

MATERIAL SAFETY DATA SHEET

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Version 1.4

Section 1 - Product and Company Information

Product Name SODIUM FLUOROACETATE
Product Number 71520
Brand FLUKA

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
FLUOROACETIC ACID SODIUM SALT	62-74-8	Yes

Formula C2H3FO2.Na
Synonyms Compound 1080 * Compound No. 1080 * Fluorakil 3 *
Fluoressigaeure (German) * Fluoroacetic acid,
sodium salt * Fluorocetan sodny (Czech) * Fratol *
Furatol * Latka 1080 (Czech) *
Monofluoressigsatures natrium (German) *
Natriumfluoracetaat (Dutch) * Natriumfluoracetat
(German) * Ratbane 1080 * RCRA waste number P058
* Sodio, fluoracetato di (Italian) * Sodium
fluoacetate * Sodium fluoacetic acid * Sodium
fluoracetate * Sodium fluoroacetate (ACGIH:OSHA)
* Sodium fluoroacetate de (French) * Sodium
monofluoroacetate * TL 869 * Yasoknock

RTECS Number: AH9100000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment.
Very toxic by inhalation, in contact with skin and if swallowed.
Causes burns. Very toxic to aquatic organisms.
Readily absorbed through skin. Target organ(s): Nerves. Heart.
Calif. Prop. 65 developmental hazard.

HMIS RATING

HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING

HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

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

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 skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

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): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Evaporation Rate	N/A
Viscosity	N/A
Surface Tension	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Strong oxidizing agents, Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen fluoride.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: Highly toxic through absorption.

Eye Contact: May cause eye irritation.

Inhalation: Highly toxic by inhalation. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: Highly toxic by ingestion.

TARGET ORGAN(S) OR SYSTEM(S)

Heart. Central nervous system. Male reproductive system.

SIGNS AND SYMPTOMS OF EXPOSURE

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Symptoms of fluoroacetate poisoning include nausea and vomiting, cardiac irregularities, convulsions, cyanosis, and death resulting from ventricular fibrillation or respiratory failure. The mean lethal dose in humans is estimated to range from 2 to 10 mg/kg. Fluoroacetate inhibits the citric acid cycle by being incorporated into fluoroacetyl coenzyme A which reacts with oxaloacetate to form fluorocitrate. Fluorocitrate inhibits the enzyme aconitase thus preventing the conversion of citrate to isocitrate resulting in large quantities of citrate in tissue blocking the cycle. The most critical tissues involved in poisoning by a general inhibition of oxidative energy metabolism are the heart and central nervous system.

TOXICITY DATA

Oral
Human
0.714 mg/kg
LDLO

Oral
Rat
0.1 mg/kg
LD50

Skin
Rat
48 mg/kg
LD50

Intraperitoneal
Rat
1940 UG/KG
LD50

Oral
Mouse
0.1 mg/kg
LD50

Skin
Mouse
25.3 mg/kg
LD50

Remarks: Behavioral:Convulsions or effect on seizure threshold.
Behavioral:Somnolence (general depressed activity). Lungs,
Thorax, or Respiration:Dyspnea.

Intraperitoneal
Mouse
7 MG/KG
LD50

Subcutaneous
Mouse
7200 UG/KG
LD50

Oral
Dog
0.066 mg/kg
LD50

Intravenous
Dog
60 UG/KG
LD50

Oral
Monkey
300 mg/kg
LD50

Remarks: Behavioral:Convulsions or effect on seizure threshold.
Behavioral:Tremor. Lungs, Thorax, or Respiration:Dyspnea.

Intravenous
Monkey
5 MG/KG
LD50

Oral
Cat
0.35 mg/kg
LD50

Intraperitoneal
Cat
300 UG/KG
LD50

Oral
Rabbit
0.34 mg/kg
LD50
Remarks: Lungs, Thorax, or Respiration:Dyspnea.
Behavioral:Convulsions or effect on seizure threshold.

Subcutaneous
Rabbit
281 UG/KG
LD50

Intravenous
Rabbit
300 UG/KG
LD50

Intraperitoneal
Pig
300 UG/KG
LD50

Oral
Guinea pig
0.3 mg/kg
LD50

Skin
Guinea pig
1.6 mg/kg
LD50
Remarks: Lungs, Thorax, or Respiration:Dyspnea. Cardiac:Other changes.

Intraperitoneal
Guinea pig
378 UG/KG
LD50

Subcutaneous
Guinea pig
250 UG/KG
LD50

Oral
Pigeon

2 mg/kg
LD50

Oral
Quail
18 mg/kg
LD50

Oral
Squirrel
0.3 mg/kg
LD50

Intraperitoneal
Squirrel
400 UG/KG
LD50
Remarks: Behavioral:Somnolence (general depressed activity).

Oral
Duck
4.81 mg/kg
LD50

Subcutaneous
Frog
1 GM/KG
LD50

Oral
Domestic Animals
0.5 mg/kg
LD50
Remarks: Cardiac:Other changes.

Intraperitoneal
Domestic Animals
200 UG/KG
LD50

Intramuscular
Domestic Animals
700 UG/KG
LD50

Oral
Mammal
0.11 mg/kg
LD50
Remarks: Lungs, Thorax, or Respiration:Respiratory depression.
Behavioral:Somnolence (general depressed activity).

Intraperitoneal
Mammal
100 UG/KG
LD50
Remarks: Behavioral:Convulsions or effect on seizure threshold.

Oral
Bird (wild)
2.37 mg/kg
LD50

Intraperitoneal
Bird (wild)
102 MG/KG
LD50

Subcutaneous
Bird (wild)
630 UG/KG
LD50

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Ptoxis. Behavioral:Somnolence (general depressed activity). Behavioral:Ataxia.

CHRONIC EXPOSURE - MUTAGEN

Species: Mouse
Dose: 5 MG/KG
Cell Type: Other cell types
Mutation test: Host-mediated assay

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Rat
Dose: 210 UG/KG
Route of Application: Oral
Exposure Time: (3D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat
Dose: 27500 UG/KG
Route of Application: Intraperitoneal
Exposure Time: (11D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.

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. 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 Information

DOT

Proper Shipping Name: Sodium fluoroacetate
UN#: 2629
Class: 6.1
Packing Group: Packing Group I
Hazard Label: Toxic substances.
PIH: Not PIH

IATA

Proper Shipping Name: Sodium fluoroacetate

IATA UN Number: 2629
Hazard Class: 6.1
Packing Group: I

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T+-N
Indication of Danger: Very toxic. Dangerous for the environment.
R: 26/27/28-50
Risk Statements: Very toxic by inhalation, in contact with skin and if swallowed. Very toxic to aquatic organisms.
S: 13-22-36/37-45-61
Safety Statements: Keep away from food, drink, and animal feedingstuffs. Do not breathe dust. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Highly Toxic (USA) Very Toxic (EU).
Dangerous for the environment.
Risk Statements: Very toxic by inhalation, in contact with skin and if swallowed. Causes burns. Very toxic to aquatic organisms.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. 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). Avoid release to the environment. Refer to special instructions/safety data sheets. Keep container tightly closed in a cool well-ventilated place.
US Statements: Readily absorbed through skin. Target organ(s): Nerves. Heart. Calif. Prop. 65 developmental hazard.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
DEMINIMIS: 1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause male developmental toxicity.

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: Yes

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 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.