

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|-------------------------------|---|
| Product form | : Mixture |
| Product name | : KASUMIN [®] 2L BACTERICIDE |
| Other means of identification | : EPA Reg. No. 66330-404 PMRA Reg. No. 30591 |

1.2. Relevant identified uses of the substance or mixture and uses advised against

| | |
|------------------------------|---------------|
| Use of the substance/mixture | : Bactericide |
|------------------------------|---------------|

1.3. Details of the supplier of the safety data sheet

Arysta LifeScience North America LLC
15401 Weston Parkway, Suite 150
Cary, NC 27513 – USA

Arysta LifeScience
400 Michener Road, Unit 2
Guelph, Ontario
N1K 1E4

1.4. Emergency telephone number

| | |
|------------------|--|
| Emergency number | : Exposure Calls (PROSAR): +1-866-303-6952 or +1-651-603-3432 (international) Spill Calls (CHEMTREC) (Contract # CCN1779): +1-800-424-9300 or +1-703-527-3887 (international) |
|------------------|--|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS classification

Repr. 1B H360

Full text of H-statements: see section 16

2.2. Label elements

GHS labelling

Hazard pictograms (GHS)



GHS08

| | |
|--------------------------------|---|
| Signal word (GHS) | : Danger |
| Hazard statements (GHS) | : H360 - May damage fertility or the unborn child |
| Precautionary statements (GHS) | : P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P280 - Wear protective clothing, protective gloves P308+P313 - If exposed or concerned: Get medical advice/attention P405 - Store locked up P501 - Dispose of contents/container to an authorised waste collection point |

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS)

2.3 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
2.3 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
2.3 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

KASUMIN[®] 2L BACTERICIDE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Canada Hazardous Product Regulation (HPR)

3.2. Mixture

| Name | Product identifier | % (w/w) | GHS classification |
|-----------------------------------|---------------------|----------|--|
| Secondary alcohol ethoxylate | (CAS No) 84133-50-6 | 4.85 - 5 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 |
| Kasugamycin (Main constituent) | (CAS No) 6980-18-3 | 2.3 | Skin Irrit. 2, H315 Repr. 1B, H360 |
| 1,2-benzisothiazolone | (CAS No) 2634-33-5 | 0.1 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Acute 1, H400 |

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Wash with plenty of soap and water.
- First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water.
- First-aid measures after ingestion : Rinse mouth. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Suspected of damaging fertility.
- Symptoms/injuries after skin contact : Repeated or prolonged contact may cause slight irritation to the skin.
- Symptoms/injuries after eye contact : May cause slight irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Burning produces irritating, toxic and noxious fumes.
- Reactivity : No dangerous reactions known.

5.3. Advice for firefighters

- Precautionary measures fire : Stop leak if safe to do so. Keep upwind.
- Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses. Eliminate all ignition sources if safe to do so. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

- Protective equipment : Chemical goggles or safety glasses. Wear suitable gloves.
- Emergency procedures : Stop leak, if possible without risk. Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Chemical goggles or safety glasses. Wear suitable gloves.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent dispersion.

6.3. Methods and material for containment and cleaning up

- For containment : Do not allow minor leaks or spills to accumulate on walking surfaces.

KASUMIN[®] 2L BACTERICIDE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Canada Hazardous Product Regulation (HPR)

Methods for cleaning up : Take up in non-combustible absorbent material and shove into container for disposal.

6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

Hygiene measures : Always wash your hands immediately after handling this product, and once again before leaving the workplace. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.

Incompatible materials : Water-reactive.

Heat and ignition sources : Keep away from heat, sparks and flame.

Prohibitions on mixed storage : Incompatible materials.

Storage area : Store in dry, cool, well-ventilated area.

Special rules on packaging : Store in a closed container. unbreakable packaging.

7.3. Specific end use(s)

Bactericide.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| KASUMIN [®] 2L BACTERICIDE | |
|---|----------------|
| ACGIH | Not applicable |
| OSHA | Not applicable |
| Kasugamycin (6980-18-3) | |
| ACGIH | Not applicable |
| OSHA | Not applicable |
| Secondary alcohol ethoxylate (84133-50-6) | |
| ACGIH | Not applicable |
| OSHA | Not applicable |
| 1,2-benzisothiazolone (2634-33-5) | |
| ACGIH | Not applicable |
| OSHA | Not applicable |

8.2. Exposure controls

Appropriate engineering controls : Avoid creating mist or spray. Avoid splashing. Use only outdoors or in a well-ventilated area.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Use rubber gloves.

Eye protection : In case of splashing or aerosol production: protective goggles.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Wear appropriate mask.

Other information : Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Blue Green

Odour : Faint characteristic

Odour threshold : No data available

pH : 4.02 (1% solution) @ 25 °C

Melting point : No data available

KASUMIN[®] 2L BACTERICIDE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canada Hazardous Product Regulation (HPR)

| | |
|---|---|
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas) | : No data available |
| Explosive limits | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Vapour pressure | : No data available |
| Relative density | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Density | : 1.0099 g/ml @ 25 °C |
| Solubility | : Water: Solubility in water of component(s) of the mixture : • Kasugamycin: 228 g/l @ 25 °C |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : 6 mPa.s @ 25 °C |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Extremely high or low temperatures.

10.5. Incompatible materials

Water reactive.

10.6. Hazardous decomposition products

Burning produces irritating, toxic and noxious fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|---------------------------|------------------------------------|
| Likely routes of exposure | : Inhalation; Skin and eye contact |
| Acute toxicity | : Not classified |

| KASUMIN [®] 2L BACTERICIDE | |
|---|--------------------------|
| LD50 oral rat | > 5000 mg/l |
| LD50 dermal rat | > 10000 mg/kg |
| LC50 inhalation rat (mg/l) | > 2.07 mg/l/4h |
| Secondary alcohol ethoxylate (84133-50-6) | |
| LD50 oral rat | > 3000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |
| 1,2-benzisothiazolone (2634-33-5) | |
| ATE US (oral) | 500.000 mg/kg bodyweight |

KASUMIN[®] 2L BACTERICIDE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canada Hazardous Product Regulation (HPR)

| | |
|--|---|
| Skin corrosion/irritation | : Not classified (Slightly irritating to skin) |
| Serious eye damage/irritation | : Not classified (Slightly irritating to eyes.) |
| Respiratory or skin sensitisation | : Not classified (No sensitizing reaction was observed for guinea pigs) |
| Germ cell mutagenicity | : Not classified Structured chromosome aberration: Negative (active ingredient) Ames Test: Negative (active ingredient) Unscheduled DNA synthesis: Negative (active ingredient) V/79HGPRT Forward mutation assay: Negative (active ingredient) Micronucleus test: Negative (active ingredient) |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : May damage fertility or the unborn child. Kasugamycin Technical may impair male fertility following chronic oral exposure |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |

KASUMIN[®] 2L BACTERICIDE

| | |
|----------------------------|--------------------------|
| NOAEL (oral, rat, 90 days) | 300 mg/kg bodyweight/day |
|----------------------------|--------------------------|

| | |
|--------------------------------------|--|
| Aspiration hazard | : Not classified |
| Symptoms/injuries after skin contact | : Repeated or prolonged contact may cause slight irritation to the skin. |
| Symptoms/injuries after eye contact | : May cause slight irritation. |

SECTION 12: Ecological information

12.1. Toxicity

Kasugamycin (6980-18-3)

| | |
|----------------|--|
| LC50 fish 1 | > 1000 mg/kg 96 h Rainbow trout, Bluegill, Guppy |
| EC50 Daphnia 1 | 340 mg/l 48 h |

Secondary alcohol ethoxylate (84133-50-6)

| | |
|----------------|-------------------------------|
| LC50 fish 1 | 3.4 - 4.9 mg/l Fathead minnow |
| EC50 Daphnia 1 | 4.01 mg/l 48 h |

12.2. Persistence and degradability

Secondary alcohol ethoxylate (84133-50-6)

| | |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation | > 60 % 28 d |

12.3. Bioaccumulative potential

Kasugamycin (6980-18-3)

| | |
|-------------------------------------|--------------------------------|
| Bioconcentration factor (BCF REACH) | 3 (estimated) |
| Log Pow | < -1.96 @ 23 °C |
| Bioaccumulative potential | Not expected to bioaccumulate. |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|---|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. |
| Additional information | : Container contents should be completely used and containers should be emptied prior to discard. |

KASUMIN[®] 2L BACTERICIDE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Canada Hazardous Product Regulation (HPR)

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not considered a dangerous good for transport regulations

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Kasugamycin (6980-18-3)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2-benzisothiazolone (2634-33-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Kasugamycin (6980-18-3)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

1,2-benzisothiazolone (2634-33-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

1,2-benzisothiazolone (2634-33-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Repr. 1B H360

Full text of H-statements: see section 16

National regulations

Kasugamycin (6980-18-3)

Polymer exempt from EINECS.

Not listed on the Canadian Non-Domestic Substances List (NDSL).

1,2-benzisothiazolone (2634-33-5)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on Taiwan National Chemical Inventory

Listed on KECI (Korean Existing Chemicals Inventory)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on NZIoC (New Zealand Inventory of Chemicals)

15.3. US State regulations

No additional information available

15.4. US EPA – FIFRA Regulations

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Signal word (FIFRA) : Caution.

KASUMIN[®] 2L BACTERICIDE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Canada Hazardous Product Regulation (HPR)

- Hazard statements (FIFRA) : Causes moderate eye irritation.
Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
- Environmental hazards : **For terrestrial uses:** Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

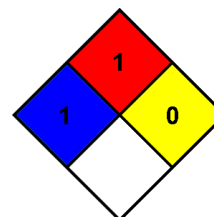
SECTION 16: Other information

- Indication of changes : GHS classification information.
- Revision date : 06/17/2015
- Data sources : ACGIH (American Conference of Government Industrial Hygienists).
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
NIOSH Occupational Health Guide for chemical Substances - Vol. II, September, 1978.
OSHA 29CFR 1910.1200 Hazard Communication Standard.
TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.
- Abbreviations and acronyms : ATE: Acute Toxicity Estimate.
CAS (Chemical Abstracts Service) number.
CLP: Classification, Labelling, Packaging.
EC50: Environmental Concentration associated with a response by 50% of the test population.
LD50: Lethal Dose for 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
NOEC: No Observable Effect Concentration.
OSHA: Occupational Safety & Health Administration.
TSCA: Toxic Substances Control Act.
- Other information : None.

Full text of H-statements:

| | |
|---------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Repr. 1B | Reproductive toxicity, Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1B | Sensitisation — Skin, category 1B |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H360 | May damage fertility or the unborn child |
| H400 | Very toxic to aquatic life |

- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 1 - Must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



Redstone SDS USCAN (GHS) for Arysta

SDS Prepared by: The Redstone Group, LLC.

KASUMIN[®] 2L BACTERICIDE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Canada Hazardous Product Regulation (HPR)

6077 Frantz Rd
Suite 206
Dublin, Ohio, USA 43016
614.923.7472
www.redstonegrp.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product