1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Rose Defense®
EPA REGISTRATION NUMBER: 70051-2-85827
PRODUCT DESCRIPTION: Insecticide, fungicide and miticide for organic gardening.

Rose Defense is a registered trademark of Valent U.S.A. Corporation

MANUFACTURER/DISTRIBUTOR
GREEN LIGHT, A VALENT U.S.A. COMPANY
P.O. Box 8025
1600 Riviera Avenue, Suite 200
Walnut Creek, CA 94596-8025

EMERGENCY TELEPHONE NUMBERS
HEALTH EMERGENCY OR SPILL (24 hr): (800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC (800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION
GREEN LIGHT PRODUCTS: (800) 777-5702

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
CAUTION
• Keep out of reach of children
• Causes moderate eye irritation
• Harmful if absorbed through skin
• Avoid contact with eyes, skin and clothing
• Remove contaminated clothing and wash before re-use
• Wash hands thoroughly with soap and water after handling

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure): Eyes, Skin, Ingestion

Acute Eye Contact: Causes moderate eye irritation.

Acute Skin Contact: May cause mild, reversible skin irritation.

Acute Ingestion: This product may be harmful if swallowed.

Acute Inhalation: Avoid breathing vapors or spray This product may be harmful if inhaled in excess

Signs and Symptoms of Systemic Effects: No Data Available

Potentially Aggravated Medical Conditions: None known
For complete discussion of the toxicology data from which this evaluation was made, refer to Section 11. For Ecotox/Environmental Information, refer to Section 12. For Regulatory Information, refer to Section 15.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Weight/ Percent</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified Hydrophobic Extract of Neem Oil</td>
<td>8002-65-1</td>
<td>70</td>
<td>Active Ingredient</td>
</tr>
<tr>
<td>Other ingredient</td>
<td>5989-27-5</td>
<td>30</td>
<td>Inert ingredient</td>
</tr>
</tbody>
</table>

Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling (800) 892-0099 at any time.

### 4. FIRST AID MEASURES

**EMERGENCY NUMBER (800) 892-0099**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-892-0099 for emergency medical treatment information.

**EYE CONTACT:**
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**SKIN CONTACT:**
Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**INGESTION:**
Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**INHALATION:**
If inhaled, remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**NOTES TO PHYSICIAN:**
None

### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** 347 °F (175 °C)

**EXTINGUISHING MEDIA:** Carbon dioxide, dry chemical, foam, or water.

**NFPA RATING:**
- Health: 1
- Flammability: 1
- Reactivity: 0
- Special: None
(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

**FIRE FIGHTING INSTRUCTIONS:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear, if necessary Prevent extinguishing media run off from entering drains, sewers, and bodies of water

**HAZARDOUS DECOMPOSITION PRODUCTS:** None that are known.

### 6. ACCIDENTAL RELEASE MEASURES

| GREEN LIGHT EMERGENCY PHONE NUMBER: (800) 892-0099 |
| CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300 |
| OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION |

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

**UN/NA NUMBER:** Not applicable  
**EMERGENCY RESPONSE GUIDEBOOK NO.:** Not applicable

**FOR SPILLS AND LEAKS**

**CONTAINMENT:** Avoid runoff into storm sewers and ditches which lead to waterways. Contain spilled liquids with dry sorbents.

**CLEANUP:** Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

### 7. HANDLING AND STORAGE

**END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.**

**HANDLING:**
Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**STORAGE:**
Keep in original container. Store away from direct sunlight, feed, or foodstuffs. Keep container tightly sealed when not in use. Keep from freezing.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing safety glasses or goggles.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas.

ENGINEERING CONTROLS: No special provisions are required under normal conditions

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH Exposure Limits</th>
<th>OSHA Exposure Limits</th>
<th>Manufacturer’s Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified Hydrophobic Extract of Neem Oil</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Other ingredient</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Liquid
COLOR: Brown
ODOR: Garlic
FLASH POINT: 347 °F (175 °C)
BOILING POINT: 310 °F (154 °C)
SPECIFIC GRAVITY: 0.914 g/mL
VAPOR PRESSURE: 2 mm Hg
pH: 6.5 - 7.5
SOLUBILITY: Dispersible in water

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable
INCOMPATIBILITY: None known
OXIDATION/REDUCTION PROPERTIES: No data available
EXPLODABILITY: Not expected to be explosive
HAZARDOUS DECOMPOSITION PRODUCTS: None that are known.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: None known

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

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<thead>
<tr>
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<tbody>
<tr>
<td>Oral Toxicity LD</td>
<td>&gt;5,000 mg/kg</td>
<td>EPA Tox Category</td>
<td>IV</td>
</tr>
<tr>
<td>Dermal Toxicity LD</td>
<td>&gt;2,000 mg/kg</td>
<td>EPA Tox Category</td>
<td>III</td>
</tr>
<tr>
<td>Inhalation Toxicity LC</td>
<td>&gt;6.2 mg/L</td>
<td>EPA Tox Category</td>
<td>IV</td>
</tr>
<tr>
<td>Eye Irritation (rabbits)</td>
<td>Not available</td>
<td>EPA Tox Category</td>
<td>Not available</td>
</tr>
<tr>
<td>Skin Irritation (rabbits)</td>
<td>Not available</td>
<td>EPA Tox Category</td>
<td>Not available</td>
</tr>
<tr>
<td>Skin Sensitization (guinea pigs)</td>
<td>Not available</td>
<td>EPA Tox Category</td>
<td>Not available</td>
</tr>
</tbody>
</table>
For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL INFORMATION

OTHER NON-TARGET ORGANISM TOXICITY: This product is toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product while bees are actively visiting the treatment area.

OTHER ENVIRONMENTAL INFORMATION:
Do not apply directly to water. Do not contaminate water by disposal of wastes. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind and rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

PRODUCT DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these waste cannot be disposed by use according to label instruction, contact your State Pesticide Agency or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:
If empty: Non-refillable container. Do not reuse or refill this container. Place in trash or offer for recycling if available.
If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

14. TRANSPORT INFORMATION

DOT: Not regulated for Domestic Surface Shipment
UN/NA NUMBER: Not applicable
DOT (ground) SHIPPING NAME: Liquid Pesticide, not DOT regulated
TECHNICAL NAME (hazardous material): Not applicable
HAZARD CLASS: Not applicable
PACKING GROUP: Not applicable
**15. REGULATORY INFORMATION**

**PESTICIDE REGULATIONS:** All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

**U.S. FEDERAL REGULATIONS:**

Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

**Other ingredient**

TSCA Inventory List - Listed

**SARA (311, 312):**

Immediate Health: Yes
Chronic Health: No
Fire: No
Sudden Pressure: No
Reactivity: No

**STATE REGULATIONS:**

Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.
16. OTHER INFORMATION

REASON FOR ISSUE: Revised EPA Registration Number. Corrected the product name.
MSDS NO.: GNL-0010
EPA REGISTRATION NUMBER: 70051-2-85827
REVISION NUMBER: 2
REVISION DATE: 10/10/2011
SUPERCEDES DATE: July 21, 2010
RESPONSIBLE PERSON(S): Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. All necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

The information in this MSDS is based on data available to us as of the revision date given herein, and believed to be correct. Contact Valent U.S.A. Corporation to confirm if you have the most current MSDS.

Judgements as to the suitability of information herein for the individual’s own use or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Valent extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.

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