

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.02.2014

Version number 1

Revision: 28.02.2014

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

1.1 Product identifier

Trade name: **Zidovudine Impurity Standard**

Reference number: Cat 895

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture Reference material for laboratory use only

Manufacturer/Supplier:

British Pharmacopoeia Commission
MHRA

151 Buckingham Palace Road
London SW1W 9SZ
United Kingdom

Tel : +44 (0)20 3080 6561
eMail: bpcrs@mhra.gsi.gov.uk

Further information obtainable from: eMail: bpcrs@mhra.gsi.gov.uk

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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



T; Toxic

R61: May cause harm to the unborn child.



Xn; Harmful

R22-40-62-68/20/21/22: Harmful if swallowed. Limited evidence of a carcinogenic effect. Possible risk of impaired fertility. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

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

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.02.2014

Version number 1

Revision: 28.02.2014

Trade name: **Zidovudine Impurity Standard**

(Contd. from page 1)

Hazard pictograms



GHS07 GHS08

Signal word Warning

Hazard-determining components of labelling:

Zidovudine

Hazard statements

H302 Harmful if swallowed.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

Precautionary statements

P281 Use personal protective equipment as required.

P264 Wash thoroughly after handling.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures

Description: Also contains substances at levels not considered to be hazardous.

Dangerous components:

CAS: 30516-87-1 RTECS: XP2072000	Zidovudine T Muta. Cat. 3 R46; Xn R22-40-63 Carc. Cat. 3, Repr. Cat. 3 Muta. 2, H341; Carc. 2, H351; Repr. 2, H361; Acute Tox. 4, H302	> 95%
CAS: 25526-94-7 RTECS: -	1-(3-chloro-2,3-dideoxy-β-D-erythro-pentofuranosyl)-5-methylpyrimidine-2,4(1H,3H)-dione T Muta. Cat. 3, Repr. Cat. 2 R46-61; Xn R62-22-40 Carc. Cat. 3 Muta. 2, H341; Carc. 2, H351; Repr. 2, H361; Acute Tox. 4, H302	< 1.0%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 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.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.02.2014

Version number 1

Revision: 28.02.2014

Trade name: Zidovudine Impurity Standard

(Contd. from page 2)

- **After swallowing:**
Rinse mouth. Do not induce vomiting.
Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Avoid formation of dust.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to item 13.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed receptacles.
Open and handle receptacle with care.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 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.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.02.2014

Version number 1

Revision: 28.02.2014

Trade name: Zidovudine Impurity Standard

(Contd. from page 3)

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** Lists used were valid at the time of SDS preparation.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
 - **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

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Solid
Colour:	Off white
Odour:	Odourless
Odour threshold:	Not determined.
- **pH-value:** Not applicable.
- **Change in condition**

Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.02.2014

Version number 1

Revision: 28.02.2014

Trade name: Zidovudine Impurity Standard

(Contd. from page 4)

· Ignition temperature:

Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· 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:

Insoluble.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

· 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity Stable under normal conditions.

· 10.2 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.

· 10.3 Possibility of hazardous reactions No dangerous reactions known.

· 10.4 Conditions to avoid Heat.

· 10.5 Incompatible materials: Strong oxidizing agents.

· 10.6 Hazardous decomposition products:

Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

· LD/LC50 values relevant for classification:

30516-87-1 Zidovudine

Oral LD50 > 750 mg/kg (mouse)

> 750 mg/kg (rat)

· Primary irritant effect:

· on the skin: No irritating effect.

· on the eye: No irritating effect.

· Sensitization: No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.02.2014

Version number 1

Revision: 28.02.2014

Trade name: Zidovudine Impurity Standard

(Contd. from page 5)

Harmful

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Muta. 2, Carc. 2, Repr. 2

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 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.

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

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **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.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, ADN, IMDG, IATA**

Not applicable

· **ADR, ADN, IMDG, IATA**

Not applicable

· **14.3 Transport hazard class(es)**

· **ADR, ADN, IMDG, IATA**

· **Class**

Not applicable

· **14.4 Packing group**

· **ADR, IMDG, IATA**

Not applicable

· **14.5 Environmental hazards:**

· **Marine pollutant:**

No

· **14.6 Special precautions for user**

Not applicable.

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

-

GB

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.02.2014

Version number 1

Revision: 28.02.2014

Trade name: Zidovudine Impurity Standard

(Contd. from page 6)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Philippines Inventory of Chemicals and Chemical Substances

65-71-4 Thymine

Australian Inventory of Chemical Substances

30516-87-1 Zidovudine

65-71-4 Thymine

50-89-5 thymidine

Standard for the Uniform Scheduling of Drugs and Poisons

None of the ingredients is listed.

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

SECTION 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.

Relevant phrases

H302 Harmful if swallowed.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

R22 Harmful if swallowed.

R40 Limited evidence of a carcinogenic effect.

R46 May cause heritable genetic damage.

R61 May cause harm to the unborn child.

R62 Possible risk of impaired fertility.

R63 Possible risk of harm to the unborn child.

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

ELINCS: European List of Notified 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.