

**Safety Data Sheet**

according to UK REACH Regulation

**Fludarabine standard**

Revision date: 27.04.2022

Product code: 2934

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Fludarabine standard

**Further trade names**2-Fluoro-9- $\beta$ -Darabinofuranosyladenine**Synonymes:**Adenine, 9- $\beta$ -D-arabinofuranosyl-2-fluoro- (8Cl); 9- $\beta$ -D-Arabinofuranosyl-2-fluoro-9Hpurin-6-amine; 2-Fluoro Ara-A; 2-Fluoroadenine arabinoside; 2F-Ara-A; 9- $\beta$ -D-Arabinofuranosyl-2-fluoroadenine; 9- $\beta$ -

D-Arabinosyl-2-fluoroadenine; F-ara-A; Fludarabine; NSC 118218; NSC 118218H

CAS No: 21679-14-1

EC No: 244-525-5

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**Fludarabine standard may be used as reference standard for [ $^{18}\text{F}$ ]Fludarabine**1.3. Details of the supplier of the safety data sheet**

Company name:	ABX advanced biochemical compounds Biomedizinische Forschungsreagenzien GmbH	
Street:	Heinrich-Gläser-Straße 10-14	
Place:	01454 Radeberg	
Telephone:	+49 3528 4041 60	Telefax: +49 3528 4041 65
e-mail:	info@abx.de	
Contact person:	Dr. Christoph Meyer	Telephone: +49 3528 4041 8732
e-mail:	meyer@abx.de	
Internet:	http://www.abx.de	

**1.4. Emergency telephone number:**

+49 3528 4041 60

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Acute Tox. 4; H302

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****GB CLP Regulation****Signal word:** Warning**Pictograms:****Hazard statements**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

**Precautionary statements**

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
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P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

**SECTION 3: Composition/information on ingredients****3.1. Substances**

Sum formula:	C <sub>10</sub> H <sub>12</sub> FN <sub>5</sub> O <sub>4</sub>
Molecular weight:	285.23

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
21679-14-1	Fludarabin standard			95 - < 100 %
	244-525-5			
	Acute Tox. 4; H302			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
21679-14-1	244-525-5	Fludarabin standard	95 - < 100 %
	oral: ATE = 500 mg/kg		

**SECTION 4: First aid measures****4.1. Description of first aid measures****After inhalation**

Provide fresh air. Medical treatment necessary.

**After contact with skin**

After contact with skin, wash immediately with: Water. Change contaminated clothing.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.

**After ingestion**

If swallowed, immediately drink: Water. Medical treatment necessary.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**Foam. Extinguishing powder. Atomized water. Carbon dioxide (CO<sub>2</sub>).**5.2. Special hazards arising from the substance or mixture**

In case of fire and/or explosion do not breathe fumes.

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

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**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****Other information**

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Clear contaminated areas thoroughly.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. When using do not eat, drink, smoke, sniff.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container dry. Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

**Further information on storage conditions**

storage temperature

2-8 °C

Protect against: Light

Keep under argon.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Tightly sealed safety glasses.

**Hand protection**

Single-use gloves. NBR (Nitrile rubber).

**Skin protection**

Lab apron. Chemical resistant safety shoes.

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**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state: solid  
 Colour: whitish  
 Odour: odourless

**Test method****Changes in the physical state**

Water solubility: Yes. OECD 105

**Solubility in other solvents**

Dimethylsulfoxide (DMSO) Dimethylformamide Ethanol

Bulk density: ISO 1183 (A)

**SECTION 10: Stability and reactivity****SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
21679-14-1	Fludarabin standard				
	oral	ATE 500 mg/kg			

**Irritation and corrosivity**

Irritating to eyes. Following inhalation: Lung irritation. Coughing. shortage of breath. After skin contact: irritant.

**Additional information on tests**

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

**SECTION 12: Ecological information****12.1. Toxicity**

There are no data available on the mixture itself.

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of UK REACH.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

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- 160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

**List of Wastes Code - used product**

- 160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances; hazardous waste

**List of Wastes Code - contaminated packaging**

- 150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Other applicable information**

No dangerous good in sense of these transport regulations.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water hazard class (D): 3 - highly hazardous to water

**SECTION 16: Other information****Relevant H and EUH statements (number and full text)**

- |      |                                   |
|------|-----------------------------------|
| H302 | Harmful if swallowed.             |
| H315 | Causes skin irritation.           |
| H319 | Causes serious eye irritation.    |
| H335 | May cause respiratory irritation. |