

SAFETY DATA SHEET



1. Identification

| | |
|---|---|
| Product identifier | Leukocell® 2 |
| Other means of identification | |
| Synonyms | LEUKOCELL * LEUKOCELL 2 * Feline Leukemia Vaccine, Killed Virus |
| Recommended use | Veterinary vaccine |
| Recommended restrictions | Not for human use |
| 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 | CHEMTREC (24 hours): 1-800-424-9300 International CHEMTREC (24 hours): +1-703-527-3887 |
| Company Name (CA) | Zoetis Canada Inc. 16740 Trans-Canada Highway Kirkland, Quebec, H9H 4M7 |
| Emergency telephone number | International CHEMTREC (24 hours): +1-703-527-3887 |
| Contact E-Mail | productsupport@zoetis.com |
| Product Support | 1-800-461-0917 |

All Safety Data Sheets are available via our Zoetis Canada website at <https://www.zoetis.ca/sds/sds.aspx>

Supplier Not available.

2. Hazard(s) identification

| | |
|------------------------------|-----------------|
| Physical hazards | Not classified. |
| Health hazards | Not classified. |
| Environmental 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. |

Other hazards None known.

Supplemental information Direct contact with eyes may cause temporary irritation. In the event of accidental injection, an allergic reaction may occur. Saponins have little toxicity for humans when ingested but have hemolytic effects when injected intravenously.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|-------------------------------------|--------------------------|--------------|------|
| Sodium O-(ethylmercurithio)benzoate | | 54-64-8 | <0.1 |
| Aluminum hydroxide gel | | 21645-51-2 | * |
| Feline leukemia virus | | Not assigned | * |
| Gentamicin | | 1403-66-3 | ## |
| Quil-A saponin | | 66594-14-7 | * |

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

Composition comments ## Trace
* Non-hazardous Ingredients

4. First-aid measures

| | |
|---|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | In the case of skin contact, immediately wash the skin with plenty of soap and water. In the event of accidental self injection or needle stick injury, wash the injury thoroughly with clean running water. Get medical attention immediately. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contact lenses, if present and easy to do. |
| Ingestion | Rinse mouth. Call a physician or poison control centre 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. In the event of accidental injection, an allergic reaction may occur. Signs and symptoms might include skin rash, itching, redness or swelling. Respiratory reactions may be characterized by rhinitis, sneezing, scratchy throat, oral mucosal edema, laryngeal mucosal edema, coughing, shortness of breath, wheezing, and chest pain. Asthma like reactions occur with acute exposures in sensitized patients. |
| Indication of immediate medical attention and special treatment needed | Treat symptomatically. |
| General information | 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. |

5. Fire-fighting measures

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|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| 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 | 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 | 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. |
| Methods and materials for containment and cleaning up | Large Spills: Stop the flow of material, if this is without risk. 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. 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. |

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapour. Avoid accidental injection. Wash thoroughly after handling. When using, do not eat, drink or smoke. Wear personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store away from direct sunlight. @ 2 - 7°C (36 - 45°F). Do not freeze. Store in original tightly closed container. Keep away from heat, sparks and open flame. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|---|------|------------------------|----------------------|
| Aluminum hydroxide gel (CAS 21645-51-2) | TWA | 1 mg/m ³ | Respirable fraction. |
| Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | STEL | 0.03 mg/m ³ | |
| | TWA | 0.01 mg/m ³ | |

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components | Type | Value | Form |
|---|------|------------------------|-----------------------|
| Aluminum hydroxide gel (CAS 21645-51-2) | TWA | 3 mg/m ³ | Respirable particles. |
| | | 10 mg/m ³ | Total particulate. |
| Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | STEL | 0.03 mg/m ³ | |
| | TWA | 0.01 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 |
|---|------|------------------------|
| Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | STEL | 0.03 mg/m ³ |
| | TWA | 0.01 mg/m ³ |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components | Type | Value | Form |
|---|------|------------------------|----------------------|
| Aluminum hydroxide gel (CAS 21645-51-2) | TWA | 1 mg/m ³ | Respirable fraction. |
| Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | STEL | 0.03 mg/m ³ | |
| | TWA | 0.01 mg/m ³ | |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value |
|---|------|------------------------|
| Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | STEL | 0.03 mg/m ³ |
| | TWA | 0.01 mg/m ³ |

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

| Components | Type | Value | Form |
|---|------|------------------------|-------------|
| Aluminum hydroxide gel (CAS 21645-51-2) | TWA | 10 mg/m ³ | Total dust. |
| Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | STEL | 0.03 mg/m ³ | |
| | TWA | 0.01 mg/m ³ | |

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

Exposure guidelines

Canada - Alberta OELs: Skin designation

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Can be absorbed through the skin.

Control banding approach

Gentamicin: Zoetis OEB 2 (control exposure to the range of 100ug/m³ to < 1000ug/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. Keep air contamination levels below the exposure limits or within the OEB range listed above in this section. General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection

If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection

Wear impervious gloves if skin contact is possible.

Other

Wear suitable protective clothing. Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas.

Respiratory protection

No personal respiratory protective equipment normally required. 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. 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

Appearance

Liquid solution

Physical state

Liquid.

Form

Liquid.

Colour

Not available.

Odour

Not available.

Odour threshold

Not available.

pH

6 - 8

Melting point/freezing point

Not available.

Initial boiling point and boiling range

> 100 °C (> 212 °F)

Flash point

Non-flammable

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable.

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. |
| 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. |
| Specific gravity | 0.8 - 1.2 |

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. Sunlight. High temperatures. Store at 2-7°C. Prolonged exposure to higher temperatures may adversely affect potency. Do not freeze. |
| Incompatible materials | Strong oxidising agents. This material can be denatured or inactivated by a variety of organic solvents, salts or heavy metals. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|-------------------------------------|--|
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | Prolonged skin contact may cause temporary irritation. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Sodium O-(ethylmercurithio)benzoate | Species: Rabbit Severity: Mild |
| Gentamicin | Species: Rabbit Severity: Non-irritating |

Ingestion Expected to be a low ingestion hazard.

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. In the event of accidental injection, an allergic reaction may occur. Signs and symptoms might include skin rash, itching, redness or swelling. Respiratory reactions may be characterized by rhinitis, sneezing, scratchy throat, oral mucosal edema, laryngeal mucosal edema, coughing, shortness of breath, wheezing, and chest pain. Asthma like reactions occur with acute exposures in sensitized patients.

Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

| Components | Species | Test results |
|---|--|--------------------------|
| Aluminum hydroxide gel (CAS 21645-51-2) | | |
| Acute | | |
| Other | | |
| LD50 | Rat | 150 mg/kg |
| Gentamicin (CAS 1403-66-3) | | |
| Acute | | |
| Intramuscular | | |
| LD50 | Mouse | 167 mg/kg |
| | Rat | 463 mg/kg |
| Oral | | |
| LD50 | Rat | 6600 mg/kg |
| Subcutaneous | | |
| LD50 | Rat | 710 mg/kg |
| Quil-A saponin (CAS 66594-14-7) | | |
| Acute | | |
| Intravenous | | |
| LD50 | Rat | 670 ug/kg |
| Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | | |
| Acute | | |
| Oral | | |
| LD50 | Mouse | 91 mg/kg |
| | Rat | 75 mg/kg |
| Subcutaneous | | |
| LD50 | Rat | 98 mg/kg |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. | |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. | |
| Eye contact | | |
| Sodium O-(ethylmercurithio)benzoate | Species: Rabbit | Severity: Mild |
| Gentamicin | Species: Rabbit | Severity: Non-irritating |
| Respiratory or skin sensitisation | | |
| Respiratory sensitisation | Not a respiratory sensitizer. | |
| Skin sensitisation | This product contains merthiolate which is considered to be a skin sensitizer. 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. | |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. | |
| ACGIH Carcinogens | | |
| Aluminum hydroxide gel (CAS 21645-51-2) | A4 Not classifiable as a human carcinogen. | |
| Canada - Manitoba OELs: carcinogenicity | | |
| Aluminum hydroxide gel (CAS 21645-51-2) | Not classifiable as a human carcinogen. | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. | |
| Developmental effects | | |
| Gentamicin | 75 mg/kg/day Embryo / Fetal Development, Developmental toxicity Result: LOAEL Species: Rat Organ: Intramuscular | |

| | |
|---|---|
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not an aspiration hazard. |
| Further information | Allergic reactions are possible. The antigens included in this product are non-infectious. All have been prepared from killed or inactivated preparations of microorganisms. Saponins have little toxicity for humans when ingested but have hemolytic effects when injected intravenously. |

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

| | |
|--|--|
| Disposal instructions | Avoid release to the environment. Do not discharge into drains, water courses or onto the ground. Do not contaminate ponds, waterways or ditches with chemical or used container. 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. This product contains trace quantities of mercury, releases to the environment should be avoided. |
| 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 established. |

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) | Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | Substance subject to notification or consent. |
| Greenhouse Gases | Not listed. | |
| Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011) | Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) | |

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Sodium O-(ethylmercurithio)benzoate (CAS 54-64-8) Pesticide

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 |
| 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 | 06-April-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 Physical & Chemical Properties: Multiple Properties |