

## 1 Identification

- **Product identifier**
- **Trade name:** Adenine
- **Article number:** 4060012
- **CAS Number:**  
73-24-5
- **EC number:**  
200-796-1
- **Molecular Formula** C5 H5 N5
- **Molecular Weight** 135.1
- **Application of the substance / the mixture** For Research Use Only
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
MP Biomedicals, LLC  
29525 Fountain Parkway  
Solon, OH 44139  
United States  
www.mpbio.com
- **Information department:** Quality Control Department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 3 H301 Toxic if swallowed.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS06

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Adenine
- **Hazard statements**  
Toxic if swallowed.
- **Precautionary statements**  
If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
Specific treatment (see on this label).  
Rinse mouth.  
Store locked up.

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Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Hazard description:**
- **WHMIS-symbols:**  
D1B - Toxic material causing immediate and serious toxic effects



- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
73-24-5 Adenine
- **Identification number(s)**
- **EC number: 200-796-1**

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Consult your Doctor. Show the safety data sheet to the Doctor. Away from the dangerous area.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** If breathed in, supply fresh air. If not breathing, give artificial respiration. Consult a Doctor.
- **After skin contact:** Wash off with soap and plenty of water. Consult a Doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.

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- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Pick up mechanically, dispose contaminated material as waste according to Section 13.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Thorough dedusting.
- **Information about protection against explosions and fires:** No special requirements.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15-30 °C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Further information about storage conditions:**
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

<b>Form:</b>	Powder
<b>Color:</b>	White
<b>Odor:</b>	Indeterminate
<b>Odor threshold:</b>	Not determined.

- **pH-value:** Not applicable.

- **Change in condition**

<b>Boiling point/Boiling range:</b>	Undetermined.
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- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Product is not flammable.

- **Ignition temperature:**

<b>Decomposition temperature:</b>	Not determined.
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- **Auto igniting:** Not determined.

- **Danger of explosion:** See section 10

- **Explosion limits:**

<b>Lower:</b>	Not Applicable
<b>Upper:</b>	Not Applicable

- **Vapor pressure:** Not applicable.

- **Density:** Not Applicable
- **Relative density** Not determined.
- **Vapor density** Not applicable.
- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with Water:** Not Determined Insoluble.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
<b>Organic solvents:</b>	0.0 %

<b>Solids content:</b>	100.0 %
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- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.

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- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>
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73-24-5 Adenine
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Oral LD50 227 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritant and potentially harmful
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
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Substance is not listed.
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· <b>NTP (National Toxicology Program)</b>
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Substance is not listed.
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## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Can not be disposed together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packagings:**
- **Recommendation:** Discard must be made according to official regulations.

## 14 Transport information

<b>· UN-Number</b>	UN2811
<b>· DOT, TDG, IMDG, IATA</b>	
<b>· UN proper shipping name</b>	Toxic solids, organic, n.o.s. (Adenine)
<b>· DOT</b>	2811 Toxic solids, organic, n.o.s. (Adenine)
<b>· TDG</b>	2811 Toxic solids, organic, n.o.s. (Adenine)
<b>· IMDG, IATA</b>	TOXIC SOLID, ORGANIC, N.O.S. (Adenine)
<b>· Transport hazard class(es)</b>	
<b>· DOT</b>	
	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1
<b>· TDG, IMDG, IATA</b>	
	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1
<b>· Packing group</b>	III
<b>· DOT, TDG, IMDG, IATA</b>	
<b>· Environmental hazards:</b>	
<b>· Marine pollutant:</b>	No
<b>· Special precautions for user</b>	Warning: Toxic substances
<b>· Danger code (Kemler):</b>	60
<b>· EMS Number:</b>	F-A,S-A
<b>· Stowage Category</b>	A
<b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>· Transport/Additional information:</b>	
<b>· DOT</b>	
<b>· Quantity limitations</b>	On passenger aircraft/rail: 100 kg On cargo aircraft only: 200 kg
<b>· TDG</b>	
<b>· Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g

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- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul> | <p>5 kg<br/>Code: E1<br/>Maximum net quantity per inner packaging: 30 g<br/>Maximum net quantity per outer packaging: 1000 g</p> |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>  | <p>UN 2811 TOXIC SOLIDS, ORGANIC, N.O.S. (ADENINE), 6.1, III</p>   |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

Substance is listed.

- **Canadian substance listings:**

- **Canadian Domestic Substances List (DSL)**

Substance is listed.

- **Canadian Ingredient Disclosure list (limit 0.1%)**

Substance is not listed.

- **Canadian Ingredient Disclosure list (limit 1%)**

Substance is not listed.

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS06

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Adenine

- **Hazard statements**

Toxic if swallowed.

- **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Specific treatment (see on this label).

Rinse mouth.

Store locked up.

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Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Quality Control Dept.

· **Date of preparation / last revision** 04/13/2017 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

CA