


Safety Data Sheet

| 1. IDENTIFICATION | |
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| Product identifier | DACOGEN [®] Decitabine for Injection |
| Synonyms | Decitabine |
| Identified uses | Drug products |
| Supplier's details | Otsuka Pharmaceutical Co., Ltd. 2-9 Kanda-Tsukasamachi, Chiyoda-ku Tokyo 101-8535, Japan (Also see section 16) |
| Emergency telephone number | Telephone: +81-88-672-6080 (Monday/Friday, 8:00/17:00, JPT) Telefax: +81-88-637-5520 |
| Contact E-mail | Kawano.Daiki@otsuka.jp , yamane@otsuka.jp |

| 2. HAZARDS IDENTIFICATION | |
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| Classification of the substance or mixture | |
| Directive 1999/45/EC | T; R22,R36/37/38, R60, R68 |
| CLP/GHS | Acute Toxicity, Oral (Category 4) Combustible Dust Serious eye damage/eye irritation (Category 2A) Germ cell mutagenicity (Category 2) Reproductive Toxicity (Category 1A) Skin corrosion/irritation (Category 2) Specific Target Organ Toxicity (single exposure) (Category 3) |
| Label elements | |
| Pictogram(s) |  |
| Signal word | Danger |
| Hazard statement | May form combustible dust concentrations in air. H302: Harmful if swallowed. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation. H341: Suspected of causing genetic defects. H360: May damage fertility or the unborn child. |
| Precautionary statement | P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P261: Avoid breathing dust. |

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| | <p>P264: Wash hands, forearms, and other exposed area thoroughly after handling.</p> <p>P270: Do not eat, drink or smoke when using this product.</p> <p>P271: Use only outdoors or in a well-ventilated area.</p> <p>P280: Wear protective gloves, protective clothing, eye protection, face protection, respiratory protection.</p> <p>P301+P312: If swallowed: Call a poison center/doctor if you feel unwell.</p> <p>P302+P352: If on skin: Wash with plenty of water.</p> <p>P304+P340: IF INHALED: Remove person to fresh air and keep at rest in position comfortable for breathing.</p> <p>P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308+P313: If exposed or concerned: Get medical advice/attention.</p> <p>P312: Call a poison center/doctor if you feel unwell.</p> <p>P321: Specific treatment (see section 4).</p> <p>P330: Rinse mouth.</p> <p>P332+P313: If skin irritation occurs: Get medical advice/attention.</p> <p>P337+P313: If eye irritation persists: Get medical advice/attention.</p> <p>P362: Take off contaminated clothing and wash before reuse.</p> <p>P403+P233: Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405: Store locked up.</p> <p>P501: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.</p> |
| Other Hazards | |
| Eye | Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. |
| Skin | |
| Ingestion | |
| Inhalation | |

3. COMPOSITION & INFORMATION ON INGREDIENTS

| Component | CAS# | % (by wt) |
|-------------------------------|-----------|-----------|
| Decitabine | 2353-33-5 | 38.58 |
| Monobasic potassium phosphate | 7778-77-0 | 52.47 |
| Sodium hydroxide | 1310-73-2 | 8.95 |

| 4. FIRST AID MEASURES | |
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| Eye Contact | Flush eyes with clean running water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Contact a physician. |
| Skin Contact | Remove contaminated clothing. Rinse the site of contact with plenty of water, followed by soap and water. Contact a physician if irritation develops or persists. |
| Ingestion | Consult a physician immediately. Never give anything by mouth to someone who is unconscious or convulsing. Do not induce vomiting. Rinse mouth. |
| Inhalation | Move victim to fresh air and keep them warm and quiet. If not breathing, administer artificial respiration. Get immediate medical attention. |
| Most Important symptoms and effects, both acute and delayed | The suppression of neutrophils (neutropenia), thrombocytopenia and the associated anemia and fatigue. Some hypersensitivity was exhibited in clinical trials and observation for anaphylactic allergic reaction is recommended. |
| Indication of immediate medical attention and special treatment needed | Show this SDS to the physician. |

| 5. FIRE FIGHTING MEASURES | |
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| Fire Fighting Extinguishing Media | Non-flammable material. Use dry chemical, carbon dioxide, foam or water spray as appropriate for the surrounding fire and materials. Do not use a heavy water stream. |
| Fire Fighting Instructions | Non-flammable. Wear protective clothing and self-contained breathing apparatus as appropriate for surrounding fire. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. |
| Hazardous Combustion Products | Carbon oxides (CO, CO ₂), Nitrogen oxides |

| 6. ACCIDENTAL RELEASE MEASURES | |
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| Personal precautions | Avoid breathing (dust). Do not get in eyes, on skin, or on clothing. Avoid generating dust. Keep away from heat/sparks/open flames/hot surfaces - No smoking. |
| Emergency procedure | Do not touch without protective gloves if the vials were broken. |
| Environmental protection | Prevent release to drains and waterways. Prevent release to the environment. |
| Containment Method | If in the dry state, use an ethanol/water (50/50) mixture to wet (damp) the material. Absorb material and place waste in appropriate container. Dispose according to all applicable laws and regulations. Wash area of spill with soap and water. |
| Methods for cleaning up | |

| 7. HANDLING AND STORAGE | |
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| Safe Handling | Observe all precautions contained on product label and package insert. See section 8 for personal protective equipment. Handle with care in the manner of not breaking the vials. |
| Storage Condition | Store between 15 and 30 °C with 25 °C preferred. |
| Container Requirement | Store in the original primary packaging as provided. |

| 8. EXPOSURE CONTROL / PERSONAL PROTECTION | |
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| ACGIH TLV-TWA | Company Guideline 0.5 mg/m ³ TWA-Decitabine (API) 2.0 mg/m ³ (Sodium hydroxide) |
| ACGIH TLV-STEL | Not available |
| OSHA PEL-TWA | Not available |
| JSOH PEL-TWA | Not available |
| Engineering Control | Ventilation is not required during normal handling in a clinical setting. (i.e., reconstitution into liquid state) Specific engineering controls should not be needed. When handling products with damaged packaging, ensure worker exposure is below the recommended exposure limit. If significant dust is generated, use process enclosures, containment technology, or other engineering controls to keep airborne levels below recommended exposure limit. Ensure all national/local regulations are observed. |
| Personal Protection | |
| Respiratory Protection | Use respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits. |
| Hand Protection | Wear chemically resistant protective gloves. |
| Eye Protection | Wear lab coat or other body covering to minimize potential for skin contact. Safety glasses are always required. |
| Skin and body Protection | |
| Airborne Exposure limits | Not available |
| Contaminated Items | Mentioned in section 13. |

| 9. PHYSICAL AND CHEMICAL PROPERTIES | |
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| Appearance | Powder in a single-dose vial |
| Color | White to almost white |
| Odour/Odour Threshold | Slight |
| pH | 6.7-7.3 (Aqueous) |
| Melting Point/freezing point | Melting point: Not available Freezing point: Not available |
| Initial Boiling Point/Boiling Point | Not available |

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| Flash Point | Not available |
| Evaporate Rate | Not available |
| Flammability (solid, gas) | Not available |
| Explosion Data | Sensitivity to Mechanical Impact: Not expected to present an explosion hazard due to mechanical impact. Sensitivity to Static Discharge: Static discharge could act as an ignition source. |
| Vapor Pressure | Not available |
| Vapor Density | Not available |
| Relative density | Not available |
| Solubility | Partially in water |
| Partition coefficient : n-octanol/water | -2.27 (Decitabine) |
| Auto-ignition temperature | Not available |
| Decomposition Temperature | Not available |
| Viscosity coefficient | Not available |

10. STABILITY AND REACTIVITY

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| Reactivity | Hazardous reactions will not occur under normal conditions. |
| Stability | Stable under recommended handling and storage conditions (see section 7). |
| Possibility of hazardous reaction | Hazardous polymerization will not occur. |
| Conditions to Avoid | Direct sunlight, extremely high or low temperatures, ignition sources, incompatible materials. Avoid creating or spreading dust, potential dust explosion hazard. |
| Incompatible Materials | Strong oxidizers, Strong alkalis reducing agents |
| Hazardous Decomposition Products | Carbon oxides (CO, CO ₂), Nitrogen oxides |

11. TOXICOLOGICAL INFORMATION

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| Acute Toxicity | Oral Harmful if swallowed. LD ₅₀ (Mouse): 300mg/kg LD ₅₀ (Rabbit): 3200mg/kg LD ₅₀ (Rat): 980mg/kg Intraperitoneal LD ₅₀ (Mouse): 190mg/kg Intravenous LD ₅₀ (Mouse): 22mg/kg |
| Respiratory Sensitization | Not available |
| Skin Corrosion/Irritation | No information regarding skin irritation. |

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| Serious Eye Damage/Irritation | Cause serious eye irritation. |
| Germ Cell Mutagenicity | Probable mutagen, carcinogen and teratogen, based on mechanism of action (Antimitotic). |
| Carcinogenicity | NTP: Not determined IARC: Not determined Z list: Not determined OSHA Reg: Not determined No studies to assess the carcinogenic potential of Decitabine. |
| Reproductive Toxicity | May cause fetal harm when exposed to a pregnant woman. |
| STOST-Single Exposure | May cause respiratory irritation. |
| STOST-Repeated Exposure | Not available |
| Aspiration Hazard | Not available |

12. ECOLOGICAL INFORMATION

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| Ecotoxicity | No additional information available |
| Persistence and Degradability | Not available |
| Bioaccumulative Potential | Not available |
| Mobility in Soil | Not available |
| PBT and vPvB assessment | Not available |
| Other Adverse Effects | Avoid release to the environment. |

13. DISPOSAL CONSIDERATIONS

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| Disposal Information | Dispose of waste material in accordance with all applicable federal, state, and local environmental regulations. Ecology-waste Materials: Avoid release to the environment. |
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14. TRANSPORT INFORMATION

| Transport Route and Regulations | Ground | Air | Marine | Other |
|---|----------------|-----------|--------|-------|
| | ADR, RID | ICAO/IATA | IMDG | TDG |
| UN number | Not applicable | | | |
| Proper Shipping Name | Not applicable | | | |
| Transport hazard class | Not applicable | | | |
| Packing group | Not applicable | | | |
| Environmental hazards | No data | | | |
| Transport in bulk according to Annex II of MARPOL73/78 and the IBC code | Not applicable | | | |

15. REGULATORY INFORMATION

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| Safety, health and environmental regulations | |
| Federal & State Regulation | <u>SARA Section 311/312 Hazard Classes</u> Decitabine-Acute health hazard |

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| | Chronic health hazard |
| Canadian Regulations | <u>WHMIS classification</u> Decitabine: Class D Division 2 Subdivision A-Very toxic material causing toxic effects Class D 2 Subdivision B-Toxic material causing other toxic effects Controlled Products Regulations (CPR) |

| 16. OTHER INFORMATION | |
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| Details of the supplier of the safety data sheet | <u>Prepared by:</u> <u>Manufacturing Process Development Department</u> <u>(Pharmaceutical Products)</u> Otsuka Pharmaceutical Co. Ltd. Tokushima Itano Factory Matsutani Itano-cho, Itano-gun Tokushima 779-0195, Japan |

End of Safety Data Sheet