

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 g/mol
- **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 Tox. 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**
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.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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



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



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

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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.
- **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.
- **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.

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· Eye protection: Not required.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Powder
· Color:	White
· Odor:	Indeterminate
· Odor threshold:	Not determined.

· pH-value:	Not applicable.
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· Change in condition

· Boiling point/Boiling range:	Undetermined.
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· Flash point:	Not applicable.
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· Flammability (solid, gaseous):	Product is not flammable.
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· Ignition temperature:

· Decomposition temperature:	Not determined.
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· Auto igniting:	Not determined.
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· Danger of explosion:	See section 10
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· Explosion limits:

· Lower:	Not Applicable
· Upper:	Not Applicable

· Vapor pressure:	Not applicable.
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· Density:	Not Applicable
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.

· Solubility in / Miscibility with	Not Determined
· Water:	Insoluble.

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

· Dynamic:	Not applicable.
· Kinematic:	Not applicable.

· Solvent content:

· Organic solvents:	0.0 %
· VOC content:	0.0 g/l / 0.00 lb/gl

· Solids content:	100.0 %
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· Other information	No further relevant information available.
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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:**

- **LD/LC50 values that are relevant for classification:**

73-24-5 Adenine

Oral LD50 227 mg/kg (rat)

- **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**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

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.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Can not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Discard must be made according to official regulations.

14 Transport information

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

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

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.

- **Proposition 65**

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Chemicals known to cause developmental toxicity:**

Substance is not listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

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

- **Hazard pictograms**



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- **Signal word** *Danger*
- **Hazard-determining components of labeling:**
Adenine
- **Hazard statements**
Toxic if swallowed.
- **Precautionary statements**
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.
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** *12/12/2016 / -*
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 3: Acute toxicity – Category 3

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