



# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 5/3/2011 Revision date: 5/16/2024 Supersedes: 4/22/2021 Version: 3.0

### SECTION 1: Identification

#### 1.1. Identification

Product form	: Substance
Substance name	: 2'-Deoxyadenosine-H <sub>2</sub> O (ribose-5- <sup>13</sup> C, 98%)
CAS-No.	: 16373-93-6
Product code	: CLM-7682
Formula	: C <sub>9</sub> H <sub>13</sub> N <sub>5</sub> O <sub>3</sub> ·H <sub>2</sub> O
Synonyms	: 2'-Deoxyadenosine monohydrate; 2'-Deoxy-adenosine, hydrate (1:1)

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Cambridge Isotope Laboratories, Inc.  
50 Frontage Rd  
01810  
ANDOVER, MA, 01810  
USA  
T 1-800-322-1174  
[cilsales@isotope.com](mailto:cilsales@isotope.com) - [www.isotope.com](http://www.isotope.com)

#### 1.4. Emergency telephone number

Emergency number : 1-703-741-5970  
Chemtrec 1-800-424-9300 24 hours

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Acute toxicity (oral) Category 3 H301 Toxic if swallowed  
Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger  
Hazard statements (GHS US) : H301 - Toxic if swallowed  
Precautionary statements (GHS US) : P264 - Wash Both hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P301+P310 - If swallowed: Immediately call a poison center or doctor.  
P321 - Specific treatment (see Hazard pictograms (CLP) on this label).  
P330 - Rinse mouth.  
P405 - Store locked up.  
P501 - Dispose of contents/container to Comply with applicable regulations.

# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	GHS US classification
2'-Deoxyadenosine-H <sub>2</sub> O (ribose-5- <sup>13</sup> C, 98%) (Main constituent)	CAS-No.: 16373-93-6	100	Acute Tox. 3 (Oral), H301

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
First-aid measures after eye contact	: Flush eyes with water as a precaution.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides.

# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.  
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place.  
Storage conditions : Store refrigerated (-5 °C to 5 °C). Protect from light.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%) (16373-93-6)

##### USA - ACGIH - Occupational Exposure Limits

ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
-------------------------	--

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.  
Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

<b>Materials for protective clothing:</b>
Wear suitable protective clothing and gloves
<b>Hand protection:</b>
Wear suitable protective clothing and gloves
<b>Eye protection:</b>
Wear safety glasses with side shields (or goggles) and a face shield.
<b>Skin and body protection:</b>
Wear complete suit protecting against chemicals according to concentration and amount of substance.
<b>Respiratory protection:</b>
When appropriate, use NIOSH/CEN approved respirator.

#### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline.
Color	: White
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: 187 – 189 °C (369 - 372 °F)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Molecular mass	: 270.25 g/mol (Labeled)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable if stored under recommended conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Exposure to air.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Toxic if swallowed.  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%) (16373-93-6)

ATE US (oral)	100 mg/kg body weight
Additional data	LD50 Intraperitoneal - Rat - > 800 mg/kg

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified  
Viscosity, kinematic : No data available  
Potential Adverse human health effects and symptoms : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.  
Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.  
Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation.  
Symptoms/effects after eye contact : May cause eye irritation.  
Symptoms/effects after ingestion : Toxic if swallowed.

# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations.

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

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

Ecology - waste materials : Dispose of as unused product.

### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

#### 14.1. UN number

DOT NA No : UN2811  
UN-No. (TDG) : UN2811  
UN-No. (IMDG) : 2811  
UN-No. (IATA) : 2811

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Toxic solids, organic, n.o.s.  
Proper Shipping Name (TDG) : TOXIC SOLID, ORGANIC, N.O.S.  
Proper Shipping Name (IMDG) : TOXIC SOLID, ORGANIC, N.O.S.  
Proper Shipping Name (IATA) : Toxic solid, organic, n.o.s.

#### 14.3. Transport hazard class(es)

##### DOT

Transport hazard class(es) (DOT) : 6.1  
Hazard labels (DOT) : 6.1



# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

---

### TDG

Transport hazard class(es) (TDG) : 6.1  
Hazard labels (TDG) : 6.1



### IMDG

Transport hazard class(es) (IMDG) : 6.1  
Hazard labels (IMDG) : 6.1



### IATA

Transport hazard class(es) (IATA) : 6.1  
Hazard labels (IATA) : 6.1



## 14.4. Packing group

Packing group (DOT) : III  
Packing group (TDG) : III  
Packing group (IMDG) : III  
Packing group (IATA) : III

## 14.5. Environmental hazards

Other information : No supplementary information available.

## 14.6. Special precautions for user

### DOT

UN-No.(DOT) : UN2811

# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Special Provisions (49 CFR 172.102)	: IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 100 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 200 kg
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
<b>TDG</b>	
UN-No. (TDG)	: UN2811
TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS.
Explosive Limit and Limited Quantity Index	: 5 kg
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 100 kg
Emergency Response Guide (ERG) Number	: 154
<b>IMDG</b>	
Special provision (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5 kg



# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG)	: A
Flash point (IMDG)	: '
Properties and observations (IMDG)	: Toxic if swallowed, by skin contact or by inhalation.
MFAG-No	: 154

### IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y645
PCA limited quantity max net quantity (IATA)	: 10kg
PCA packing instructions (IATA)	: 670
PCA max net quantity (IATA)	: 100kg
CAO packing instructions (IATA)	: 677
CAO max net quantity (IATA)	: 200kg
Special provision (IATA)	: A3, A5
ERG code (IATA)	: 6L

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

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%) (16373-93-6)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
2'-Deoxyadenosine-H <sub>2</sub> O (ribose-5- <sup>13</sup> C, 98%)	16373-93-6	Not present	-	

### 15.2. International regulations

#### CANADA

#### 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%) (16373-93-6)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. US State regulations

No additional information available

# 2'-Deoxyadenosine-H<sub>2</sub>O (ribose-5-<sup>13</sup>C, 98%)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date

: 05/16/2024

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

#### Full text of H-phrases

H301

Toxic if swallowed

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.