



Safety Data Sheet

Issue Date: 08-Jul-2013

Revision Date: 16-Oct-2015

Version 2

1. IDENTIFICATION

Product Identifier

Product Name

Silencer

Other means of identification

SDS #

MANA-008

Registration Number(s)

EPA Reg. No. 66222-104

UN/ID No

UN3352

Recommended use of the chemical and restrictions on use

Recommended Use

EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address

Makhteshim Agan of North America, Inc.
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604
1-919-256-9300

Emergency Telephone Number

Emergency Telephone (24 hr)

For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Lightly yellow Transparent liquid

Physical State Liquid

Odor Characteristic aromatic Solvent

Classification

| | |
|---|-------------|
| Acute toxicity - Oral | Category 3 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Carcinogenicity | Category 1B |
| Aspiration toxicity | Category 1 |
| Skin Sensitization | Category 1 |
| Flammable Liquids | Category 4 |

Hazards Not Otherwise Classified (HNOC)

May be harmful in contact with skin

Signal Word

Danger

Hazard Statements

Toxic if swallowed
Harmful if inhaled
May cause cancer
May be fatal if swallowed and enters airways
May cause an allergic skin reaction
Combustible liquid

**Precautionary Statements - Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Contaminated clothing must not be allowed out of the workplace
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep cool

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do not induce vomiting
Rinse mouth
IF ON SKIN: Wash with plenty of water
If irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IN CASE OF FIRE: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Very toxic to aquatic life with long lasting effects

Unknown Acute Toxicity

8.5% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Weight-% |
|----------------------|-------------|----------|
| Cyhalothrin, lambda- | 91465-08-6 | 12.7 |
| Solvent #1 | Proprietary | 78.4 |
| Solvent #2 | Proprietary | 7.84 |

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

| | |
|-----------------------|---|
| General Advice | When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice. |
| Skin Contact | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if necessary. |
| Inhalation | If inhaled remove to fresh air. Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration. Immediately call a physician. |
| Ingestion | Immediately call a poison center or doctor/physician. Never give anything by mouth to an unconscious person. Obtain medical attention. Do not induce vomiting unless directed by medical personnel. |

Most important symptoms and effects

| | |
|-----------------|--|
| Symptoms | May cause nose and throat irritation, with possible central nervous system effects. In high concentrations, vapors and aerosol mists have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause gastrointestinal irritation, nausea, diarrhea, and vomiting. Liquid ingestion may result in vomiting; aspiration of liquid into the lungs must be avoided as liquid contact with the lungs can result in chemical pneumonitis and pulmonary edema/hemorrhage. May cause mild skin and eye irritation. |
|-----------------|--|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Notes to Physician | Treat symptomatically. |
|---------------------------|------------------------|

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Foam. Carbon dioxide (CO₂).

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustible liquid.

Hazardous Combustion Products Toxic gases may be formed by fire.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area of unprotected personnel. Remain upwind of fire to avoid hazardous vapors and decomposition products. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- Personal Precautions** Wear protective clothing as described in Section 8 of this safety data sheet. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.
- Environmental Precautions** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

- Methods for Containment** Prevent further leakage or spillage if safe to do so.
- Methods for Clean-Up** For small spills, absorb with sand, clay, or other inert absorbent. Place in appropriate containers for disposal. For large spills: recover free product. Dike for later disposal. Absorb with inert material, and then place in suitable container for chemical waste. Flush spill area with water, collect rinse water in containers for proper disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

- Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing vapors or mists. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

- Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep out of the reach of children. Store away from incompatible materials. Protect from excessive heat. Store locked up.
- Incompatible Materials** None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------|-----------------------------------|--|---|
| Solvent #2 | STEL: 15 ppm TWA: 10 ppm S* | TWA: 10 ppm TWA: 50 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m ³ | IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³ |

Appropriate engineering controls

Engineering Controls Please refer to the product label. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use splash goggles or face shield when contact may occur.

Skin and Body Protection Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Viton or other impervious gloves are required. Long sleeve shirt, trousers, and safety shoes.

Respiratory Protection Ensure adequate ventilation, especially in confined areas. Wear an appropriate NIOSH/MSHA approved respirator if ventilation is inadequate.

General Hygiene Considerations Wash hands before eating, drinking, smoking and using the toilet. Remove contaminated clothing promptly and wash thoroughly before reused. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|------------------------------|---|--------------------------------|-------------------------|
| Physical State | Liquid | Odor | Characteristic aromatic |
| Appearance | Lightly yellow Transparent liquid | | Solvent |
| Color | Clear, light yellow | Odor Threshold | Not determined |
| Property | Values | Remarks • Method | |
| pH | 6.5-7.5 | | |
| Melting Point/Freezing Point | Not applicable | | |
| Boiling Point/Boiling Range | Not determined | | |
| Flash Point | 62 °C / 144 °F | | |
| Evaporation Rate | Not determined | | |
| Flammability (Solid, Gas) | Liquid-not applicable | | |
| Upper Flammability Limits | Not available | | |
| Lower Flammability Limit | Not available | | |
| Vapor Pressure | 1.5 x 10 ⁻⁹ mmHg @ 20°C (68°F) | (lambda-cyhalothrin technical) | |
| Vapor Density | Not determined | | |
| Specific Gravity | Not determined | | |
| Water Solubility | 0.004 mg/L | | |
| Solubility in other solvents | Not determined | | |
| Partition Coefficient | Not determined | | |
| Auto-ignition Temperature | Not available | | |
| Decomposition Temperature | Not determined | | |
| Kinematic Viscosity | Not determined | | |
| Dynamic Viscosity | Not determined | | |
| Explosive Properties | Not determined | | |
| Oxidizing Properties | Not determined | | |
| Bulk Density | 0.943 kg/L | | |

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Not known to occur.

Conditions to Avoid

Elevated temperatures.

Incompatible Materials

None known.

Hazardous Decomposition Products

May emit toxic fumes under fire conditions.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact May be harmful in contact with skin.

Inhalation Fatal if inhaled.

Ingestion Harmful if swallowed.

Component Information

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------------------|----------------------|-------------------------|-------------------------------------|
| Solvent #1 | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 590 mg/m ³ (Rat) 4 h |
| Cyhalothrin, lambda-91465-08-6 | = 56 mg/kg (Rat) | = 632 mg/kg (Rat) | - |
| Solvent #2 | = 490 mg/kg (Rat) | > 20 g/kg (Rabbit) | > 340 mg/m ³ (Rat) 1 h |

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|--------------------------------|-------|----------|------------------------|------|
| Cyhalothrin, lambda-91465-08-6 | | Group 2A | | X |
| Solvent #2 | | Group 2B | Reasonably Anticipated | X |

*IARC (International Agency for Research on Cancer)
 Group 2A - Probably Carcinogenic to Humans
 Group 2B - Possibly Carcinogenic to Humans
 NTP (National Toxicology Program)
 Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present*

- Aspiration hazard** May be fatal if swallowed and enters airways.
- Skin Sensitization** May cause an allergic skin reaction.

Product Information (Numerical measures of toxicity)

Acute Oral LD50 (Rat): 98.11 mg/kg
Acute Dermal LD50 (Rabbit): >2,000 mg/kg
Acute Inhalation LC50 (Rat): >1.83 mg/L (4-hr)
Eye Irritation: Mildly irritating.
Dermal Irritation: Slightly irritating.
Dermal Sensitization: Positive.

Unknown Acute Toxicity 8.5% of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects. This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife. 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 apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water
 This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Component Information

| Chemical Name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---------------|--|---|----------------------------|--|
| Solvent #1 | 2.5: 72 h Skeletonema costatum mg/L EC50 | 19: 96 h Pimephales promelas mg/L LC50 static 2.34: 96 h Oncorhynchus mykiss mg/L LC50 1740: 96 h Lepomis macrochirus mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 41: 96 h Pimephales promelas mg/L LC50 | | 0.95: 48 h Daphnia magna mg/L EC50 |
| Solvent #2 | | 5.74 - 6.44: 96 h Pimephales promelas mg/L LC50 flow-through 1.6: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.91 - 2.82: 96 h Oncorhynchus mykiss mg/L LC50 static 1.99: 96 h Pimephales promelas mg/L LC50 static 31.0265: 96 h Lepomis macrochirus mg/L LC50 static | | 2.16: 48 h Daphnia magna mg/L LC50 1.96: 48 h Daphnia magna mg/L EC50 Flow through 1.09 - 3.4: 48 h Daphnia magna mg/L EC50 Static |

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

| Chemical Name | Partition Coefficient |
|---------------|-----------------------|
| Solvent #1 | 6.1 |
| Solvent #2 | 3.3 |

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinse is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or Hazardous Waste representative at the nearest EPA regional office. Never place any unused product down an indoor or outdoor drain. Do not contaminate water, food or feed by disposal.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA Waste Number

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---------------|------|---|------------------------|------------------------|
| Solvent #2 | U165 | Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145 | | U165 |

| Chemical Name | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|---------------|--------------------------------------|------------------------|--|------------------------|
| Solvent #2 | | | Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. | |

California Hazardous Waste Status

| Chemical Name | California Hazardous Waste Status |
|--------------------------------|-----------------------------------|
| Cyhalothrin, lambda-91465-08-6 | Toxic |
| Solvent #2 | Toxic |

14. TRANSPORT INFORMATION

DOT

UN/ID No UN3352
 Proper Shipping Name Pyrethroid pesticide, liquid, toxic (lambda-cyhalothrin)
 Hazard Class 6.1
 Packing Group III
 Marine Pollutant Yes

NOTE: Packages with inner packaging not over 5 liters (1.3 gallons) each may be reclassified as Limited Quantity

IATA

UN/ID No UN3352
 Proper Shipping Name Pyrethroid pesticide, liquid, toxic (lambda-cyhalothrin)
 Hazard Class 6.1
 Packing Group III
 Marine Pollutant Yes

IMDG

UN/ID No UN3352
 Proper Shipping Name Pyrethroid pesticide, liquid, toxic (lambda-cyhalothrin)
 Hazard Class 6.1
 Packing Group III
 Marine Pollutant Yes

15. REGULATORY INFORMATION

International Inventories

TSCA All ingredients are listed or exempt from listing on Chemical Substance Inventory

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

CERCLA

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---------------|--------------------------|----------------|--|
| Solvent #2 | 100 lb 1 lb | | RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ |

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
 Chronic Health Hazard Yes
 Fire Hazard No
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

SARA 313

| Chemical Name | CAS No | Weight-% | SARA 313 - Threshold Values % |
|---------------|---------|----------|-------------------------------|
| Solvent #2 | 91-20-3 | 6-8 | 0.1 |

CWA (Clean Water Act)

| Component | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Solvent #2 | 100 lb | X | X | X |

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

| Chemical Name | California Proposition 65 |
|---------------|---------------------------|
| Solvent #2 | Carcinogen |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| Solvent #2 | X | X | X |

EPA Pesticide Registration Number 6222-104

EPA Statement

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

Signal Word: Warning

May be fatal if swallowed. Causes substantial but temporary eye injury. Harmful if absorbed through skin or inhaled. Avoid breathing vapor or spray mist. Do not get in eyes, on skin, or on clothing. Wear appropriate protective clothing and eyewear as specified in the Personal Protective Equipment (PPE) section of this label. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Skin exposure may also result in a sensation described as a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2-30 hours, without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

Difference between SDS and EPA pesticide label

| | EPA | OSHA |
|---|--|--|
| Signal Word | Warning | Danger |
| Acute toxicity - Oral | May be fatal if swallowed | Toxic if swallowed |
| Acute toxicity - Dermal | Harmful if absorbed through skin | May be harmful in contact with skin |
| Acute toxicity - Inhalation (Dusts/Mists) | Harmful if inhaled | Harmful if inhaled |
| Skin corrosion/irritation | Skin exposure may also result in a sensation described as a tingling, itching, burning, or prickly feeling | N/A |
| Serious eye damage/eye irritation | Causes substantial but temporary eye injury | N/A |
| Skin sensitization | Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals | May cause an allergic skin reaction |
| Carcinogenicity | N/A | May cause cancer |
| Aspiration Hazard | N/A | May be fatal if swallowed and enters airways |

16. OTHER INFORMATION

| | | | | |
|-------------|-----------------------|---------------------|-------------------------|----------------------------|
| NFPA | Health Hazards | Flammability | Instability | Special Hazards |
| | 2 | 1 | 0 | None |
| HMIS | Health Hazards | Flammability | Physical Hazards | Personal Protection |
| | 2 | 1 | 0 | See section 8 |

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet