

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.07.2013

Version number 1

Revision: 09.07.2013

1 Identification of the substance/mixture and of the company/undertaking

· **Product identifier**

· **Trade name:** FLUOROURACIL

· **Reference number:** Cat 995

· **CAS Number:**

51-21-8

· **EC number:**

200-085-6

· **Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· **Application of the substance / the preparation** Reference material for laboratory use only

· **Manufacturer/Supplier:**

British Pharmacopoeia Commission

MHRA

10 South Colonnade, Canary Wharf

London E14 4PU

United Kingdom

Tel : +44 (0)20 3080 6561

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· **Emergency telephone number:** +44 (0) 20 3080 6561 (Monday - Friday: 8am - 5pm)

2 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R21/22-40: Harmful in contact with skin and if swallowed. Limited evidence of a carcinogenic effect.

· **Information concerning particular hazards for human and environment:** Not applicable.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS06



GHS08

· **Signal word** Danger

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· Hazard statements*H301 Toxic if swallowed.**H312 Harmful in contact with skin.**H351 Suspected of causing cancer.***· Precautionary statements***P280 Wear protective gloves/protective clothing/eye protection/face protection.**P281 Use personal protective equipment as required.**P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.**P321 Specific treatment (see on this label).**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***· Other hazards****· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances**· CAS No. Description***51-21-8 Fluorouracil***· Identification number(s) -****· EC number:** 200-085-6**· RTECS:** YR 0350000**· Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· Description of first aid measures**· General information:***Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.***· After inhalation:** *Supply fresh air; consult doctor in case of complaints.***· After skin contact:** *Immediately wash with water and soap and rinse thoroughly.***· After eye contact:** *Rinse opened eye for several minutes under running water.***· After swallowing:***Rinse mouth. Do not induce vomiting.**Call for a doctor immediately.***· Information for doctor:****· Most important symptoms and effects, both acute and delayed** *No further relevant information available.***· Indication of any immediate medical attention and special treatment needed***No further relevant information available.*

5 Firefighting measures

· Extinguishing media**· Suitable extinguishing agents:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***· Special hazards arising from the substance or mixture***Formation of toxic gases is possible during heating or in case of fire.*

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- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to item 13.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** Lists used were valid at the time of SDS preparation.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

9 Physical and chemical properties

· Information on basic physical and chemical properties**· General Information****· Appearance:**

Form:	Solid
Colour:	White
· Odour:	Odourless
· Odour threshold:	Not determined.

· pH-value: Not applicable.**· Change in condition**

Melting point/Melting range:	280-282 °C
Boiling point/Boiling range:	Not determined.

· Flash point: Not applicable.**· Flammability (solid, gaseous):** Not determined.**· Ignition temperature:****Decomposition temperature:** Not determined.**· Self-igniting:** Not determined.**· Danger of explosion:** Not determined.**· Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not applicable.

· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.

· Solubility in / Miscibility with water: Negligible.**· Partition coefficient (n-octanol/water):** -0.89 Log Pow**· Viscosity:**

Dynamic:	Not applicable.
Kinematic:	Not applicable.

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· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** Stable under normal conditions.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Heat.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:** Formation of toxic gases is possible during heating or in case of fire.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

Oral	LD50	230 mg/kg (rat)
	LD 50 (Intraperitoneal)	70 mg/kg (rat)
	LD 50 (Intravenous)	245 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 2

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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- **European waste catalogue**
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
- **Uncleaned packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.

14 Transport information

- **UN-Number** UN2811
- **ADR, IMDG, IATA** 2811 TOXIC SOLID, ORGANIC, N.O.S. (Fluorouracil)
- **ADR** TOXIC SOLID, ORGANIC, N.O.S. (Fluorouracil)
- **IMDG, IATA** TOXIC SOLID, ORGANIC, N.O.S. (Fluorouracil)
- **Transport hazard class(es)**
- **ADR, IMDG, IATA**
- 
- **Class** 6.1 Toxic substances.
- **Label** 6.1
- **Packing group** III
- **ADR, IMDG, IATA** III
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Warning: Toxic substances.
- **Danger code (Kemler):** 60
- **EMS Number:** F-A,S-A
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**
- **ADR**
- **Excepted quantities (EQ):** E1
- **Limited quantities (LQ)** 5 kg
- **Transport category** 2
- **Tunnel restriction code** E
- **UN "Model Regulation":** UN2811, TOXIC SOLID, ORGANIC, N.O.S. (Fluorouracil), 6.1, III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Philippines Inventory of Chemicals and Chemical Substances** Substance is listed.
- **Australian Inventory of Chemical Substances** Substance is listed.
- **Standard for the Uniform Scheduling of Drugs and Poisons**

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. British Pharmacopoeia Commission Office makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· **Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.