SAFETY DATA SHEET

Amoxicillin Trihydrate Solid Formulation

Section 1: Identification

Product name: Amoxicillin Trihydrate Solid Formulation

Manufacturer or supplier’s details
Company: MSD
Address: 33 Whakatiki Street - Private Bag 908
Upper Hutt - New Zealand
Telephone: 908-740-4000
Emergency telephone number: 1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com
Telefax: 908-735-1496

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

Section 2: Hazard identification

GHS Classification
Respiratory sensitisation: Resp. Sens.1

GHS label elements
Hazard pictograms: 
Signal word: Danger
Hazard statements: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary statements: Prevention:
P261 Avoid breathing dust.
P285 In case of inadequate ventilation wear respiratory protection.
Response:
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Disposal:
P501 Dispose of contents/container to an approved waste
Other hazards which do not result in classification
Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.
May form explosive dust-air mixture during processing, handling or other means.

Section 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chemical name</td>
</tr>
<tr>
<td>Mixture</td>
<td>Amoxicillin Trihydrate</td>
</tr>
</tbody>
</table>

Section 4: First-aid measures

General advice
In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled
If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention.

In case of skin contact
Wash with water and soap.
Get medical attention if symptoms occur.

In case of eye contact
If in eyes, rinse well with water.
Get medical attention if irritation develops and persists.

If swallowed
If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).
Contact with dust can cause mechanical irritation or drying of the skin.
Dust contact with the eyes can lead to mechanical irritation.

Protection of first-aiders
First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician
Treat symptomatically and supportively.

Section 5: Fire-fighting measures

Suitable extinguishing media
Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media
None known.
### Specific hazards during firefighting

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Exposure to combustion products may be a hazard to health.

### Hazardous combustion products
- Carbon oxides
- Nitrogen oxides (NOx)
- Metal oxides

### Specific extinguishing methods
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Use water spray to cool unopened containers.
- Remove undamaged containers from fire area if it is safe to do so.
- Evacuate area.

### Special protective equipment for firefighters
- In the event of fire, wear self-contained breathing apparatus.

### Section 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures
- Use personal protective equipment.
- Follow safe handling advice and personal protective equipment recommendations.

#### Environmental precautions
- Discharge into the environment must be avoided.
- Prevent further leakage or spillage if safe to do so.
- Retain and dispose of contaminated wash water.
- Local authorities should be advised if significant spillages cannot be contained.

#### Methods and materials for containment and cleaning up
- Sweep up or vacuum up spillage and collect in suitable container for disposal.
- Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
- Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
- Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### Section 7: Handling and storage

#### Technical measures
- Static electricity may accumulate and ignite suspended dust causing an explosion.
- Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

#### Local/Total ventilation
- Use only with adequate ventilation.

#### Advice on safe handling
- Do not breathe dust.
- Do not swallow.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers.
Minimize dust generation and accumulation.
Keep container closed when not in use.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

Conditions for safe storage: Keep in properly labelled containers.
Keep tightly closed.
Store in accordance with the particular national regulations.

Materials to avoid: Do not store with the following product types:
Strong oxidizing agents

Section 8: Exposure controls/personal protection

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxicillin Trihydrate</td>
<td>61336-70-7</td>
<td>TWA</td>
<td>1 mg/m3 (OEB 1)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Further information: RSEN

Engineering measures: Use feasible engineering controls to minimize exposure to compound.
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Personal protective equipment

Respiratory protection: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type: Particulates type

Hand protection Material: Chemical-resistant gloves
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1.9 23.03.2020 1161181-00010 13.09.2019

Eye protection : Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.

Section 9: Physical and chemical properties

Appearance : powder

Colour : white

Odour : characteristic

Odour Threshold : No data available

pH : 5.5 - 7.5 (as aqueous solution)

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : May form explosive dust-air mixture during processing, handling or other means.

Flammability (liquids) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : No data available

Solubility(ies)

Water solubility : 1.43 g/l

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available
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Decomposition temperature : No data available
Viscosity
   Viscosity, kinematic : No data available
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : No data available

Section 10: Stability and reactivity
Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions
   May form explosive dust-air mixture during processing, handling or other means.
   Can react with strong oxidizing agents.
Conditions to avoid : Heat, flames and sparks.
   Avoid dust formation.
Incompatible materials : Oxidizing agents
Hazardous decomposition products : No hazardous decomposition products are known.

Section 11: Toxicological information
Exposure routes : Inhalation
   Skin contact
   Ingestion
   Eye contact
Acute toxicity
Not classified based on available information.

Components:
Amoxicillin Trihydrate:
Acute oral toxicity : LD50 (Rat): > 8,000 mg/kg
   LD50 (Mouse): > 10,000 mg/kg
   LD50 (Dog): > 3,000 mg/kg
Skin corrosion/irritation
Not classified based on available information.
Serious eye damage/eye irritation
Not classified based on available information.
Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components:
Amoxicillin Trihydrate:
Result : Sensitiser
Remarks : May cause sensitisation by inhalation.
         : largely based on human evidence

Chronic toxicity

Germ cell mutagenicity
Not classified based on available information.

Components:
Amoxicillin Trihydrate:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
                      : Result: negative
Genotoxicity in vivo : Test Type: Micronucleus test
                      : Species: Mouse
                      : Result: negative
                      : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
                      : Species: Mouse
                      : Result: negative

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

Components:
Amoxicillin Trihydrate:
Effects on fertility : Test Type: Fertility
                     : Species: Rat
                     : Application Route: Oral
                     : Fertility: NOAEL: 200 mg/kg body weight
                     : Result: Reduced fertility
                     : Remarks: Not classified due to inconclusive data.
                     : Test Type: Fertility
                     : Species: Rat
                     : Application Route: Oral
                     : Fertility: LOAEL: 500 mg/kg body weight
                     : Result: Reduced fertility
                     : Remarks: Not classified due to inconclusive data.
Effects on foetal development:
- Test Type: Development
- Species: Rat
- Application Route: Oral
- Developmental Toxicity: NOAEL: >= 1,000 mg/kg body weight
- Result: No embryo-foetal toxicity

- Test Type: Development
- Species: Mouse
- Application Route: Oral
- Developmental Toxicity: LOAEL: 200 mg/kg body weight
- Result: Some evidence of adverse effects on development, based on animal experiments.
- Remarks: Not classified due to inconclusive data.

- Test Type: Development
- Species: Rat
- Application Route: Oral
- Developmental Toxicity: LOAEL: 200 mg/kg body weight
- Result: Reduced embryonic survival, Reduced offspring weight gain
- Remarks: Not classified due to inconclusive data.

**STOT - single exposure**
Not classified based on available information.

**STOT - repeated exposure**
Not classified based on available information.

**Components:**

**Amoxicillin Trihydrate:**
- Remarks: Not classified due to inconclusive data.

**Repeated dose toxicity**

**Components:**

**Amoxicillin Trihydrate:**
- Species: Rat
- Application Route: Oral
- Exposure time: 6 Months
- Remarks: No significant adverse effects were reported

- Species: Dog
- Application Route: Oral
- Exposure time: 6 Months
- Remarks: No significant adverse effects were reported

**Aspiration toxicity**
Not classified based on available information.
Experience with human exposure

**Components:**

**Amoxicillin Trihydrate:**

**Ingestion:**
- Symptoms: Nausea, Vomiting, Abdominal pain, Diarrhoea, flatulence, skin rash, Breathing difficulties
- Remarks: May produce an allergic reaction.

Section 12: Ecological information

**Ecotoxicity**

**Components:**

**Amoxicillin Trihydrate:**

**Toxicity to fish:**
- LC50 (No species specified): 0.035 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

**Toxicity to algae/aquatic plants:**
- EC50 (Selenastrum capricornutum (green algae)): 630 mg/l
  - Exposure time: 72 h
- EC50 (Synechococcus leopoliensis (blue-green algae)): 0.0022 mg/l
  - Exposure time: 96 h

**Persistence and degradability**

**Components:**

**Amoxicillin Trihydrate:**

**Biodegradability:**
- Result: Readily biodegradable.
  - Biodegradation: 88 %
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301B

**Bioaccumulative potential**

**Components:**

**Amoxicillin Trihydrate:**

**Partition coefficient: n-octanol/water:**
- log Pow: -0.124

**Mobility in soil**
- No data available

**Other adverse effects**
- No data available
Section 13: Disposal considerations

Disposal methods
Waste from residues : Dispose of in accordance with local regulations.
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

Section 14: Transport information

International Regulations

UNRTDG
UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Atoxicillin Trihydrate)
Class : 9
Packing group : III
Labels : 9

IATA-DGR
UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Atoxicillin Trihydrate)
Class : 9
Packing group : III
Labels : Miscellaneous,
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

IMDG-Code
UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Atoxicillin Trihydrate)
Class : 9
Subsidiary risk : ENVIRONM.
Packing group : III
Labels : 9 (ENVIRONM.)
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

NZS 5433
UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Atoxicillin Trihydrate)
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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
</table>

**Class**: 9  
**Packing group**: III  
**Labels**: 9  
**Hazchem Code**: 2Z

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### Section 15: Regulatory information

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

**HSNO Approval Number**  
HSR100759 Veterinary Medicines Non dispersive Open System Application Group Standard 2017

**HSW Controls**  
Certified handler certificate not required.  
Tracking hazardous substance not required.  
Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

**The components of this product are reported in the following inventories:**

<table>
<thead>
<tr>
<th>AICS</th>
<th>: not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL</td>
<td>: not determined</td>
</tr>
<tr>
<td>IECSC</td>
<td>: not determined</td>
</tr>
</tbody>
</table>

### Section 16: Other information

**Further information**  

<table>
<thead>
<tr>
<th>Date format</th>
<th>: dd.mm.yyyy</th>
</tr>
</thead>
</table>

**Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized Sys-
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