

1. Identification

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| Product identifier | Sileo® |
| Other means of identification | |
| Synonyms | Dexmedetomidine oromucosal gel |
| Recommended use | Not available. |
| Recommended restrictions | Not for human use |
| Manufacturer/Importer/Supplier/Distributor information | |
| Manufacturer | |
| Company Name (US) | Zoetis Inc. 100 Campus Drive, P.O. Box 651 Florham Park, New Jersey 07932 (USA) |
| Rocky Mountain Poison and Drug Center | 1-866-531-8896 |
| Product Support/Technical Services | 1-800-366-5288 |
| Emergency telephone numbers | CHEMTREC (24 hours): 1-800-424-9300 International CHEMTREC (24 hours): +1-703-527-3887 |
| Contact E-Mail | VMIPSrecords@zoetis.com |
| Company Name (EU) | Zoetis Belgium S.A. Mercuriusstraat 20 1930 Zaventem Belgium |
| Emergency telephone number | International CHEMTREC (24 hours): +1-703-527-3887 |
| Contact E-Mail | VMIPSrecords@zoetis.com |

2. Hazard(s) identification

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| Physical hazards | Not classified. |
| Health hazards | Not classified. |
| Environmental hazards | Not classified. |
| OSHA defined hazards | Not classified. |
| Label elements | |
| Hazard symbol | None. |
| Signal word | None. |
| Hazard statement | The mixture does not meet the criteria for classification. |
| Precautionary statement | |
| Prevention | Observe good industrial hygiene practices. |
| Response | Wash hands after handling. |
| Storage | Store away from incompatible materials. |
| Disposal | Dispose of waste and residues in accordance with local authority requirements. |
| Hazard(s) not otherwise classified (HNOC) | Caution - Pharmaceutical agent. Alpha2-adrenoreceptor agonist. The active ingredient in this product produces sedation and analgesia. May cause drowsiness and dizziness. May cause decreases in blood pressure and other cardiac effects. May cause adverse effects on the developing fetus. |
| Supplemental information | None. |

3. Composition/information on ingredients

Mixtures

Material name: Sileo®

3256 Version #: 01 Issue date: 05-12-2016

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|-------------|-----------|
| Dexmedetomidine hydrochloride | | 145108-58-3 | 0.1 mg/ml |
| Composition comments | *Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret. | | |
| 4. First-aid measures | | | |
| Inhalation | If inhaled, remove to fresh air. Call a physician if symptoms develop or persist. | | |
| Skin contact | Wash off immediately with soap and plenty of water. Get medical advice/attention if you feel unwell. | | |
| Eye contact | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. Call a physician or poison control center immediately. | | |
| Ingestion | Rinse mouth thoroughly. Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. | | |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort. May cause drowsiness or dizziness. May cause decreases in blood pressure and other cardiac effects. | | |
| Indication of immediate medical attention and special treatment needed | The active ingredient in this product produces sedation and analgesia. Alpha2-adrenoreceptor agonist. Provide general supportive measures and treat symptomatically. Monitor respiratory, cardiac and central nervous system. | | |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. | | |
| 5. Fire-fighting measures | | | |
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). | | |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. | | |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. | | |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. | | |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. | | |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. | | |
| General fire hazards | No unusual fire or explosion hazards noted. | | |
| 6. Accidental release measures | | | |
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS. Ventilate the contaminated area. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. | | |
| Methods and materials for containment and cleaning up | <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> | | |
| Environmental precautions | Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. | | |
| 7. Handling and storage | | | |
| Precautions for safe handling | Wear personal protective equipment. Handle and open container with care. Avoid contact with eyes. Avoid contact with skin. Wash thoroughly after handling. Observe good industrial hygiene practices. | | |
| Conditions for safe storage, including any incompatibilities | Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store below 30°C (86°F). Do not freeze. Keep out of the reach of children. | | |

8. Exposure controls/personal protection

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| Occupational exposure limits | No exposure limits noted for ingredient(s). |
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Control banding approach | Dexmedetomidine hydrochloride - Zoetis OEB 5 (control exposure to <1ug/m3) |
| Appropriate engineering controls | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. |
| Individual protection measures, such as personal protective equipment | |
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin protection | |
| Hand protection | Wear appropriate chemical resistant gloves. |
| Other | Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas. |
| Respiratory protection | No personal respiratory protective equipment normally required. Respiratory protection should be provided in instances where exposure to dust, mists, aerosols or vapors are likely. If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range. |
| Thermal hazards | Not applicable. |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

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| Appearance | |
| Physical state | Solid. |
| Form | Gel. |
| Color | Not available. |
| Odor | Not available. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | Not available. |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |

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|----------------------------------|----------------|
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |

10. Stability and reactivity

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|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

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|---------------------|---|
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | May be absorbed through the skin and cause systemic effects. |
| Eye contact | Direct contact with eyes may cause temporary irritation. Harmful in contact with eyes. |
| Ingestion | May be absorbed through mucous membranes and cause systemic effects. However, ingestion is not likely to be a primary route of occupational exposure. |

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort. May be absorbed through mucous membranes and cause systemic effects. May cause effects on blood pressure [decrease in blood pressure (hypotension)]; drowsiness, sleepiness, dizziness, sedation, and gastrointestinal disturbance. Target Organ(s): blood vessels. Heart. Central nervous system. May cause hypersensitivity reactions in susceptible individuals. Possible risk of harm to the unborn child.

Information on toxicological effects

Acute toxicity

| Components | Species | Test Results |
|---|---------|--|
| Dexmedetomidine hydrochloride (CAS 145108-58-3) | | |
| Acute | | |
| Intravenous | | |
| LD50 | Dog | 2 mg/kg |
| Subacute | | |
| Other | | |
| LOAEL | Dog | 0.01 mg/kg, 4 weeks (Intravenous; Target organs: Liver, Central nervous system) |
| NOAEL | Rat | 0.02 mg/kg, 4 weeks (Intramuscular; Target organs: Eye, adrenal gland, lung, male reproductive system) |
| | | 0.01 mg/kg, 4 weeks (Intravenous; Target organs: Eye, liver) |
| NOEL | Dog | 0.01 mg/kg, 4 weeks (Intramuscular; Target organs: Liver, Central nervous system) |

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| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. |
| Respiratory or skin sensitization | Individuals sensitive to this material or other materials in its chemical class may develop allergic reactions. |
| Respiratory sensitization | Based on available data, the classification criteria are not met. |
| Skin sensitization | Based on available data, the classification criteria are not met. |

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Mutagenicity

Dexmedetomidine hydrochloride

In Vitro Bacterial Mutagenicity (Ames)

Result: Negative

Species: Salmonella , E. coli

In Vitro Chromosome Aberration

Result: Positive with activation , Negative without activation

Species: Human Lymphocytes

In Vitro Mammalian Cell Mutagenicity

Result: Negative

Species: Mouse Lymphoma

In Vivo Micronucleus

Result: Positive

Species: Mouse

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

Reproductive toxicity Based on available data, the classification criteria are not met. Possible risk of harm to the unborn child. Avoid exposure during pregnancy.

Developmental effects

Dexmedetomidine hydrochloride

2 ug/kg/day Peri-Postnatal Development, (Fetotoxicity, Developmental toxicity)

Result: NOAEL

Species: Rat

Organ: Subcutaneous

20 ug/kg Method not specified, (Not teratogenic, Fetotoxicity)

Result: NOAEL

Species: Rat

Organ: Subcutaneous

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Not classified.

Further information May be absorbed through mucous membranes and cause systemic effects. May be absorbed through the skin and cause systemic effects. The active ingredient in this product produces sedation and analgesia. May cause decreases in blood pressure and other cardiac effects.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Avoid release to the environment.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

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| Disposal instructions | Avoid release to the environment. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

14. Transport information

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|---|-----------------------------------|
| DOT | Not regulated as dangerous goods. |
| IATA | Not regulated as dangerous goods. |
| IMDG | Not regulated as dangerous goods. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |

15. Regulatory information

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| US federal regulations | This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
| TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) | Not regulated. |
| CERCLA Hazardous Substance List (40 CFR 302.4) | Not listed. |
| SARA 304 Emergency release notification | Not regulated. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | Not listed. |
| Superfund Amendments and Reauthorization Act of 1986 (SARA) | |
| Hazard categories | Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No |
| SARA 302 Extremely hazardous substance | Not listed. |
| SARA 311/312 Hazardous chemical | No |
| SARA 313 (TRI reporting) | Not regulated. |
| Other federal regulations | |
| Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List | Not regulated. |
| Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) | Not regulated. |
| Safe Drinking Water Act (SDWA) | Not regulated. |
| US state regulations | |
| US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100) | Not listed. |

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|-------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 05-12-2016**Version #** 01

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