

Preparation / Revision Date 1/17/2011

Expiry Date 1/15/2014

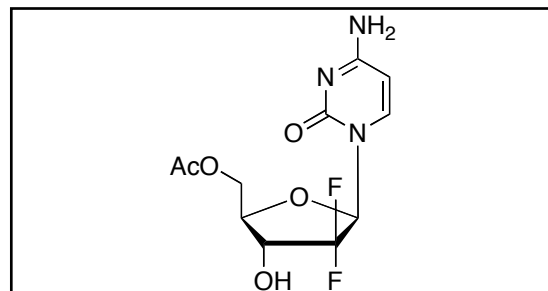
1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name 5-O-Acetyl Gemcitabine

Catalogue # A177500

Company Toronto Research Chemicals
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CANADA

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2. HAZARDS IDENTIFICATION

WHMIS Classification

D1B Toxic material causing immediate and serious toxic effects
D2B

Toxic if swallowed
Toxic if absorbed through skin
Mutagen

HMIS Classification

Health Hazard: 2
Flammability: 0
Physical Hazards: 0

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion Harmful if swallowed.
Skin Harmful if absorbed through skin. Causes skin irritation.
Eyes May cause eye irritation.

GHS Hazard Class

Acute toxicity, oral (category 4)
Acute toxicity, dermal (category 4)
Germ cell mutagenicity (category 2)
Reproductive Toxicity (category 2)
Serious eye irritation (category 2)

GHS Label elements, including precautionary statements

Signal word Warning

Hazard statements(s)

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H333 May be harmful if inhaled.
H340 May cause genetic defects.
H360 Suspected of damaging fertility or the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Toronto Research Chemicals - A177500

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P305/P351/P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P302/P352 IF ON SKIN: Wash with plenty of soap and water.
P308/P313 IF exposed or concerned: Get medical advice/attention.

GHS Label Pictograms



3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Formula: $C_{11}H_{13}F_2N_3O_5$

Molecular Weight: 305.23

CAS Registry #:

EC#: ((2R,3R,5R)-5-(4-Amino-2-oxopyrimidin 1(2H)-yl)-4,4-difluoro-3-hydroxy-tetrahydrofuran-2-yl)methyl Acetate;

Synonyms:

4. FIRST AID MEASURES

General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust or aerosol formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

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). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust or aerosols. Provide appropriate exhaust ventilation at places where dust/aerosol is formed. Normal measures for preventative fire protection.

Conditions for safe storage

Keep container tightly close in a dry and well-ventilated place. Store at -20°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

White solid

Safety data

pH	N/A	Melting point	180-183°C
Boiling point	N/A	Flash point	N/A
Ignition temperature	N/A	Lower explosion limit	N/A
Upper explosion limit	N/A	Vapour pressure	N/A
Density	N/A	Water solubility	N/A

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

no data available

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: carbon oxides, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Irritation and corrosion

Possible eye irritant.

Sensitization

no data available

Carcinogenicity

IARC: To the best of our knowledge, this compound has not been identified as a possible or potential human carcinogen by IARC.

Reproductive toxicity

QSAR results suggest reproductive toxicity.

Teratogenicity

QSAR results suggest teratogenic effects.

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion Harmful if swallowed.

Skin Harmful if absorbed through skin. Causes skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

Diarrhea. Vomiting. Nausea. Fever. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: no data available

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)/IMDG/IATA**

Not dangerous goods

15. REGULATORY INFORMATION**DSL Status**

Product is not on the Canadian DSL or NDSL list.

WHMIS Classification

D1B	Toxic material causing immediate and serious toxic effects	Toxic if swallowed
D2B		Toxic if absorbed through skin
		Mutagen

16. OTHER INFORMATION**Further information**

Copyright 2010 Toronto Research Chemicals Inc. Copies may be made for internal use only. The above information is believed to be correct to the best of our knowledge, but is not to be deemed as all-inclusive and is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.