



SAFETY DATA SHEET

In compliance with Regulation (CE) n. 1907/2006 and (UE)n. 453/2010 (Annex I)

Issuing Date 20-Oct-2009

Revision Date 23-Sep-2012

Revision Number 2

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

1.1. Product identifier

Product Name	CAPECITABINE
Chemical Name:	5'-Deoxy-5-fluoro-N-((pentyloxy)carbonyl)cytidine
Synonyms	Carbamic acid, (1-(5-deoxy-beta-D-ribofuranosyl)-5-fluoro-1,2-dihydro-2-oxo-4-pyrimidinyl)-, pentyl ester, XELODA, NeoFurtulon successor.
Formula	C ₁₅ H ₂₂ FN ₃ O ₆
CAS	154361-50-9
EINECS	Not available
Index Number	Not available
Reach Registration Number	Not available

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

Identified Use	Active Pharmaceutical Ingredient
Uses advised against	No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer, Supplier	TEVA API INDIA LIMITED, Plot No. A-2, UPSIDC Industrial Area, Bijnor Road, GAJRAULA Distt. J.P.Nagar (U.P.)- 244 235 Ph: 05924-252591-92-93 , Fax: 05924-252590
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For further information, please contact

E-mail Address	Not available (TAPI India-Gajraula)
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1.4. Emergency telephone number

Emergency Telephone Number	05924- 252591- Extn : 2279
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SECTION 2. Hazards identification

2.1. - Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Chemical Name	CLP/GHS classification
5'-Deoxy-5-fluoro-N-((pentyloxy)carbonyl)cytidine	Eye.Irrit.3; H319 Skin.Irrit.2; H315 Carc. 1B; H350 Repr.1A; H360FD Aquatic Acute 1; H400 Aquatic Chronic 1; H410

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Chemical Name	EU Classification
5'-Deoxy-5-fluoro-N-((pentyloxy)carbonyl)cytidine	Xi; R36/38 R45, R61, R60 N; R50/53

Full text of phrases reported in section 16

2.2. Label Elements

Signal Word

Danger



Hazard Statements

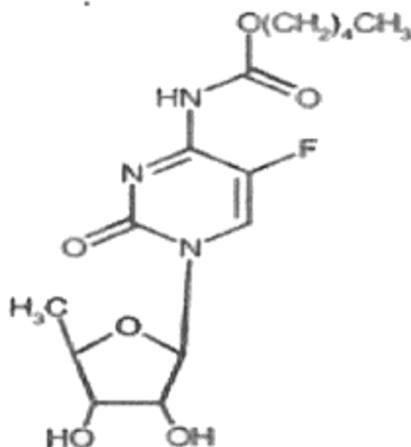
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H350 - May cause cancer
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H360FD- May damage fertility. May damage the unborn child.

Precautionary Statements

P273 - Avoid release to the environment
P281 - Use personal protective equipment as required
P308 + P313 - IF exposed or concerned: Get medical attention/advice
P391 - Collect spillage
P405 - Store locked up

2.3. Other hazards

Not available

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

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %
5'-Deoxy-5-fluoro-N-((pentyloxy)carbonyl)cytidine	-	Not available	154361-50-9	100

3.2. Mixtures

N.A.

SECTION 4. First aid measures**4.1. Description of first-aid measures**

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes
Ingestion	Clean mouth with water, only if the person is in conscious. Get medical attention.
Inhalation	If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Remove from exposure, lie down.

4.2. Most important symptoms and effects, both acute and delayed**Most Important Symptoms/Effects**

Irritation:	Irritating to eyes and skin
Corrosivity:	No information available
Sensitization	May cause sensitization
Eyes:	May cause, Irritation
Skin:	May cause, Skin rash
Inhalation:	May cause. Shortness of breath.
Ingestion:	May cause, Diarrhea, Nausea, Vomiting, Abdominal pain, Stomatitis, Anorexia

4.3. Indication of immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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SECTION 5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Foam. Dry powder.

Unsuitable extinguishing media

No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Combustible material.

5.3. Advice for firefighters

Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid contact with dusts/fumes/mists/vapors.

6.2. Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Prevent further leakage or spillage if safe to do so.

6.3. Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). If emergency, enforce internal emergency plan.

6.4. Reference to other sections

See sections 8 and 13 for additional information.

SECTION 7. Handling and storage

7.1. Precautions for Safe Handling

Handling

Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapors/dust. Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep at temperatures between 15 °C and 30°C. Keep container tightly closed. Keep away from heat. Keep away from direct sunlight. Protect from light. Store in accordance with local regulations.

7.3. Specific end use(s)

Exposure Scenario

No information available.

Other Guidelines

No information available

SECTION 8. Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

OHC (Occupational Hazard Category) = 4 ($1 \mu\text{g}/\text{m}^3 \leq \text{OEL} < 10 \mu\text{g}/\text{m}^3$)
Occupational exposure limit (OEL): $3.16 \mu\text{g}/\text{m}^3$

Biological occupational exposure limits

Not Available

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls**Engineering Measures**

Provide engineering control, according to Teva Guidelines. Laboratory: Wet product > 100 gr basic containment solutions. > 10 gr dry product closed system. Pilot: and. Production: Wet product. Basic containment solutions to minimize exposure (i.e laminar flow hood, continuous liner, glove bags,...). Dry product. Closed system to avoid exposure.

Personal protective equipment**Eye Protection**

Approved safety goggles/glasses.

Skin and Body Protection

Long sleeved clothing.

Hand Protection

Rubber/latex/neoprene or other suitable chemical resistant gloves.

Respiratory Protection

Approved full face respirator P3 or airline respirator.

Environmental exposure controls

Contaminated protective equipments must be considered as dangerous waste.

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

White Light yellow , crystalline powder.

Odour

Odourless

Odour Threshold

No information available

pH

No information available.

Boiling Point/Range

No information available.

Evaporation Rate

No information available

Flammability Limits in Air**Upper**

No information available.

Lower

No information available.

Vapor Density

No information available.

Solubility

Ethanol: 207,000 mg/ml (20° C); Methanol > 40 %; Acetonitrile 11.8 %; Dimethyl formamide > 59 %; Ethylacetate: 2.5%.
0.53

Melting Point/Range

116 - 117 °C

Flash Point

No information available.

Flammability (solid, gas)

No information available.

Vapor Pressure

No information available.

Relative Density

1.49 g/cm³ (calc)

Water Solubility

26,000 mg/l (20° C)

Octanol/water Partition**Coefficient (Log Kow)**

0.53

Autoignition Temperature

No information available

Decomposition Temperature

No information available

Viscosity

No information available

Explosive Properties

No information available

Oxidizing Properties

No information available

9.2 Other information**Molecular Weight**

359.4

SECTION 10. Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4. Conditions to avoid

Heat. (> 100° C).

10.5. Incompatible materials.

Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products

Toxic fumes of. Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen fluoride.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Product Information .

LD50 Oral rat > 2000 mg/kg

Irritation: Irritating to eyes and skin
Corrosivity: No information available
Sensitization May cause sensitization
Eyes: May cause, Irritation
Skin: May cause, Skin rash
Inhalation: May cause. Shortness of breath.
Ingestion: May cause, Diarrhea, Nausea, Vomiting, Abdominal pain, Stomatitis, Anorexia

Chronic toxicity

Carcinogenicity

Reproductive Toxicity

No evidence of carcinogenicity was observed in mice orally at doses up to 90 mg/kg/day. In several mouse embryo-fetal development studies, teratogenicity and embryotoxicity were observed at oral doses as low as 100 mg/kg/day. Maternal toxicity was observed at 100 mg/kg in one study, but not in another. Observed fetal death, but no malformations, in monkeys treated orally during organogenesis. In a peri/post-natal study, no relevant effects on parturition or postnatal development were observed at doses up to 400 mg/kg/day (species not identified). Decreased testis/epididymis weights, decreased spermatocyte/spermatid counts, and degenerative changes in the testes were found in male mice treated orally with 760 mg/kg/day for 80 days; a slight reduction in the ability to fertilize untreated females was observed after 28 days of treatment. Disturbed estrus (reversible) and decreased fertility were observed in female mice treated orally. Estrus cycle effects were not evaluated at lower doses and effects on fertility may have been present at lower doses. In pregnant and lactating mice, a significant quantity of product and/or its metabolites was transferred to both fetus and milk.

Mutagenic Effects

The product was negative for mutagenicity in the Ames bacterial mutagenicity assay, the Chinese hamster gene mutation assay and the in vivo mouse micronucleus assay. However, it was reported that a positive trend did occur in the mouse micronucleus assay. It was positive for clastogenicity in human lymphocytes, in vitro. His active metabolite 5-FU is known to cause mutations in both bacteria and yeast, and chromosomal abnormalities in the in vivo mouse micronucleus test. His genotoxic properties are likely related to its enzymatic conversion in his metabolite 5-FU.

STOT - repeated exposures

No information available

STOT - single exposure

No information available

Other information

Hematological effects:

May cause, Bone marrow depression

Body as a whole

May cause, Asthenia/Fatigue

SECTION 12. Ecological information

12.1. Toxicity

Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
5'-Deoxy-5-fluoro-N-((pentyl oxy)carbonyl)cytidine	EC50 (72 h): 0.58-2 mg/l	LC50 (96 h) : >867 mg/l NOEC (96h): 867 mg/l		EC50 (48 h): > 850 mg/l NOEC (48h): 500 mg/l

12.2. Persistence and degradability

Not readily biodegradable / Slow abiotic degradation

12.3. Bioaccumulative potential

Not expected to bioaccumulate : Log Po/w <3 (EC) or <4 (GHS)

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

Endocrine Disruptor Information

Not available for data lacking

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Waste from Residues/Unused Products

Dispose of in accordance with local regulations.

Contaminated Packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

SECTION 14. Transport information

14.1.

UN-No 3077

14.2.

Proper Shipping Name Environmentally hazardous substance, solid, n.o.s. Capecitabine

14.3 Transport hazard class(es)

ADR / RID / ADN 9

IMDG 9

IATA / ICAO 9

14.4.

Packing Group III

14.5. Environmental hazards

Marine Pollutant No information Available

14.6. Special precautions for users

Subsidiary Class No information available.

Emergency No. F-A S-F

ADR/RID-Labels No information available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Technical name Not available

Ship type Not Available

Annex II Not available

SECTION 15. Regulatory information

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

- D.Lgs. 81/2008 and successive modifications and Dir. 2009/161/UE
- Regulation 1272/2008 (CLP) and successive modifications
- Regulation 1907/2006/CE (REACH) and successive modifications
- Regulation 453/2010/CE Annex I
- Dir. 67/548/CE and 1999/45/CE and successive modifications

International Inventories

All of the components in the product are on the following Inventory lists:.

TSCA	Listed
EINECS/ELINCS	-
DSL/NDSL	-
PICCS	-
ENCS	-
IECSC	-
AICS	-
KECL	-

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment

No information available

SECTION 16. Other information

EU Directive 2001/58/EC

R-phrases(s)

R45 - May cause cancer

R61 - May cause harm to the unborn child

R60 - May impair fertility

R36/38 - Irritating to eyes and skin

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S-phrases(s)

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

S 7/8 - Keep container tightly closed and dry

S24/25 - Avoid contact with skin and eyes

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

CLP/GHS - Regulation

Hazards Statements

H319 - Causes serious eye irritation

H315 - Causes skin irritation

H350 - May cause cancer

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H360FD- May damage fertility. May damage the unborn child.

Precautionary Statements

P273 - Avoid release to the environment

P281 - Use personal protective equipment as required

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

P391 - Collect spillage

P405 - Store locked up

Training appropriate for workers is required to ensure protection of human health and environment.

Application/Drug Class Anti cancer.

Source of data

SAX'S - DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS
VERSCHUEREN - HANDBOOK OF ENVIRONMENTAL DATA ON ORGANICS CHEMICALS
THE MERCK INDEX
KLEEMANN - PHARMACEUTICAL SUBSTANCES
R.T.E.C.S. - REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
STN DATA BANK
BRETHERRICK'S - HANDBOOK OF REACTIVE CHEMICAL HAZARDS
A.C.G.I.H. - AMERICAN CONFERENCE OF INDUSTRIAL HYGIENISTS
N.L.M. - NATIONAL LIBRARY OF MEDICINE
H.S.D.B. - HAZARDOUS SUBSTANCES DATA BANK
N.I.O.S.H. - NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
N.T.P. - NATIONAL TOXICOLOGY PROGRAM
I.A.R.C. - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
ChemAdvisor
Chemspider database

Issuing Date 20-Oct-2009

Revision Date 23-Sep-2012

Revision Note

Not applicable

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, and disposal of the designated material and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet