



ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

Material Safety Data Sheet

Zymo Research advises each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

Section 1 – Product and Company Information

Reagent/Buffer Name: 5-FOA
Catalog Number: F9001-1, F9001-5

Company: Zymo Research Corp.
Street Address: 625 W. Katella Ave, Suite 30
City, State, Zip Code, Country: Orange, CA 92867 US
Phone: 714-288-9682
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Section 2 – Ingredient Information/Composition

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components Name	CAS #	EINEC No.	Formula	Percent
5-FOA, Fluoroorotic acid, 1,2,3,6-Tetrahydro-2,6-dioxo-5-fluoro-4-pyrimidinecarboxylic acid, 4-Primidinecarboxylic Acid, 5-Fluoro, 5-Fluro-1,2,3,6-Tetrahydro-2,6-dioxo- (9Cl), 5-Fluoroorotate, 5-Fluroorotic acid, 5-FOA, ENT-26398, FO, FOA, NSC 31712, Orotic acid	703-95-7	211-876-0	C ₅ H ₃ FN ₂ O ₂	100%

Section 3 – Hazard Identification

Harmful. Harmful if swallowed. Irritating to eyes, respiratory system, and skin. In case of eye contact, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4 – First Aid Measures

In Case of

Eye Contact:

Flush contaminated eye(s) with large volumes of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get medical attention.

Skin Contact:

Wash contaminated areas with large volumes of soap and water for at least 15 minutes as contaminated clothing is removed. Get medical attention if area remains irritated. Do not wear contaminated clothing until after it has been properly cleaned.

Ingestion:

Keep victim warm and calm. If victim is conscious and alert, wash our mouth with water. Get medical attention.

Inhalation: Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration. Get medical aid.

Section 5 – Fire Fighting Measures

Extinguishing Media: Water spray. Carbon dioxide, dry chemical powder, carbon dioxide or appropriate foam.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent), and protective garments to prevent eye and skin contact. If possible, have this product removed from the fire scene. Emits toxic fumes under fire conditions.

Section 6 – Accidental Release Measures

General Information: Wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent), chemical safety goggles, rubber boots, and heavy rubber gloves.

Spills / Leaks: Sweep up and place in a waste bag for disposal. Ventilate and wash spill site after material is completely picked-up.

Section 7 – Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Avoid prolonged or repeated exposure. Harmful solid. Irritant.

Storage: Store tightly closed at -20°C.

Section 8 – Exposure Controls / Personal Protection

Engineering Controls: Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment: Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

General Hygiene Measures: Wash thoroughly after handling.

Section 9 – Physical and Chemical Properties

Physical States / Form: Solid

Color: White

Form: Crystals

BP/BP Range: N/A

MP/MP Range: 278 °C

pH: N/A

Freezing Point: N/A

Solubility Solvent: 50 mg/ml NH₄OH 4 M clear, faintly yellow

Section 10 – Stability and Reactivity

Chemical Stability:	Stable.
Substances To Be Avoided:	Oxidizing agents.
Hazardous, Combustion, Or Decomposition Products:	Carbon monoxide, carbon dioxide, nitrogen oxides, and hydrogen fluoride.
Hazardous Polymerization:	Has not been reported.

Section 11 – Toxicological Information

Route of Exposure	
Inhalation:	May be harmful if inhaled. Causes irritation to mucous membranes and upper respiratory tract.
Eye Contact:	Causes eye irritation.
Skin Contact:	Causes skin irritation. May be harmful if absorbed through the skin.
Ingestion:	Harmful if swallowed.
RTECS Number:	UV7800000
Toxicity Data:	Intraperitoneal Rat LD50: 300 mg/kg Oral Mouse LD50: 981 mg/kg
Additional Information:	The product should be handled with the normal caution accorded to chemical handling. Additional harmful properties cannot be ruled out.

Section 12 – Ecological Information

No information available.

Section 13 – Disposal Considerations

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 – Transport Considerations

DOT:	Proper Shipping Name: None Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.
IATA:	Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 – Regulatory Information

EU Additional Classification:
Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22-36/37/38
Risk Statements: Harmful if swallowed. Irritating to eyes, respiratory system and skin.
S: 26-36
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Classification And Label Text:

Indication of Danger: Harmful.

Risk Statements: Harmful if swallowed. Irritating to eyes, respiratory system and skin.

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

United States Regulatory Information:

SARA Listed: No

Canada Regulatory Information:

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 – Other Information

The above information is believed to be correct, but does not purport to be all-inclusive and should be used only as a guide. Zymo Research shall not be held liable for any damage or other consequences resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Zymo Research be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Zymo Research has been advised or the possibility of such damages. All materials supplied by Zymo Research Corp are intended to be used by trained professionals and are for research use only.

MSDS

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