1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Identifier
Material Name: Nystatin-Neomycin Sulfate-Thiostrepton-Triamcinolone Acetonide Ointment
Trade Name: PANALOG
Chemical Family: Mixture

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
Intended Use: Veterinary product used as Antifungal, antibacterial, anti-inflammatory and antipruritic

Details of the Supplier of the Safety Data Sheet
Zoetis Inc.
100 Campus Drive, P.O. Box 651
Florham Park, New Jersey 07932 (USA)
Rocky Mountain Poison Control Center Phone: 1-866-531-8896
Product Support/Technical Services Phone: 1-800-366-5288

Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300
Contact E-Mail: VMIPSrecords@zoetis.com

2. HAZARDS IDENTIFICATION

Appearance: Yellow ointment

Classification of the Substance or Mixture
GHS - Classification
Respiratory Sensitization: Category 1
Skin Sensitization: Category 1
Reproductive Toxicity: Category 1B

EU Classification:
EU Indication of danger: Not classified

Label Elements
Signal Word: Danger
Hazard Statements:
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317 - May cause an allergic skin reaction
H360 - May damage fertility or the unborn child
Precautionary Statements:
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P284 - Wear respiratory protection
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician
P302+ P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P308 + P313 - IF exposed or concerned: Get medical attention/advice
P405 - Store locked up
P501 - Dispose of contents/container in accordance with all local and national regulations

Other Hazards

Short Term:
Known Clinical Effects: May be absorbed through the skin and cause systemic effects. Individuals sensitive to this material or other materials in its chemical class may develop allergic reactions. Drugs of this class may cause Cushing's syndrome, manifested by moon face, obesity, headache, acne, thirst, increased urination, impotence, menstrual irregularities, facial hair growth, and mental changes.

Australian Hazard Classification (NOHSC):

Note: This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>EU Classification</th>
<th>GHS Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neomycin Sulfate</td>
<td>1405-10-3</td>
<td>215-773-1</td>
<td>Xn;R42/43</td>
<td>Resp. Sens. 1 (H334)</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr.Cat.3;R63</td>
<td>Skin Sens.1(H317)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Repro. 2 (H361)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aq. Acute 3 (H402)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aq. Chronic 3 (H412)</td>
<td></td>
</tr>
<tr>
<td>Triamcinolone acetonide</td>
<td>76-25-5</td>
<td>200-948-7</td>
<td>Repr.Cat.2;R61</td>
<td>Repr. 1B (H360)</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Thiotrepton</td>
<td>1393-48-2</td>
<td>215-734-9</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Nystatin</td>
<td>1400-61-9</td>
<td>215-749-0</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>&lt;1.0</td>
</tr>
</tbody>
</table>
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Skin</th>
<th>Eye</th>
<th>Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral oil, heavy</td>
<td>8042-47-5</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td></td>
<td>232-455-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

For the full text of the R phrases and CLP/GHS abbreviations mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of First Aid Measures

Eye Contact: Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: None known

Indication of the Immediate Medical Attention and Special Treatment Needed

Notes to Physician: None

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO2, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire.

Fire / Explosion Hazards: Fine particles (such as dust and mists) may fuel fires/explosions.

Advice for Fire-Fighters

Wear approved positive pressure, self-contained breathing apparatus and full protective turn out gear. Dike and collect water used to fight fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Environmental Precautions

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Methods and Material for Containment and Cleaning Up

PZ01565
7. HANDLING AND STORAGE

Precautions for Safe Handling
Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities
Storage Conditions: Store at room temperature in properly labeled containers. Keep away from heat, sparks and flames.
Specific end use(s): No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters
Refer to available public information for specific member state Occupational Exposure Limits.

Neomycin Sulfate
Zoetis OEL TWA 8-hr 100 µg/m³, Sensitizer

Triamcinolone acetonide
Zoetis OEL TWA 8-hr 4µg/m³, Skin

Mineral oil, heavy
ACGIH Threshold Limit Value (TWA) 5 mg/m³

The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

Nystatin
Zoetis OEB OEB 3 (control exposure to the range of 10ug/m³ to < 100ug/m³)

Exposure Controls
Engineering Controls: Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes.
Personal Protective Equipment: Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).
Hands: Wear impervious gloves if skin contact is possible.
Eyes: Safety glasses or goggles
Skin: Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas.
Respiratory protection: 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.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Ointment
Color: Yellow
Odor: No data available.
Odor Threshold: No data available.
Molecular Formula: Mixture
Molecular Weight: Mixture

Solvent Solubility: No data available
Water Solubility: No data available
pH: No data available
Melting/Freezing Point (°C): No data available
Boiling Point (°C): No data available
Partition Coefficient: (Method, pH, Endpoint, Value) No data available
Decomposition Temperature (°C): No data available
Evaporation Rate (Gram/s): No data available
Vapor Pressure (kPa): No data available
Vapor Density (g/ml): No data available
Relative Density: No data available
Viscosity: No data available
Flammability: Autoignition Temperature (Solid) (°C): No data available
Flammability (Solids): No data available
Flash Point (Liquid) (°C): No data available
Upper Explosive Limits (Liquid) (% by Vol.): No data available
Lower Explosive Limits (Liquid) (% by Vol.): No data available
Polymerization: Will not occur

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under normal conditions of use.
Possibility of Hazardous Reactions
Oxidizing Properties: No data available
Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.
Incompatible Materials: As a precautionary measure, keep away from strong oxidizers
Hazardous Decomposition Products: No data available

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
General Information: Toxicological properties of the formulation have not been investigated. The information included in this section describes the potential hazards of the individual ingredients.
### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity: (Species, Route, End Point, Dose)

<table>
<thead>
<tr>
<th>Material</th>
<th>Species</th>
<th>Route</th>
<th>End Point</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neomycin Sulfate</td>
<td>Rat</td>
<td>Oral</td>
<td>LD 50</td>
<td>2750 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>Oral</td>
<td>LD 50</td>
<td>2880 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>Intraperitoneal</td>
<td>LD 50</td>
<td>116 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>Subcutaneous</td>
<td>LD 50</td>
<td>633 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>Subcutaneous</td>
<td>LD 50</td>
<td>275 mg/kg</td>
</tr>
<tr>
<td>Nystatin</td>
<td>Rat</td>
<td>Oral</td>
<td>LD 50</td>
<td>10,000 mg/kg</td>
</tr>
<tr>
<td>Triamcinolone acetonide</td>
<td>Rat</td>
<td>Subcutaneous</td>
<td>LD 50</td>
<td>13100 ug/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>Oral</td>
<td>LD 50</td>
<td>5 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>Subcutaneous</td>
<td>LD 50</td>
<td>132 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>Dermal</td>
<td>LD 50</td>
<td>&gt;402 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>Oral</td>
<td>LD 50</td>
<td>5 mg/kg</td>
</tr>
</tbody>
</table>

**Thiostrepton**

<table>
<thead>
<tr>
<th>Material</th>
<th>Species</th>
<th>Route</th>
<th>End Point</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mouse</td>
<td>Oral</td>
<td>LD 50</td>
<td>&gt;1000 mg/kg</td>
</tr>
</tbody>
</table>

**Acute Toxicity Comments:** A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

#### Irritation / Sensitization: (Study Type, Species, Severity)

<table>
<thead>
<tr>
<th>Material</th>
<th>Species</th>
<th>Route</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol</td>
<td>Rabbit</td>
<td>Mild</td>
<td></td>
</tr>
<tr>
<td>Neomycin Sulfate</td>
<td>Rabbit</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin Irritation</td>
<td>Rabbit</td>
<td>Mild</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Species</th>
<th>Route</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neomycin Sulfate</td>
<td>Rabbit</td>
<td>Negative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin Irritation</td>
<td>Rabbit</td>
<td>Minimal</td>
</tr>
<tr>
<td></td>
<td>Skin Sensitization</td>
<td>Positive</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Species</th>
<th>Route</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triamcinolone acetonide</td>
<td>Rabbit</td>
<td>Mild</td>
<td></td>
</tr>
</tbody>
</table>

**Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)**

<table>
<thead>
<tr>
<th>Material</th>
<th>Species</th>
<th>Route</th>
<th>Dose</th>
<th>End Point</th>
<th>Target Organ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neomycin Sulfate</td>
<td>Dog</td>
<td>Oral</td>
<td>100 mg/kg/day</td>
<td>NOAEL</td>
<td>No effects at maximum dose</td>
</tr>
<tr>
<td></td>
<td>Guinea Pig</td>
<td>Oral</td>
<td>10 mg/kg/day</td>
<td>NOAEL</td>
<td>No effects at maximum dose</td>
</tr>
<tr>
<td></td>
<td>Dog</td>
<td>Subcutaneous</td>
<td>20 mg/kg/day</td>
<td>LOAEL</td>
<td>Kidney</td>
</tr>
<tr>
<td></td>
<td>Cat</td>
<td>Oral</td>
<td>12 mg/kg/day</td>
<td>NOAEL</td>
<td>Blood forming organs</td>
</tr>
<tr>
<td></td>
<td>Guinea Pig</td>
<td>Subcutaneous</td>
<td>10 mg/kg/day</td>
<td>LOAEL</td>
<td>Kidney</td>
</tr>
</tbody>
</table>

**Reproduction & Development Toxicity: (Duration, Species, Route, Dose, End Point, Effect(s))**
11. TOXICOLOGICAL INFORMATION

Neomycin Sulfate
Reproductive & Fertility Mouse Oral 4000 mg/L NOAEL No effects at maximum dose
2 Generation Reproductive Toxicity Rat Oral 25 mg/kg/day NOAEL Developmental toxicity
Reproductive & Fertility Rat Oral 25 mg/kg/day NOAEL No effects at maximum dose
Prenatal & Postnatal Development Rat Subcutaneous 6 mg/kg/day LOAEL Developmental toxicity

Triamcinolone acetonide
Embryo / Fetal Development Mouse Intramuscular 10 mg/day LOAEL Developmental toxicity
Embryo / Fetal Development Rat Intramuscular 0.5 mg/kg/day LOAEL Developmental toxicity
Embryo / Fetal Development Monkey Intramuscular 0.5 mg/kg LOAEL Developmental toxicity

Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

Neomycin Sulfate
Bacterial Mutagenicity (Ames) Salmonella, E. coli Negative
Mammalian Cell Mutagenicity Chinese Hamster Ovary (CHO) cells Negative
In Vivo Cytogenetics Mouse Negative
In Vitro Chromosome Aberration Human Lymphocytes Positive

Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))

Neomycin Sulfate
2 Year(s) Rat Oral 25 mg/kg/day NOAEL Not carcinogenic

Carcinogen Status: None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.
12. ECOLOGICAL INFORMATION

Environmental Overview:
The environmental characteristics of this mixture have not been fully evaluated. Releases to the environment should be avoided.

Toxicity:
Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

**Neomycin Sulfate**

*Daphnia magna* (Water Flea)  
OECD EC50 48 Hours 68 mg/L

*Salmo gairdneri* (Trout)  
OECD NOEC 96 Hours >1000 mg/L

**Neomycin Sulfate**

Activated sludge OECD EC50 399 mg/L

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

**Neomycin Sulfate**

Predicted Log D 1.20

**Triamcinolone acetonide**

Predicted Log D 2.5

Mobility in Soil: No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:
Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. 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.

14. TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture
15. REGULATORY INFORMATION

Canada - WHMIS: Classifications

**WHMIS hazard class:**
- Class D, Division 2, Subdivision A
- Class D, Division 2, Subdivision B

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

---

### Neomycin Sulfate

<table>
<thead>
<tr>
<th>CERCLA/SARA 313 Emission reporting</th>
<th>Not Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Proposition 65</td>
<td>development toxicity initial date 10/1/92 internal use</td>
</tr>
<tr>
<td>Inventory - United States TSCA - Sect. 8(b)</td>
<td>Present</td>
</tr>
<tr>
<td>Australia (AICS):</td>
<td>Present</td>
</tr>
<tr>
<td>EU EINECS/ELINCS List</td>
<td>215-773-1</td>
</tr>
</tbody>
</table>

### Triamcinolone acetonide

<table>
<thead>
<tr>
<th>CERCLA/SARA 313 Emission reporting</th>
<th>Not Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Proposition 65</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Inventory - United States TSCA - Sect. 8(b)</td>
<td>Present</td>
</tr>
<tr>
<td>Australia (AICS):</td>
<td>Present</td>
</tr>
<tr>
<td>EU EINECS/ELINCS List</td>
<td>200-948-7</td>
</tr>
</tbody>
</table>

### Thiostrepton

<table>
<thead>
<tr>
<th>CERCLA/SARA 313 Emission reporting</th>
<th>Not Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Proposition 65</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Standard for the Uniform Scheduling for Drugs and Poisons:</td>
<td>Schedule 4</td>
</tr>
<tr>
<td>EU EINECS/ELINCS List</td>
<td>215-734-9</td>
</tr>
</tbody>
</table>

### Nystatin

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>California Proposition 65</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Australia (AICS):</td>
<td>Present</td>
</tr>
<tr>
<td>Standard for the Uniform Scheduling for Drugs and Poisons:</td>
<td>Schedule 2</td>
</tr>
<tr>
<td>Schedule 3</td>
<td>Schedule 4</td>
</tr>
<tr>
<td>EU EINECS/ELINCS List</td>
<td>215-749-0</td>
</tr>
</tbody>
</table>

### Mineral oil, heavy

<table>
<thead>
<tr>
<th>CERCLA/SARA 313 Emission reporting</th>
<th>Not Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Proposition 65</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Inventory - United States TSCA - Sect. 8(b)</td>
<td>Present</td>
</tr>
<tr>
<td>Australia (AICS):</td>
<td>Present</td>
</tr>
<tr>
<td>EU EINECS/ELINCS List</td>
<td>232-455-8</td>
</tr>
</tbody>
</table>
16. OTHER INFORMATION

Text of R phrases and GHS Classification abbreviations mentioned in Section 3

H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H361 - Suspected of damaging fertility or the unborn child
H402 - Harmful to aquatic life
H412 - Harmful to aquatic life with long lasting effects

Toxic to Reproduction: Category 2
Xn - Harmful

R61 - May cause harm to the unborn child.
R63 - Possible risk of harm to the unborn child.
R42/43 - May cause sensitization by inhalation and skin contact.

Data Sources: The data contained in this MSDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature.

Reasons for Revision: Updated Section 1 - Identification of the Substance/Preparation and the Company/Undertaking. Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 5 - Fire Fighting Measures. Updated Section 7 - Handling and Storage. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 15 - Regulatory Information.

Prepared by: Toxicology and Hazard Communication
Zoetis Global Risk Management

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.

End of Safety Data Sheet