SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name FLUOROPROFILETM KIT
Product Number FP0010
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832 **Emergency Phone:** 314-776-6555
Fax: 800-325-5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
FLUOROPROFILETM FLUORESCENT REAGENT	None	Yes		

Ingredient Name	CAS #	Percent	SARA 313
DIMETHYL SULFOXIDE	67-68-5	80.000 %	No
ACETONITRILE	75-05-8	20.000 %	Yes

Formula
Synonyms

Section 3 - Hazards Identification

Emergency Overview
Toxic.
Harmful by inhalation and if swallowed. Toxic in contact with skin. Irritating to respiratory system and skin. Risk of serious damage to eyes.
Target organ(s): Liver. Central nervous system.

HMIS Rating
Health: 2* Flammability: 2 Reactivity: 0

NFPA Rating
Health: 2 Flammability: 2 Reactivity: 0

*additional chronic hazards present.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Flash Point: 142 - 200 °F 61.1 - 93.3 °C

Autoignition Temp: 214.9 °C

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

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed In Case of Leak or Spill
Evacuate area.

Methods for Cleaning Up
Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Environmental Precaution(s)
Avoid contaminating sewers and waterways with this material.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe vapor. Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body. Avoid prolonged or repeated exposure.

Storage
Suitable
Store under inert gas. Keep tightly closed. Keep away from heat and open flame. Store at 2-8°C

Special Requirements
Store under inert gas. Hygroscopic.

Section 8 - Exposure Controls / PPE

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 full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

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Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.
Skin-Specific
Chemical resistant apron.

General Hygiene Measures
Wash contaminated clothing before reuse. Wash thoroughly after handling.

Exposure Limits

Country		Type	Value
Poland		NDS	70 MG/M3
Remarks: ACETONITRILE			
Poland		NDSCh	140 MG/M3
Remarks: ACETONITRILE			
Poland		NDSP	-
Remarks: ACETONITRILE			
	ACGIH	TWA	20 ppm
Remarks: ACETONITRILE			
	ACGIH	TLV	
Remarks: Not classifiable as a human carcinogen. ACETONITRILE			
	ACGIH	TLV STEL	60 ppm
Remarks: ACETONITRILE			
	ACGIH	TLV TWA	20 ppm
Remarks: Skin ACETONITRILE			
	NIOSH	TWA	20 ppm10H, air
Remarks: ACETONITRILE			
	OSHA.	PEL	70 mg/m3 40 ppm8H TWA
Remarks: CONSTRUC. ACETONITRILE			
	OSHA.	PEL	70 mg/m3 40 ppm8H TWA
Remarks: FED. CONT. ACETONITRILE			
	OSHA.	PEL	70 mg/m3 40 ppm8H TWA
Remarks: GEN. INDU. ACETONITRILE			
	OSHA.	PEL	70 mg/m3 40 ppm8H TWA
Remarks: SHIPYARD ACETONITRILE			

Section 9 - Physical/Chemical Properties

Appearance

Physical State	Color
Liquid	Dark - purple

Molecular Weight: N/A

pH	N/A	
BP/BP Range	81.7 °C	
MP/MP Range	-10 °C	
Freezing Point	N/A	
Vapor Pressure	72.8 mmHg	20 °C
Vapor Density	2.71 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.98 g/cm3	
Bulk Density	N/A	
Odor Threshold	40 ppm	
Volatile%	N/A	
VOC Content	N/A	

Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	142 - 200 °F
Flash Point °C	61.1 - 93.3 °C
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	214.9 °C

Solubility
Solubility in Water: Soluble.
Solvent: Acetone
Other Solvents: DIETHYL ETHER.

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.
Conditions to Avoid
Exposure to moisture may affect product quality.
Materials to Avoid
Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents.

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide, Sulfur oxides.

Hazardous Exothermic Reactions
Hazardous Exothermic Reactions
Methyl sulfoxide (DMSO) undergoes a violent exothermic reaction on mixing with copper wool and trichloroacetic acid. On mixing with potassium permanganate it will flash instantaneously. It reacts violently with: acid halides, cyanuric chloride, silicon tetrachloride, phosphorus trichloride and trioxide, thionyl chloride, magnesium perchlorate, silver fluoride, methyl bromide, iodine pentafluoride, nitrogen periodate, diborane, sodium hydride, and perchloric and periodic acids. When heated above its boiling point methyl sulfoxide degrades giving off formaldehyde, methyl mercaptan, and sulfur dioxide..

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.
Skin Absorption
May be harmful if absorbed through the skin. Readily absorbed through skin.
Eye Contact
Causes eye irritation.
Inhalation
Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion
May be harmful if swallowed.

Target Organ(s) or System(s)
Eyes. Skin. Blood. Lungs. Liver. Kidneys. Central nervous system.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Conditions Aggravated by Exposure
Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body.
Acetonitrile is metabolized in the liver to water, formic acid, and hydrogen cyanide. The cyanide is further metabolized to thiocyanate.

RTECS Number: N/A

Chronic Exposure - Carcinogen
Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Combustible liquid, n.o.s.
UN#: NA1993
Class: COMBUSTIBLE LIQUID
Packing Group: Packing Group III
Hazard Label: None
PIH: Not PIH

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification
Symbol of Danger: Xi
Indication of Danger
Irritant.
Risk Statements **R:** 36
Irritating to eyes.
Safety Statements **S:** 26
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US Classification and Label Text
Indication of Danger
Toxic.
Risk Statements
Harmful by inhalation and if swallowed. Toxic in contact with skin. Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Statements
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements
Target organ(s): Liver. Central nervous system.

United States Regulatory Information
SARA Listed: Yes
Notes: This product is or contains a component that is subject to SARA313 reporting requirements.

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: Yes
NDSL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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