour	No data available.
Odour Threshold	No data available.
pH	No data available.
Melting Point / Freezing Point	No data available.
Initial Boiling Point	No data available.
Boiling Range	No data available.
Flash Point	No data available.
Evaporation Rate	No data available.
Flammability	No data available.
Upper / Lower Flammability or Explosion Limits	No data available.
Vapour Pressure	No data available.
Vapour Density	No data available.
Relative Density	No data available.
Solubility	No data available.
Partion Coefficient	No data available.
Auto Ignition Temperature	No data available.
Decomposition Temperature	No data available.
Viscosity	No data available.
Explosive Properties	No data available.
Oxidising Properties	No data available.
Other information	No additional information available

10. Stability and Reactivity

Reactivity	No known reactivity, based on information available.
Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal storage conditions.
Conditions To Avoid	Excess heat. Exposure to moisture.
Incompatible Materials	Strong oxidising agents.
Hazardous Decomposition Products	No Data Available.

11. Toxicology Information

Acute Toxicity	No Toxicology data available for this product.
Skin Corrosion / Irritation	No Toxicology data available for this product.
Serious Eye Damage / Irritation	No Toxicology data available for this product.
Respiratory or Skin Sensitisation	No Toxicology data available for this product.
Germ Cell Mutagenicity	No Toxicology data available for this product.
Carcinogenicity	No Toxicology data available for this product.
Reproductive Toxicity	No Toxicology data available for this product.
STOT-single Exposure	No Toxicology data available for this product.
STOT-repeated Exposure	No Toxicology data available for this product.
Aspiration Hazard	No Toxicology data available for this product.
Additional Toxicology Information	No Toxicology data available for this product.

12. Ecological Information

Toxicity	No Ecological data available for this product.
Persistence and Degradability	No Ecological data available for this product.
Bio-Accumulative Potential	No Ecological data available for this product.
Mobility in Soil	No Ecological data available for this product.

Results of PBT and vPvB assessment	No Ecological data available for this product.
Endocrine Disrupting Properties	No Ecological data available for this product.
Other Adverse Effects	No Ecological data available for this product.

13. Disposal Considerations

Disposal Operations	Ensure product is disposed of by licensed waste carriers.
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

This product is classified as non-hazardous for transport.

15. Regulatory Information

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

16. Other Information

Information Not Covered in Other Sections	<p>ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)</p> <p>RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>IATA: International Air Transport Association</p> <p>IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association ICAO:International Civil Aviation Organization</p> <p>ICAO-TI: Technical Instructions by the ICAO</p> <p>GHS: Globally Harmonized System of Classification and Labelling of Chemicals</p> <p>CAS:Chemical Abstracts Service</p>
Revision	1.273
Date Modified	03/11/2022
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.