SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Daptomycin Injection Formulation - 2nd Generation

**SECTION 1. IDENTIFICATION**

- **Product name**: Daptomycin Injection Formulation - 2nd Generation

**Manufacturer or supplier's details**

- **Company name of supplier**: Merck & Co., Inc
- **Address**: 126 E. Lincoln Avenue, Rahway, New Jersey U.S.A. 07065
- **Telephone**: 908-740-4000
- **Emergency telephone**: 1-908-423-6000
- **E-mail address**: EHSDATABEWARD@merck.com

**Recommended use of the chemical and restrictions on use**

- **Recommended use**: Pharmaceutical
- **Restrictions on use**: Not applicable

**SECTION 2. HAZARDS IDENTIFICATION**

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

- **Combustible dust**

**Specific target organ toxicity**

- **repeated exposure**
  - (Dermal): Category 2 (muscle, Kidney, Nervous system)

**GHS label elements**

- **Hazard pictograms**

**Signal Word**

- **Warning**

**Hazard Statements**

- If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.
- H373 May cause damage to organs (muscle, Kidney, Nervous system) through prolonged or repeated exposure in contact with skin.

**Precautionary Statements**

- **Prevention:**
  - P260 Do not breathe dust.

- **Response:**
  - P314 Get medical attention if you feel unwell.

- **Disposal:**
  - P501 Dispose of contents and container to an approved waste
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Other hazards
Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td>&gt;= 50 - &lt; 70</td>
</tr>
<tr>
<td>Daptomycin</td>
<td>103060-53-3</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
</tbody>
</table>

Actual concentration is withheld as a trade secret

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.
Get medical attention if symptoms occur.

In case of skin contact: In case of contact, immediately flush skin with soap and plenty of water.
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 damage to organs through prolonged or repeated exposure in contact with skin.
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 fire fighting: 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

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 fire-fighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions: Avoid release to the environment. 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 get on skin or clothing. Do not breathe dust.
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Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
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.

Conditions for safe storage:
Keep in properly labeled containers.
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

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Inert or Nuisance Dust</th>
<th>50 Million particles per cubic foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value type (Form of exposure)</td>
<td>TWA (total dust)</td>
</tr>
<tr>
<td>Basis</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td>15 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Value type (Form of exposure)</td>
<td>TWA (total dust)</td>
</tr>
<tr>
<td>Basis</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Value type (Form of exposure)</td>
<td>TWA (respirable fraction)</td>
</tr>
<tr>
<td>Basis</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td>15 Million particles per cubic foot</td>
<td></td>
</tr>
<tr>
<td>Value type (Form of exposure)</td>
<td>TWA (respirable fraction)</td>
</tr>
<tr>
<td>Basis</td>
<td>OSHA Z-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dust, Nuisance Dust and Particulates</th>
<th>10 mg/m³</th>
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</thead>
<tbody>
<tr>
<td>Value type (Form of exposure)</td>
<td>PEL (Total dust)</td>
</tr>
<tr>
<td>Basis</td>
<td>CAL PEL</td>
</tr>
<tr>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Value type (Form of exposure)</td>
<td>PEL (respirable dust fraction)</td>
</tr>
<tr>
<td>Basis</td>
<td>CAL PEL</td>
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</table>

<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>
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<tbody>
<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>ACGIH</td>
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<td></td>
<td>TWA (Respirable)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
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<td></td>
<td></td>
<td>TWA (total)</td>
<td>10 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (total)</td>
<td>15 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
</tbody>
</table>
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### 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
General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

#### Hand protection
Material: Chemical-resistant gloves

#### 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.

#### 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.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance
Lyophilized cake

#### Color
Light brown
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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
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<th>Date of last issue:</th>
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</tr>
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<tbody>
<tr>
<td>6.1</td>
<td>09/30/2023</td>
<td>679941-00019</td>
<td>04/04/2023</td>
<td>05/19/2016</td>
</tr>
</tbody>
</table>

Odor: No data available
Odor Threshold: No data available
pH: 6.5 - 7.3 (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
Vapor pressure: No data available
Relative vapor density: No data available
Relative density: No data available
Density: No data available
Solubility(ies)
Water solubility: No data available
Partition coefficient: n-octanol/water: Not applicable
Autoignition temperature: No data available
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.
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

Information on likely routes of exposure
Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.
Components:

Sucrose:
Acute oral toxicity: LD50 (Rat): 29,700 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Components:

Daptomycin:
Species: Rabbit
Result: Mild skin irritation

Serious eye damage/eye irritation
Not classified based on available information.
Components:

Daptomycin:
Species: Rabbit
Result: Mild eye irritation
Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Components:

Sucrose:
Genotoxicity in vitro: Test Type: In vitro mammalian cell gene mutation test
Result: negative

Daptomycin:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Hamster
Application Route: Intraperitoneal injection
Result: negative

Carcinogenicity
Not classified based on available information.

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.
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NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

Components:
Daptomycin:
Effects on fertility: Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Intravenous injection
Fertility: NOAEL: 150 mg/kg body weight
Result: No effects on fertility.

Effects on fetal development: Test Type: Embryo-fetal development
Species: Rat
Application Route: Intravenous injection
Developmental Toxicity: NOAEL: 75 mg/kg body weight
Result: No significant adverse effects were reported

Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Intravenous injection
Developmental Toxicity: NOAEL: 75 mg/kg body weight
Result: No significant adverse effects were reported

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
May cause damage to organs (muscle, Kidney, Nervous system) through prolonged or repeated exposure in contact with skin.

Components:
Daptomycin:
Target Organs: muscle, Kidney, Nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity
Components:
Daptomycin:
Species: Dog
NOAEL: 20 mg/kg
LOAEL: 40 mg/kg
Application Route: Intravenous
Exposure time: 3 Months
Target Organs : Skeletal muscle

Species : Monkey
NOAEL : 10 mg/kg
Application Route : Intravenous
Exposure time : 1 Months
Remarks : No significant adverse effects were reported

Species : Dog
Application Route : Intravenous
Exposure time : 28 Days
Target Organs : Skeletal muscle, Nervous system
Symptoms : muscle twitching

Species : Juvenile dog
LOAEL : 50 mg/kg
Application Route : Intravenous
Exposure time : 28 Days
Target Organs : Skeletal muscle, Nervous system

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:
Daptomycin:
General Information : Symptoms: Rash, Diarrhea, vaginitis

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential

Components:
Sucrose:
Partition coefficient: n-octanol/water : Pow: < 1

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. Do not dispose of waste into sewer.
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
Not regulated as a dangerous good
IATA-DGR
Not regulated as a dangerous good
IMDG-Code
Not regulated as a dangerous good
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation
49 CFR
Not regulated as a dangerous good

Special precautions for user
Not applicable

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Combustible dust
Specific target organ toxicity (single or repeated exposure)

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
<th>Special hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

HMIS® IV:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 2</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
CAL PEL : California permissible exposure limits for chemical contaminants (Title 8, Article 107)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA : 8-hour, time-weighted average
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<table>
<thead>
<tr>
<th>Symbol/ Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAL PEL / PEL</td>
<td>Permissible exposure limit</td>
</tr>
<tr>
<td>NIOSH REL / TWA</td>
<td>Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek</td>
</tr>
<tr>
<td>OSHA Z-1 / TWA</td>
<td>8-hour time weighted average</td>
</tr>
<tr>
<td>OSHA Z-3 / TWA</td>
<td>8-hour time weighted average</td>
</tr>
</tbody>
</table>

AIC  -  Australian Inventory of Industrial Chemicals;  ASTM  -  American Society for the Testing of Materials; bw  -  Body weight;  CERCLA  -  Comprehensive Environmental Response, Compensation, and Liability Act;  CMR  -  Carcinogen, Mutagen or Reproductive Toxican;  DIN  -  Standard of the German Institute for Standardisation;  DOT  -  Department of Transportation;  DSL  -  Domestic Substances List (Canada);  ECX  -  Concentration associated with x% response;  EHS  -  Extremely Hazardous Substance;  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 System;  GLP  -  Good Laboratory Practice;  HMIS  -  Hazardous Materials Identification System;  IARC  -  International Agency for Research on Cancer;  IATA  -  International Air Transport Association;  IBC  -  International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;  IC50  -  Half maximal inhibitory concentration;  ICAO  -  International Civil Aviation Organisation;  IECSC  -  Inventory of Existing Chemical Substances in China;  IMDG  -  International Maritime Dangerous Goods;  IMO  -  International Maritime Organization;  ISHL  -  Industrial Safety and Health Law (Japan);  ISO  -  International Organisation for Standardization;  KECI  -  Korea Existing Chemicals Inventory;  LC50  -  Lethal Concentration to 50% of a test population;  LD50  -  Lethal Dose to 50% of a test population (Median Lethal Dose);  MARPOL  -  International Convention for the Prevention of Pollution from Ships;  MSHA  -  Mine Safety and Health Administration;  n.o.s.  -  Not Otherwise Specified;  NFPA  -  National Fire Protection Association;  NO(A)EC  -  No Observed (Adverse) Effect Concentration;  NO(A)EL  -  No Observed (Adverse) Effect Level;  NOELR  -  No Observable Effect Loading Rate;  NTP  -  National Toxicology Program;  NZIoC  -  New Zealand Inventory of Chemicals;  OECD  -  Organization for Economic Co-operation and Development;  OPPTS  -  Office of Chemical Safety and Pollution Prevention;  PBT  -  Persistent, Bioaccumulative and Toxic substance;  PICCS  -  Philippines Inventory of Chemicals and Chemical Substances;  (Q)SAR  -  (Quantitative) Structure Activity Relationship;  RCRA  -  Resource Conservation and Recovery Act;  REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Regulation, Evaluation, Authorisation and Restriction of Chemicals;  RQ  -  Reportable Quantity;  SADT  -  Self-Accelerating Decomposition Temperature;  SARA  -  Superfund Amendments and Reauthorization Act;  SDS  -  Safety Data Sheet;  TCSI  -  Taiwan Chemical Substance Inventory;  TSCA  -  Toxic Substances Control Act (United States);  UN  -  United Nations;  UNRTDG  -  United Nations Recommendations on the Transport of Dangerous Goods;  vPvB  -  Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet:

Revision Date: 09/30/2023

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified...
in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

US / Z8