

Safety Data Sheet

SAFETY DATA SHEET - LC LABORATORIES REVISION DATE: JULY 1, 2019

SECTION 1. IDENTIFICATION:

Trade name: Azacitidine, Free Base
Product Number: [A-5959](#)
Manufacturer/Supplier:
LC Laboratories
165 New Boston Street
Woburn, MA 01801 USA
1-781-937-0777 Fax: 1-781-938-5420

SECTION 2. HAZARD(S) IDENTIFICATION:

Hazard Description: Toxic; Irritant
RTECS Substance category: Tumorigen; Drug; Mutagen; Reproductive Effector;
Human Data; Primary Irritant
Harmful if swallowed, inhaled, or absorbed through the skin
Ingestion may cause myelosuppression (suppression of the bone marrow's production of blood cells and platelets) leading to thrombocytopenia (decreased blood platelets), neutropenia (reduced levels of a certain type of white blood cells), anemia, bleeding, and infections
Other adverse effects of ingestion include nausea, vomiting, diarrhea, constipation, anorexia (loss of appetite), fatigue, asthenia (muscle weakness), pyrexia (fever), rigors (shaking/shivering), arthralgia (joint pain), myalgia (muscle pain), pain in limb, cough, dyspnea (shortness of breath), ecchymoses (subcutaneous spot of bleeding), rash, erythema (skin redness)
Exposure may impair fertility, may be harmful to a developing fetus, and may cause cancer
Causes irritation of the skin, eyes, mucous membranes, upper respiratory tract, and gastrointestinal tract
Very toxic to aquatic life
Signal Word: Danger

GHS Hazard Statements:

H302+312+332 - Harmful if swallowed, in contact with skin or if inhaled

GHS Precautionary Statements:

P2562 - Do not get in eyes, on skin or on clothing

WARNING: For Laboratory Research Use Only



SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Chemical Name: 4-Amino-1- β -D-ribofuranosyl-1,3,5-triazin-2(1H)-one
Synonyms: 5-AC, 5-AzaC, 5-Azacitidine, 5-AZC, 5-AZCR, Antibiotic U 18496,

Azadine, Ladakamycin, Ledakamycin, Mylosar, NSC-102816, NSC-103627, U 18496, Vidaza, WR 183027

Hazardous Ingredient: Azacitidine, Free Base

CAS Registry Number: 320-67-2

Molecular Weight: 244.20

Molecular Formula: $C_8H_{12}N_4O_5$

SECTION 4. FIRST-AID MEASURES:

After Inhalation: If inhaled, remove to fresh air; if breathing is difficult, give oxygen; if breathing stops, give artificial respiration

After skin contact: flush with copious amounts of water; remove contaminated clothing and shoes; call a physician

After eye contact: check for and remove contact lenses; flush with copious amounts of water; assure adequate flushing by separating the eyelids with fingers; call a physician

After swallowing: if swallowed, wash out mouth with copious amounts of water; call a physician

SECTION 5. FIRE-FIGHTING MEASURES:

Suitable extinguishing agents: water spray, carbon dioxide, dry chemical powder or foam

Protective equipment: wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes

Unusual fire hazard: may emit toxic fumes under fire conditions such as carbon monoxide, etc.

SECTION 6. ACCIDENTAL RELEASE MEASURES:

Person-related safety precautions: cordon off area of spill; wear self-contained breathing apparatus, protective clothing and heavy rubber gloves

Measures for cleaning/collecting: absorb solutions with finely- powdered liquid-binding material (diatomite, universal binders); decontaminate surfaces and equipment by scrubbing with alcohol; dispose of contaminated material according to Section 13

SECTION 7. HANDLING AND STORAGE:

Information for safe handling: avoid contact with skin, eyes and clothing; material may be an irritant

Storage: store solid and solutions at -20 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Personal protective equipment as follows:

Breathing equipment: NIOSH/MSHA-approved respirator

Protection of hands: handle with Nitrile rubber gloves with minimum thickness

of 0.11 mm (4.3 mil). This recommendation should not be interpreted as offering an approval for any specific use conditions. Please review this recommendation with a safety officer to evaluate if it is appropriate for the anticipated use.

Eye protection: chemical safety goggles

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

Form: crystalline solid; granular or powder

Color: white to off-white

Odor: none

Melting point/Melting range: 208-219 °C

Danger of explosion: none

Solubility in / Miscibility with water: not determined

Solvent content:

Organic solvents: soluble in DMSO

SECTION 10. STABILITY AND REACTIVITY:

Stability: avoid acids and bases

Thermal decomposition / conditions to be avoided: protect from light and heat

Dangerous products of decomposition: thermal decomposition may produce toxic gases such as carbon monoxide and carbon dioxide, and nitrogen oxides

SECTION 11. TOXICOLOGICAL INFORMATION:

RTECS #: XZ3017500

Acute toxicity: intraperitoneal toxicity (LD50): 68-100 mg/kg (mouse); intravenous toxicity (LD50): 229 mg/kg (mouse), 7.2 mg/kg (dog); oral toxicity (LD50): 572 mg/kg (mouse), >100 mg/kg (quail); intravenous toxicity (TDLo): 0.5-6 mg/kg (woman); *in vitro* toxicity (ICLo): 1-300 µmol/L (dog kidney)

Primary irritant effect:

On the skin: causes skin irritation; may be harmful if absorbed through the skin

On the eye: causes eye irritation

Inhalation: causes respiratory tract irritation; may be harmful if inhaled

Ingestion: harmful if swallowed

SECTION 12. ECOLOGICAL INFORMATION:

General notes: Very toxic to aquatic life with long lasting effects

Releases to the environment should be avoided

Aquatic Toxicity: - toxicity data from the Celgene SDS dated November 15, 2012 for Azacitidine

Compound	Type	Species	Concentration
Azacitidine	EC50	Activated	<100,000 µg/l

Azacitidine	EC50	Page 4 of 5 sludge	>100,000 µg/L
	EC50/72h	Algae	~0.1-1.0 mg/L
	NOEC (growth rate reduction)	Algae	31 µg/L
	EC50/72h (growth rate reduction)	<i>Desmodesmus subspicatus</i>	9.6 mg/L
	NOEC (growth rate reduction)	<i>Desmodesmus subspicatus</i>	0.53 mg/L
	NOEC/21 days (reproduction)	<i>Daphnia magna</i>	730 µg/L
	NOEC (Fish early life stage test)	Fathead minnow	1000 µg/L
	NOEC/7 day (growth inhibition)	<i>Lemna minor</i>	0.068 mg/L
	EC50/7d (growth rate reduction)	<i>Lemna minor</i>	1.8/2 mg/L (frond numbers/wet weight)

Azacitidine is biodegradable, but does not meet the criteria for "rapid biodegradability"

Based on the octanol/water partition coefficient, azacitidine is unlikely to bioaccumulate

Azacitidine is not stable in water. It is not expected to significantly adhere to sediment

Adsorption coefficient (Koc): <33 L/kg

Results of PBT and vPvB assessment: Not performed

Other adverse effects: No data available

SECTION 13. DISPOSAL CONSIDERATIONS:

Dispose of in accordance with prevailing country, federal, state and local regulations

SECTION 14. TRANSPORT INFORMATION:

DOT:

Proper shipping name: none

Non-Hazardous for transport: this substance is considered to be non-hazardous for transport

IATA class:

Proper shipping name: none

Non-Hazardous for transport: this substance is considered to be non-hazardous for transport

SECTION 15. REGULATORY INFORMATION:

Code letter and hazard designation of product:

T: Toxic; Xi: Irritant; N: Dangerous to the environment

EU Risk And Safety phrases:

S22: Do not breathe dust

S24/25: Avoid contact with skin and eyes

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S28: After contact with skin, wash immediately with plenty of water

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

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

R22: Harmful if swallowed

R36/37/28: Irritating to eyes, respiratory system and skin

R45: May cause cancer

R48/25: Toxic: danger of serious damage to health by prolonged exposure if swallowed

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

R60: May impair fertility R61: May cause harm to the unborn child R68: Possible risk of irreversible effects

SECTION 16. OTHER INFORMATION:

The above information is believed to be correct based on our present knowledge but does not purport to be complete. For research use only by trained personnel. The burden of safe use of this material rests entirely with the user. LC Laboratories disclaims all liability

Reviewed: July 1, 2019