



Catalog #

Aliquot Size

D353-904-50

50 mg

D353-904-250

250 mg

5-Azacytidine

Epigenetic Enzyme Inhibitor

Catalog # D353-904

Lot # K4554-19

CAS # 320-67-2

Product Description

Molecular Formula: C₈H₁₂N₄O₅

Appearance: Beige powder

Melting Point: 226-232°C (dec.)

Molecular Weight: 244.2

Purity: >98% (TLC); NMR (Conforms)

Solubilization: May be dissolved in DMSO (25 mg/ml); or water (12 mg/ml).

Alias

4-Amino-1-(β-D-ribofuranosyl)-1,3,5-triazin-2(1H)-one;

Ladakamycin; U-18496; NSC-102816; 5-AzaC

Specific Activity

DNA hypomethylation agent

Storage and Stability

Store desiccated as supplied at -20°C for up to 2 years.

Store solutions at -20°C for up to 1 month.

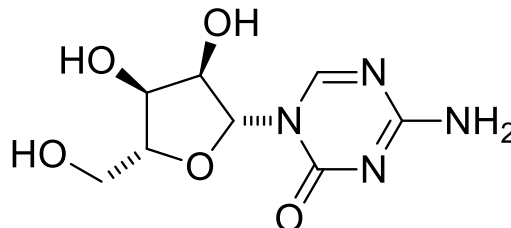
Scientific Background

Specific inhibitor of DNA methyltransferase (1). Incorporates into DNA and covalently reacts and inhibits DNA methyltransferases. Induces demethylation and reactivation of silenced genes (2). Increases stem cell reprogramming efficiency (3). Induces cardiac differentiation of human mesenchymal stem cells by activating ERK (4). Induces apoptosis in multiple myeloma cells via ATR-mediated DNA double strand breaks (5). Cell permeable.

References

1. AM Giraldo et al. *Methods Mol. Biol.* 2011 791:145
2. B Brueckner et al. *Cancer Res.* 2005 65:6305
3. TS Mikkelsen et al. *Nature* 2008 454:49
4. Q Qian et al. *Stem Cells Dev.* 2012 21:67
5. T Kiziltepe et al. *Mol. Cancer Ther.* 2007 6:1718

Molecular Structure



5-Azacytidine

Epigenetic Enzyme Inhibitor

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Lot # K4554-19

Purity >98%

Format Beige powder

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fax 1-604-232-4601 or by email: orders@signalchem.com - www.signalchem.com

FOR IN VITRO RESEARCH PURPOSES ONLY. NOT INTENDED FOR USE IN HUMAN OR ANIMALS.

SAFETY DATA SHEET

Article 1 – Identification of the Substance

Product Name: 5-Azacytidine

Catalog # D353-904

This product is sold only for research use by qualified laboratory personnel, and is not to be used as a drug, medical device, food additive, cosmetic, nor household chemical. It is not to be used in diagnostic, therapeutic, consumer, agricultural, nor pesticidal applications.

Supplier's Name: SignalChem Biotech Inc.
Street Address: 110-13120 Vanier Place
City, Prov. Postal Code: Richmond, BC, V6V 2J2
Fax: 604-232-4601
EMERGENCY PHONE: 604-232-4600

Article 2 - Hazardous Identification

2.1 Classification of Substance (GHS)

Germ cell mutagenicity, Category 2

Carcinogenicity, Category 1B

Acute Toxicity, Category 4

2.2 Label Elements

Classification according to Regulation (EC) No 1272/2008



GHS Signal Word: DANGER

GHS Hazard Phrases:

H302	Harmful if swallowed.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

GHS Precaution Phrases:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

GHS Response Phrases:

P301+312+330	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse Mouth
P308+313	IF exposed or concerned: Get medical attention/advice.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal Information

2.3 Other hazards: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Article 3 – Composition/Information on Ingredients

3.1 Substance

Product Name(s): 5-Azacytidine
Chemical Name: 4-Amino-1-(β -D-ribofuranosyl)-1,3,5-triazin-2(1H)-one
Molecular Formula: C₈H₁₂N₄O₅
CAS Number: 320-67-2
Concentration: 100%

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Article 4 – First Aid

4.1 Description of First Aid Measures

General: Symptoms of poisoning may even occur after several hours; therefore, medical observation for at least 48 hours after the accident.

If Inhaled: Supply fresh air; consult doctor in case of complaints.

In Case of Skin Contact: Generally, the product does not irritate the skin.

In Case of Eye Contact: Rinse opened eye for several minutes under running water.

If Swallowed: Immediately call a doctor.

4.2 Important Symptoms and Effects: May cause anemia, cough, CNS depression drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects. No further relevant information available.

Article 5 – Fire Fighting Measures

5.1 Extinguishing Media

Use fire-fighting measures that suit the environment. A solid water stream may be inefficient.

5.2 Special Hazards

No further relevant information available.

5.3 Precautions for Fire Fighters

No special measures required.

Article 6 – Accidental Release Measures

6.1 Personal Precautions

Not required.

6.2 Environmental Precautions

Do not allow to enter sewers/surface or ground water.

6.3 Methods for Containment and Clean-up

Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

Article 7 – Handling and Storage

7.1 Handling Precautions

Ensure good ventilation/exhaustion at the workplace.

7.2 Safe Storage Measures

Not required.

Article 8 – Exposure Controls/Personal Protection

8.1 Control Parameters

Contains no substances with occupational exposure limit values.

8.2 Specific Engineering Controls

Keep airborne levels low by using a fumehood or local exhaust.

8.3 Personal Protection

Eye/Face Protection: Use safety glasses.

Skin Protection: Use chemical resistant gloves. Remove and dispose of gloves properly after use. Wash hands thoroughly after use.

Body Protection: Wear a lab coat.

Respiratory Protection: If risk is present wear a dust respirator.

Article 9 – Physical and Chemical Properties

Appearance: Beige powder

Odour: data not available

Odour Threshold: data not available

pH: data not available

Melting/Freezing Pt: 226-232°C

Boiling Pt: data not available

Flash Pt: data not available

Explosive Properties: data not available

Solubility notes: May be dissolved in DMSO (25 mg/ml); or water (12 mg/ml)

Article 10 – Stability and Reactivity

10.1 Stability: Stable under recommended transport or storage conditions

10.2 Conditions to Avoid: No further relevant information available.

10.3 Incompatibility – Materials to Avoid: Strong oxidizing agents

10.4 Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, nitrogen oxides

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Article 11– Toxicological Information

11.1 Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

Acute Toxicity: Oral LD50 (mouse): 572 mg/kg; Intraperitoneal LD50 (mouse): 68 mg/kg; Intravenous LD50 (mouse): 229 mg/kg; Intravenous TDLO (human): 500 µg/kg

Chronic Toxicity: Investigated as a drug.

For complete information, see Registry of Toxic Effects of Chemical Substances (RTECS) entry. 5-Azacytidine RTECS Number: XZ3017500

Skin Corrosion/Irritation: No irritant effect.

Eye Damage/Irritation: No irritant effect.

Respiratory or Skin Sensitization: No sensitizing effects known.

Germ Cell Mutagenicity: data not available

Carcinogenicity: None according to NIOSH

Article 12 – Ecological Information

12.1 Toxicity

No further relevant information available.

12.2 Degradability

Data not available

Article 13 – Disposal Considerations

13.1 Waste Treatment

Product and Contaminated Packaging: Dispose according to national legislation. Contact a licensed chemical disposal company.

Article 14 – Transport Information

14.1 DOT

Not dangerous goods

14.2 IMDG

Not dangerous goods

14.2 IATA

Not dangerous goods

Article 15 – Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Article 16 – Other Information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SignalChem shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalog for additional terms and conditions of sale.

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