

## Material Safety Data Sheet


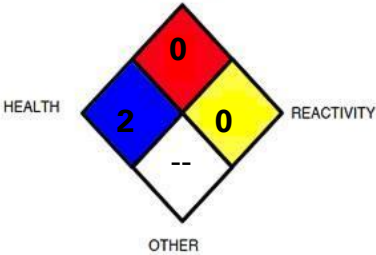
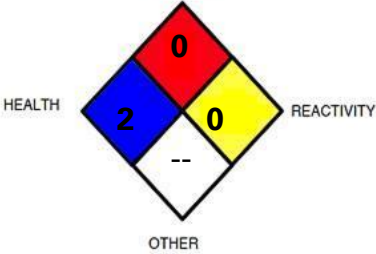
### Section 1: Product & Company Identification

<b>Product Name:</b>	FUDR
<b>Product #:</b>	F-2447
<b>Synonyms:</b>	Floxuridine, 2'-Deoxy-5-fluorouridine
<b>Supplier:</b>	A.G. Scientific, Inc. 6450 Lusk Blvd E102 San Diego CA 92121 Tele# + 858-452-9925 Fax# + 858-452-9926
<b>Emergency Tele#:</b>	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

### Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	%	HCS Classification
FUDR	50-91-9	200-072-5	>99.9%	

### Section 3: Hazards Identification

<b>Symbols</b>	 <p>GHS06 Toxic</p>
<b>HMIS Classification</b>	<p>FLAMMABILITY</p>  <p>HEALTH      REACTIVITY</p> <p>OTHER</p>
<b>NFPA Classification</b>	<p>FLAMMABILITY</p>  <p>HEALTH      REACTIVITY</p> <p>OTHER</p>

## Section 4: First Aid Measures

<b>General Overview:</b>	Avoid contact, wear suitable protective clothing, gloves and eye/face protection.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration, seek medical attention immediately.
<b>Skin:</b>	Wash immediately with water for 15 minutes. Remove contaminated clothing. Wash contaminated clothing before reuse. Seek medical attention immediately.
<b>Eyes:</b>	In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes. Remove contacts. Assure adequate flushing of the eyes by separating the eyelids with fingers. Seek medical attention immediately.
<b>Ingestion:</b>	If swallowed, DO NOT induce vomiting. Wash mouth with water, never give anything to unconscious person. Seek medical attention immediately.
	See section 11 for more detailed information on health effects & symptoms

## SECTION 5: Fire Fighting Measures

<b>Flammability of the product:</b>	N/A
<b>Extinguishing Media:</b>	Dry Chemical Powder for SMALL FIRES and carbon dioxide or water spray, fog or foam for LARGE FIRES. Do not use water jet.
<b>Hazardous thermal (de)composition products:</b>	Carbon oxides Nitrogen oxides (NOx), Hydrogen fluoride.
<b>Special Fire Fighting Procedures:</b>	Wear self-contained breathing apparatus (SCBA) and protective clothing to prevent contact with skin and eyes. Be sure to use an approved/certified respirator or equivalent.
<b>Flash Point:</b>	N/A

## Section 6: Accidental Release Measures





<b>Personal Precautions:</b>	Use Personal Protection Equipment: splash goggles, gloves (see more in section 8). Be sure to get adequate ventilation. Avoid dust formation, breathing vapors, mist or gas.
<b>Environmental Precautions:</b>	Do not let product enter drains.
<b>Methods for Clean-up:</b>	Sweep up & shovel into suitable disposal container. Ventilate area and wash spill site after material pickup is complete. Use 10% caustic solution to decontaminate spill site. Hold all material for appropriate disposal as described under section 13.

## SECTION 7: Handling & Storage

<b>Storage:</b>	Store upright, closed and desiccated container in arid, ventilated environment. Storage Temperature: -20°C.
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<b>Handling:</b>	Use only in area provided with appropriate exhaust ventilation. Keep away from heat and source of ignition. Empty containers pose a fire risk, evaporate residue under fume hood. Ground all equipment containing material. Do not breathe dust.
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## SECTION 8: Exposure controls / Personal Protection

<b>Respiratory Protection:</b>	 <p>If exposure limit reached use ventilation system when handling or wear appropriate government (NIOSH/MSHA) approved respirator.</p>
<b>Skin and Body:</b>	  <p>Chemical-resistant gloves and lab coat/other protective clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling.</p>
<b>Eyes:</b>	 <p>Safety goggles.</p>
<b>Ventilation/Engineering Measures:</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
<b>Hygiene:</b>	Wash hands after handling compound and before eating, smoking, using lavatory and at the end of the day.
<b>Other:</b>	Contains no substances with occupational exposure limit values.

## SECTION 9: Physical and Chemical Properties

<b>Appearance &amp; Odor:</b>	White to Off-White Solid
<b>Formula</b>	$C_9H_{11}FN_2O_5$
<b>Molecular Wt.</b>	246.20 g/mol

<b>Melting Pt.</b>	145 - 147°C
<b>Boiling Pt.</b>	N/A
<b>Density:</b>	N/A
<b>Vapor Pressure:</b>	N/A
<b>Evaporation Rate:</b>	N/A
<b>Vapor Density:</b>	N/A
<b>Solubility:</b>	Soluble in Water (50 mg/ml H <sub>2</sub> O), DMSO (49mg/ml)
<b>Flash Point:</b>	N/A
<b>Autoignition Temp:</b>	N/A

## SECTION 10: Stability and Reactivity

<b>Stability:</b>	Stable under proper storage conditions
<b>Hazardous decomposition products:</b>	Carbon oxides Nitrogen oxides (NO <sub>x</sub> ), Hydrogen fluoride. (See also section 5)
<b>Materials to Avoid:</b>	Strong oxidizing agents, strong acids and bases
<b>Conditions to avoid:</b>	Fire, direct light

## SECTION 11: Toxicological Information

<b>RTECS#:</b>	YU7525000
<b>ACUTE Toxicity:</b>	<p><b>TOXIC:</b>            LD<sub>50</sub>: Oral - rat - 215 mg/kg            Harmful if absorbed through skin or if swallowed. May cause birth defect based on animal data. May cause damage to the following organs: Blood, heart, bladder, gastrointestinal tract, cardiovascular system, immune system, skin.            May cause heritable genetic effects based on in vitro data.</p>
<b>CHRONIC Toxicity:</b>	Avoid repeated exposure. Possibility of irreversible effects occur when prolonged or repeated exposure increases.
<b>Chronic Exposure:</b> <b>Carcinogen:</b> <b>Mutagen:</b> <b>Teratogen:</b> <b>Reproductive:</b>	<p>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or, anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or, potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>

## SECTION 12: Ecological Information

<b>Ecotoxicity:</b>	May cause harmful effects to aquatic life
<b>Mobility:</b>	N/A
<b>Persistence and degradability:</b>	N/A
<b>Bioaccumulative potential:</b>	N/A
<b>Other adverse effects:</b>	N/A
<b>Corrosivity Characteristic:</b>	N/A
<b>General Notes:</b>	Do not allow undiluted product or large quantities of it to reach groundwater , water course or sewer system. Do not allow materials to be released into the environment without proper government permits.

## SECTION 13: Disposal Considerations

<b>Residue Waste or Unused product:</b>	Only professional staff trained in such techniques must undertake waste disposal. Observe all appropriate federal, provincial or state and local regulations.
<b>Contaminated Packaging:</b>	Do not re-use empty containers. Dispose of as unused product.

## SECTION 14: Transportation Information

<b>UN ID#:</b>	UN2811
<b>ADR / RID (LAND):</b>	Shipping Name: Toxic solid, organic, n.o.s. (Floxuridine) Hazard Class: Class 6.1 Package Group: Packing III
<b>DOT regulations:</b>	Shipping Name: Toxic solid, organic, n.o.s. (Floxuridine) Hazard Class: Class 6.1 Package Group: Packing III
<b>IMDG/IMO (SEA):</b>	Shipping Name: Toxic solid, organic, n.o.s. (Floxuridine) Hazard Class: Class 6.1 Package Group: Packing III
<b>IATA/DGR (AIR):</b>	Shipping Name: Toxic solid, organic, n.o.s. (Floxuridine) Hazard Class: Class 6.1 Package Group: Packing III
<b>Special Provisions:</b>	IB8, IP3, T1, TP33

## SECTION 15: Regulatory Information

<b>Health Phrases:</b>	H301: Acute Toxicity, Ingestion.
<b>Risk Phrases:</b>	R24/25- Toxic in contact with skin and if swallowed. R40- Limited evidence of a carcinogenic effect.
<b>Safety Phrases:</b>	S22- Do not breathe dust. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

	S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
<b>EU Regulations:</b>	N/A
<b>US Regulations:</b>	<p>TSCA. No products were found.</p> <p>California Proposition 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.</p> <p>Pennsylvania Right to Know Components: FIOXURIDINE CAS No. 50-91-9</p> <p>New Jersey Right to Know Components: FIOXURIDINE CAS No. 50-91-9</p>
<b>U.S. Federal Regulations:</b>	<p>SARA 302/304/311/312 extremely hazardous substances: No products were found</p> <p>SARA 302/304 emergency planning and notification: No products were found.</p> <p>SARA 302/304/311/312 hazardous chemicals: No products were found.</p> <p>SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Acute and Chronic Health Hazard</p> <p>SARA 313 toxic chemicals notification and release reporting: No products were found.</p> <p>Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>OSHA: Target Organ Effect, Highly toxic by inhalation, Highly toxic by ingestion, Highly toxic by skin absorption, Respiratory sensitizer, Irritant</p>
<b>WHMIS (Canada):</b>	N/A

## SECTION 16: Other Information

**LIABILITY STATEMENT:** *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. A.G. Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. A.G. Scientific products are for research purposes only. Not for human use or consumption.*