

SAFETY DATA SHEET



1. Identification

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|---|--|--|
| Product identifier | AUREO S 700G Crumbles (Diluted) | |
| Other means of identification | AUREO S®-700 G Drug Premix (Diluted) * Diluted AUREO S 700G Drug Premix Crumbles | |
| Synonyms | Veterinary product (Feed additive) | |
| Recommended use | Not for human use | |
| Recommended restrictions | | |
| Manufacturer/Importer/Supplier/Distributor information | | |
| Company Name (USA) | Zoetis Inc. 10 Sylvan Way Parsippany, New Jersey 07054 (USA) | |
| Rocky Mountain Poison and Drug Center | 1-866-531-8896 | |
| Product Support/Technical Services | 1-800-366-5288 | |
| Emergency telephone numbers | CHEMTRAC (24 hours): 1-800-424-9300 International CHEMTRAC (24 hours): +1-703-527-3887 | |
| Company Name (CA) | Zoetis Canada Inc. 16740 Trans-Canada Highway Kirkland, Quebec, H9H 4M7 | |
| Emergency telephone number | International CHEMTRAC (24 hours): +1-703-527-3887 | |
| Contact E-Mail | productsupport@zoetis.com | |
| Product Support | 1-800-461-0917 | |
| Supplier | All Safety Data Sheets are available via our Zoetis Canada website at https://www.zoetis.ca/sds/sds.aspx | |

2. Hazard(s) identification

| | | |
|--------------------------------|--|-------------|
| Physical hazards | Combustible dusts | Category 1 |
| Health hazards | Reproductive toxicity (the unborn child) | Category 1A |
| Environmental hazards | Not classified. | |
| Label elements | | |
| Signal word | Danger | |
| Hazard statement | May form combustible dust concentrations in air. May damage the unborn child. | |
| Precautionary statement | | |
| Prevention | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Prevent dust accumulation to minimize explosion hazard. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Wear protective gloves/protective clothing/eye protection/face protection. Observe good industrial hygiene practices. | |
| Response | IF exposed or concerned: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish. | |
| Storage | Store locked up. | |



| | |
|---------------------------------|---|
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Other hazards | None known. |
| Supplemental information | Exposure to sunlight following contact may result in skin reactions in rare instances. |

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|-------------------|--------------------------|--------------|------|
| Chlortetracycline | | 57-62-5 | 0.44 |
| Sulfamethazine | | 57-68-1 | 0.44 |
| Dehydrated alfa | | Not assigned | * |
| Soybean oil | | 8001-22-7 | * |
| Wheat Middling | | Not assigned | * |

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

* Non-hazardous Ingredients

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist. For breathing difficulties, oxygen may be necessary.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

Eye contact

Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical advice/attention if you feel unwell. If ingestion of a large amount does occur, call a poison control centre immediately. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Most important symptoms/effects, acute and delayed

Dusts may irritate the respiratory tract, skin and eyes. Coughing. Individuals sensitive to this chemical or other materials in its chemical class may develop allergic reactions. Dermatitis. Rash. Symptoms of chronic exposure to tetracyclines include redness and swelling of the skin, rash, chills, tooth discoloration, yellowing of the skin and eyes, nausea, vomiting, diarrhea, stomach pain, and chest pain. The most common adverse effects reported with clinical use were diarrhea, nausea, rash, and vomiting.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. For personal protection, see section 8 of the SDS. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Apply extinguishing media carefully to avoid creating airborne dust. Avoid high pressure media which could cause the formation of a potentially explosive dust-air mixture.

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. Explosion hazard: 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.

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

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

May form combustible dust concentrations in air. Fine particles (such as mists) may fuel fires/explosions.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Use only non-sparking tools. Ground container and transfer equipment to eliminate static electric sparks. 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. Avoid inhalation of dust. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Stop the flow of material, if this is without risk. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Large Spills: Absorb in vermiculite, dry sand or earth and place into containers. Clean surface thoroughly to remove residual contamination.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Minimise dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Provide appropriate exhaust ventilation at places where dust is formed. Ground/bond container and receiving equipment. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Wear personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from direct sunlight. Keep away from heat and sources of ignition. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

| Zoetis Components | Type | Value |
|---------------------------------|------|-----------------------|
| Chlortetracycline (CAS 57-62-5) | TWA | 0.5 mg/m ³ |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value | Form |
|-----------------------------|------|----------------------|------------------|
| Soybean oil (CAS 8001-22-7) | TWA | 3 mg/m ³ | Respirable mist. |
| | | 10 mg/m ³ | Mist. |

Canada. Quebec OELs. (Ministry of Labour - Regulation Respecting the Quality of the Work Environment)

| Components | Type | Value | Form |
|-----------------------------|------|----------------------|-------|
| Soybean oil (CAS 8001-22-7) | TWA | 10 mg/m ³ | Mist. |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Control banding approach

Sulfamethazine: Zoetis OEB 2 (control exposure to the range of 100ug/m³ to < 1000ug/m³)

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. 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. Keep air contamination levels below the exposure limits or within the OEB range listed above in this section. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment

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|---------------------------------------|--|
| Eye/face protection | If contact is likely, safety glasses with side shields are recommended. |
| Skin protection | |
| Hand protection | Wear appropriate chemical resistant gloves. |
| Other | Wear suitable protective clothing. Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas. |
| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. 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. Chemical respirator with organic vapour cartridge, full facepiece, dust and mist filter. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Observe any medical surveillance requirements. When using, do not eat, drink or smoke. 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

Appearance

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| Physical state | Solid. |
| Form | Pellets. Crumbles. |
| Colour | Brown. |
| Odour | Not available. |
| Odour 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

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|---------------------------------------|----------------|
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit – upper (%) | Not available. |
| Vapour pressure | Not available. |
| Vapour 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. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Explosive properties | Not explosive. |
| Oxidising properties | Not oxidising. |

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. Keep away from heat, spark, open flames and other sources of ignition. Minimise dust generation and accumulation. Dust may form explosive mixture with air. Fine particles (such as dust and mists) may fuel fires/explosions. |
| Incompatible materials | Acids. Peroxides. Fluorine. Phenols. Strong oxidising agents. |
| Hazardous decomposition products | Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Carbon oxides. Nitrogen oxides (NO _x). Sulphur oxides. May include hydrogen chloride. |

11. Toxicological information

Information on likely routes of exposure

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| Inhalation | Dust may irritate respiratory system. Prolonged inhalation may be harmful. |
| Skin contact | Dust or powder may irritate the skin. |
| Eye contact | Dust may irritate the eyes. |
| Ingestion | Expected to be a low ingestion hazard. |
| Symptoms related to the physical, chemical and toxicological characteristics | Respiratory tract irritation. Coughing. Mild skin irritation. Irritation of eyes. Individuals sensitive to this material or other materials in its chemical class may develop allergic reactions. Dermatitis. Rash. Symptoms of chronic exposure to tetracyclines include redness and swelling of the skin, rash, chills, tooth discoloration, yellowing of the skin and eyes, nausea, vomiting, diarrhea, stomach pain, and chest pain. The most common adverse effects reported with clinical use were diarrhea, nausea, rash, and vomiting. |

Information on toxicological effects

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|-----------------------|--|
| Acute toxicity | Expected to be a low hazard for usual industrial or commercial handling by trained personnel. Dusts may irritate the respiratory tract, skin and eyes. |
|-----------------------|--|

| Components | Species | Test results |
|---------------------------------|---------|--|
| Chlortetracycline (CAS 57-62-5) | | |
| Acute | | |
| Oral | | |
| LD50 | Rat | 3000 mg/kg |
| Chronic | | |
| Oral | | |
| NOAEL | Rat | 700 mg/kg/day, 2 years (Not carcinogenic) |
| Subacute | | |
| Oral | | |
| NOAEL | Mouse | 100 mg/kg/day, 6 weeks (No effects at maximum dose) |
| Subchronic | | |
| Oral | | |
| NOAEL | Mouse | 200 mg/kg/day, 14 weeks (No effects at maximum dose) |
| | Rat | 200 mg/kg/day, 14 weeks (No effects at maximum dose) |

| Components | Species | Test results |
|---|--|-------------------------------------|
| Sulfamethazine (CAS 57-68-1) | | |
| Acute | | |
| Oral | | |
| LD50 | Mouse | 50 g/kg |
| Other | | |
| LD50 | Mouse | 1.06 g/kg Sub-tenon injection (eye) |
| 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 sensitisation | | |
| Respiratory sensitisation | Not a respiratory sensitizer. | |
| Skin sensitisation | This product is not expected to cause skin sensitisation. | |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. | |
| Mutagenicity | | |
| Sulfamethazine | Bacterial Mutagenicity (Ames) Result: negative Species: Salmonella | |
| | Chromosome Aberration Result: negative Species: Chinese Hamster Ovary (CHO) cells | |
| Chlortetracycline | In Vitro Bacterial Mutagenicity (Ames) Result: negative Species: Salmonella , E. coli | |
| | In Vitro HGPRT Forward Gene Mutation Assay Result: negative Species: Chinese Hamster Ovary (CHO) cells | |
| | In Vitro Unscheduled DNA Synthesis Result: negative Species: Rat Hepatocyte | |
| | In Vivo Chromosome Aberration Result: negative Species: Rat | |
| Sulfamethazine | Sister Chromatid Exchange Result: positive Species: Chinese Hamster Ovary (CHO) cells | |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. | |
| IARC Monographs. Overall Evaluation of Carcinogenicity | | |
| Sulfamethazine (CAS 57-68-1) | 3 Not classifiable as to carcinogenicity to humans. | |
| Reproductive toxicity | May damage the unborn child. | |
| Developmental effects | | |
| Chlortetracycline | 100 mg/kg/day Embryo / Fetal Development, No effects at maximum dose (data for Oxytetracycline) Result: NOAEL Species: Rat Organ: Oral | |
| | 20.75 mg/kg/day Embryo / Fetal Development, Embryotoxicity, Teratogenic (data for Oxytetracycline) Result: LOEL Species: Dog Organ: Intramuscular | |

Developmental effects

Chlortetracycline

41.5 mg/kg/day Embryo / Fetal Development, Embryotoxicity

(data for Oxytetracycline)

Result: LOEL

Species: Rabbit

Organ: Intramuscular

41.5 mg/kg/day Embryo / Fetal Development, No effects at maximum dose (data for Oxytetracycline)

Result: NOAEL

Species: Rat

Organ: Intramuscular

Sulfamethazine

545 mg/kg/day Embryo / Fetal Development, teratogenic

Result: NOEL

Species: Rat

Organ: Oral

Reproductivity

Chlortetracycline

500 mg/kg/day 2 Generation Reproductive Toxicity, negative

Result: NOAEL

Species: Rat

Organ: Oral

Sulfamethazine

600 mg/kg/day Reproductive & Fertility, Not Teratogenic, Maternal Toxicity, Fetotoxicity

Result: NOEL

Species: Rabbit

Organ: Oral

805 mg/kg/day Reproductive & Fertility, Fertility

Result: NOEL

Species: Mouse

Organ: Oral

Specific target organ toxicity - single exposure Not classified.**Specific target organ toxicity - repeated exposure** Not classified.**Aspiration hazard** Not an aspiration hazard.**Chronic effects** Prolonged inhalation may be harmful.**Further information** Photosensitivity has been reported in some individuals taking tetracyclines. High doses of tetracyclines can cause a liver condition known as fatty liver. Individuals who suffer from high cholesterol, high triglycerides, or have alcoholic liver disease may be more susceptible. May produce kidney toxicity if kidney damage already exists (based on animal data). As in all sulfonamide therapy, the following reactions may occur including nausea, vomiting, diarrhea, inflammation of the liver and pancreas, blood disorder, drug fever, skin rash, infection of the conjunctiva and sclera, blood in the urine and crystalluria. Individuals sensitive to this material or other materials in its chemical class may develop allergic reactions. Symptoms may be delayed.

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. Do not allow this material to drain into sewers/water supplies. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | None known. |
| 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. |

14. Transport information

TDG

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

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

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 |

| Country(s) or region | Inventory name | On inventory (yes/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

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| Issue date | 24-March-2017 |
| Version No. | 01 |
| Disclaimer | Zoetis Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time. The information in the sheet was written based on the best knowledge and experience currently available. |
| Revision information | Product and Company Identification: Synonyms Composition / Information on Ingredients: Ingredients GHS: Classification |