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

1.1. Product identifier
Product name: Neemix 4.5
Registration No: 70051-9
Product Type: Botanical Insecticide
Active Ingredient: Azadirachtin
CAS No.: Not applicable

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Insecticide
Uses advised against: Any use not specified on the label

1.3. Details of the supplier of the safety data sheet
Name: Certis U.S.A., LLC
Address: 9145 Guilford Road, Suite 175
          Columbia, Maryland 21046
          U.S.A.
Phone Number: +01 (800) 255-3924
Website: http://www.certisusa.com

1.4. Emergency telephone number
Emergency number: +1 800 255-3924

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Hazard Classification: Flammable Liquid Category 3
Signal Word: WARNING
Hazard Statements: Flammable liquid and vapor
Pictogram:

Precautionary Statements:
Prevention: Keep away from heat/sparks/open flames/hot surfaces.- No smoking
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves, eye protection, face protection.

Response:
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire, use dry chemical, carbon dioxide, alcohol or polymer foam to extinguish.

Storage:
Store in a well ventilated place

Disposal:
Dispose of contents/container in accordance with all local/regional/national regulations.

2.2 Other Hazards:
None specified

SECTION 3: Composition/information on ingredients

3.1 Substance

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>% weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin</td>
<td>11141-17-6, 95507-03-2</td>
<td>4.5</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
<td>20-40</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

Generic measures
Eye Contact: Immediately flush with water holding eye open for 15-20 minutes. Remove contact lenses after 5 minutes if present and continue rinsing eye. Seek medical attention if irritation persists.
Skin Contact: Remove contaminated clothing and wash affected area with plenty of soap and water. If irritation persists call poison control or doctor for treatment advice.
Inhalation: Move to fresh air. If still feeling unwell, with label in hand call poison control or doctor for treatment advice.
Ingestion: If ingested, with label in hand call poison control or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed
Eye, skin and throat irritation.

4.3. Indication of any immediate medical attention and special treatment needed
None specified

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media: Dry chemical, carbon dioxide, alcohol or polymer foam
Unsuitable Extinguishing Media: None specified

5.2. Special hazards arising from the substance or mixture

Flammable liquid and vapor.

Hazardous combustion products: None known

5.3. Advice for firefighters

Protection of Firefighters: None specified

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Goggles or safety glasses are suggested
Long sleeved shirt, long pants,
chemical resistant gloves such as barrier laminate, butyl rubber,
nitrile rubber, neoprene rubber, or polyvinyl chloride,
shoes and socks

For emergency responders: Same as above

6.2. Environmental precautions

This product is hazardous to fish and aquatic vertebrates. 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 disposing of equipment wash water or rinse water.

6.3. Methods and material for containment and cleaning up

Methods for Containment: Do not use in a manner that would allow drift or rinse water from equipment cleaning to contaminate water sources or supplies.

Methods for Clean-Up: Wear SCBA, rubber boots, and heavy rubber glove. Shut off sources of ignition. Dike around spill, adsorb on sand or similar, and place in closed containers for disposal. Ventilate area and wash spill site after material pick-up. Avoid run-off into storm sewers and ditches, which lead to waterways.

Other Information: None
6.4. Reference to other sections

See Section 8 for occupational exposure limits and risk management measures. Refer to Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Wear long pants, long sleeved shirt, chemical resistant gloves, shoes plus socks, protective eyewear when handling this product.

Remove clothing immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. Wash clothes separately before reuse.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product’s concentrate. Do not reuse them.

Wash PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

7.2. Conditions for safe storage, including any incompatibilities

Combustible, do not store near heat or flame

7.3. Specific end use(s)

Any labeled use

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OSHA Permissible Exposure Limits (PELs): Not determined

ACGIH Threshold Limit Values: Not determined

Other Exposure Limits: Not determined

8.2. Exposure controls

Engineering Controls: Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Personal Protective Equipment

Eye/Face Protection: Safety glasses or goggles

Skin Protection: Long sleeved shirt and long pants

Hand Protection: Chemical resistant gloves

Body Protection: Shoes plus socks
Safety Data Sheet (SDS)

Product Name: Neemix 4.5®
Date of Compilation: 9 July 2018

Respiratory Protection: None specified
Thermal Hazards: None known
General Hygiene Considerations: After handling wash thoroughly with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet
Environmental exposure controls: Wear SCBA, rubber boots, and heavy rubber glove. Shut off sources of ignition. Dike around spill, adsorb on sand or similar, and place in closed containers for disposal. Ventilate area and wash spill site after material pick-up. Avoid run-off into storm sewers and ditches, which lead to waterways.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark brown liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Disinfectant</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH</td>
<td>5.0-6.0</td>
</tr>
<tr>
<td>Melting Point / Freezing Point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Initial Boiling Point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash Point</td>
<td>113°F 45°C</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower &amp; Upper Flammability Limits</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour Density</td>
<td>Not determined</td>
</tr>
<tr>
<td>% Volatile by weight</td>
<td>30%</td>
</tr>
<tr>
<td>Density</td>
<td>0.903-.998 g/ml</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not determined</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
<tr>
<td>Other relevant properties</td>
<td>None</td>
</tr>
</tbody>
</table>

9.2. Other information

Not available.
SECTION 10: Stability and reactivity

10.1. Reactivity  
Not determined

10.2. Chemical stability  
Stable

10.3. Possibility of hazardous reactions  
None known

10.4. Conditions to avoid  
Keep away from heat, sparks, or open flame

10.5. Incompatible materials  
Acids, acid chlorides, oxidizing agents, reducing metals, alkali metals

10.6. Hazardous decomposition products  
None known

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Toxicity
Toxicological information on the substance or mixture:

LD₅₀ (oral)  
LD₅₀ > 5000 mg/kg, rat

LD₅₀ (dermal)  
LD₅₀ > 2000 mg/kg, rat

LC₅₀ (inhalation)  
LC₅₀ > 2.0 mg/L

Skin corrosion / irritation:  
Slightly irritating, Toxicity Category IV

Eye irritation:  
Minimally irritating, New Zealand white rabbits

Respiratory or skin sensitization:  
Not considered to be a dermal sensitizer in guinea pigs.

Other information on adverse health effects:

Carcinogenicity
NTP Listed:  
Not applicable

IARC Listed:  
Not applicable

OSHA:  
Not applicable

11.2 Reference to other sections
See Section 4 for symptoms and acute and delayed effects.

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Test species</th>
<th>Test method</th>
<th>Test substance</th>
<th>LC₅₀</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 12.2. Persistence and degradability
Azadirachtin exhibits rapid degradation and low persistence in soil.

## 12.3 Bioaccumulative Potential
Azadirachtin is not considered to accumulate in aquatic organisms such as fish.

## 12.4. Mobility in soil
Azadirachtin rapidly degrades in soil.

## 12.5 Other adverse effects
No data available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods
**Disposal Instructions:** Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Storage:** Do not store about 100°F or below -20°F for extended periods of time. Keep containers tightly closed when not in use.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

The offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.
SECTION 14: Transportation information

14.1. UN number: Not regulated.

14.2. Proper Shipping Name:
Ground Mode: Non-bulk package not regulated by DOT; Combustible liquid n.o.s. (isopropanol)
Vessel and air shipments: Flammable liquid, N.O.S. (isopropanol), 3, UN1993, PGIII

14.3. Transport hazard class(es)

14.4. Packing group
Not regulated.

14.5. Environmental hazards
Not regulated.

14.6. Special precautions for user
Not regulated.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not regulated.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EPA: This product 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-pesticidal chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION, KEEP OUT OF REACH OF CHILDREN
Harmful if swallowed or inhaled.
This product may be hazardous to fish and aquatic invertebrates.

OSHA: N/A
TSCA Status: Exempt
CERCLA Reportable Quantity: N/A
SARA Title III:
Section 302: N/A
Section 311/312: N/A
Section 313: N/A
RCRA Status: N/A

SECTION 16: Other information

Disclaimer:
To the best of our knowledge, the information contained herein is accurate. However, neither Certis USA nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the
information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All material may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

SDS Authoring Information:

Revision date:    July 9, 2018
Date of Previous version:    March 23, 2015
Reason for Revision:    Periodic review
Prepared by:    Certis U.S.A. L.L.C.