



2'-DEOXYADENOSINE:H2O (DEOXYRIBOSE-2-13C, 99%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/05/2011

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Supersedes: 22/11/2016

Version: 2.1

CLM-3701

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

1.1. Product identifier

Product form : Substance
Substance name : 2'-DEOXYADENOSINE:H2O (DEOXYRIBOSE-2-13C, 99%)
EC-No. : 213-488-7 (Unlabeled)
CAS-No. : 16373-93-6 (Unlabeled)
Product code : CLM-3701
Formula : C₉*CH₁₃N₅O₃-H₂O
Synonyms : Adenine deoxyriboside / 9-(2-Deoxy-β-D-ribofuranosyl)adenine

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 3 (Oral) H301

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

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

T; R25

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 3 (Oral) H301

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS06

Signal word (CLP) :

: Danger

Hazard statements (CLP) :

: H301 - Toxic if swallowed

Precautionary statements (CLP) :

: 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 doctor, a POISON CENTER.
P330 - Rinse mouth.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS06

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

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

| Name | Product identifier | % | Classification according to Directive 67/548/EEC |
|--|--|-----|---|
| 2'-DEOXYADENOSINE:H2O (DEOXYRIBOSE-2-13C, 99%) | (CAS-No.) 16373-93-6 (Unlabeled) (EC-No.) 213-488-7 (Unlabeled) | 100 | T; R25 |
| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
| 2'-DEOXYADENOSINE:H2O (DEOXYRIBOSE-2-13C, 99%) | (CAS-No.) 16373-93-6 (Unlabeled) (EC-No.) 213-488-7 (Unlabeled) | 100 | Acute Tox. 3 (Oral), H301 |

Full text of R- and H- phrases: see section 16

| Name | Product identifier | % | GHS-US classification |
|--|----------------------------------|-----|---------------------------|
| 2'-DEOXYADENOSINE:H2O (DEOXYRIBOSE-2-13C, 99%) (Main constituent) | (CAS-No.) 16373-93-6 (Unlabeled) | 100 | Acute Tox. 3 (Oral), H301 |

Full text of H-phrases: 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.

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| | |
|---------------------------------------|---|
| 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, both acute and delayed

| | |
|-------------------------------------|---|
| 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. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| 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 in freezer (-20°C) and desiccated. Protect from light.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

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

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Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.
Hand protection : Wear suitable protective clothing and gloves.
Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.
Skin and body protection : Wear complete suit protecting against chemicals according to concentration and amount of substance.
Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.
Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Crystalline
Molecular mass : 270.25 g/mol (Labeled)
Color : White
Odor : No data available
Odor threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : 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
Auto-ignition temperature : No data available
Decomposition temperature : 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
Solubility : No data available
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosion limits : No data available

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.

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10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed.

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|---|--|
| ATE CLP (oral) | 100.000 mg/kg body weight |
| Additional information | 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 | : Human - HeLa cell - DNA inhibition. Human - Lymphocyte - Sister chromatic exchange. Hamster - Fibroblast - Sister chromatid exchange. Hamster - Lungs - Mutation in mammalian somatic cells. Mouse - Cytogenetic analysis |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity – single exposure | : Not classified |
| Specific target organ toxicity – repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| 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. |

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. Results of PBT and vPvB assessment

No additional information available

12.6. 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. Waste treatment 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. |

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SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT) : 2811
DOT NA no. UN2811

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Toxic solids, organic, n.o.s.
Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT) : 6.1 - Poison



DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
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
Marine pollutant : No

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : III
Class (ADR) : 6.1 - Toxic substances
Hazard identification number (Kemler No.) : 60
Classification code (ADR) : T2
Hazard labels (ADR) : 6.1 - Toxic substances



Orange plates : An orange rectangular plate with a black border. It contains the number "60" in the top half and "2811" in the bottom half, both in black text.

Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 5kg
EAC : 2X

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Excepted quantities (ADR) : E1

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

MFAG-No : 154

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 100 kg
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 200 kg
CFR 175.75)

Civil Aeronautics Law : Toxic and infectious substances/Toxic substances

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

14.6. 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

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| | |
|--|--|
| 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 |
|-------------------------------------|---------------------------------|

| | |
|---------------------------------------|--|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313. |
|---------------------------------------|--|

15.2. International regulations

CANADA

2'-DEOXYADENOSINE:H2O (DEOXYRIBOSE-2-13C, 99%) (16373-93-6 (Unlabeled))

Not listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

2'-DEOXYADENOSINE:H2O (DEOXYRIBOSE-2-13C, 99%)(16373-93-6 (Unlabeled))

| | |
|---|----|
| U.S. - California - Proposition 65 - Carcinogens List | No |
|---|----|

| | |
|---|----|
| U.S. - California - Proposition 65 - Developmental Toxicity | No |
|---|----|

| | |
|---|----|
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
|---|----|

| | |
|---|----|
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No |
|---|----|

| | |
|----------------------------|--|
| State or local regulations | U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List |
|----------------------------|--|

SECTION 16: Other information

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 R-, H- and EUH-phrases:

| | |
|---------------------|----------------------------------|
| Acute Tox. 3 (Oral) | Acute toxicity (oral) Category 3 |
| H301 | Toxic if swallowed |
| R25 | Toxic if swallowed |
| T | Toxic |

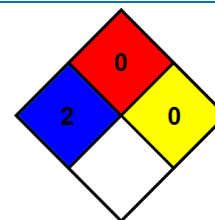
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| | |
|--------------------|---|
| NFPA health hazard | : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. |
| NFPA fire hazard | : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. |
| NFPA reactivity | : 0 - Material that in themselves are normally stable, even under fire conditions. |



Hazard Rating

| | |
|--------------|---|
| Health | : 2 Moderate Hazard - Temporary or minor injury may occur |
| Flammability | : 0 Minimal Hazard |
| Physical | : 0 Minimal Hazard |

CIL Substance SDS

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