

# SAFETY DATA SHEET

## I. CHEMICAL PRODUCT INFORMATION

**Product Name** RANGO (EPA Reg. No. 88760-10)  
**Recommended Use** Biopesticide for crop protection  
**Manufacturer** Terramera, Inc.  
6920 Salashan Pkwy D-109  
Ferndale, WA 98248  
+1-800-597-9509 (9:00am – 5:00pm PST)  
**Email** [msdsinfo@terramera.com](mailto:msdsinfo@terramera.com)

## II. HAZARD(S) IDENTIFICATION

The mixture does not meet any classification criteria according to OSHA HazCom 2012.

## III. COMPOSITION /INFORMATION ON INGREDIENTS

### Mixtures

Chemical Name	CAS Number	%
Neem Oil	8002-65-1	70
Other Ingredients		30

The exact concentrations of the above listed chemicals are being withheld as a trade secret as allowed by 29 CFR 1910.1200.

## IV. FIRST AID MEASURES

**Inhalation** Remove to fresh air. Seek medical advice if irritation persists.  
**Eye Contact** Wash with plenty of water. Seek medical advice if irritation persists.  
**Skin Contact** Remove contaminated clothing. Wash with soap and water. Seek medical attention if irritation persists.  
**Ingestion** Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical advice/attention if you feel unwell.

## V. FIRE FIGHTING MEASURES:

**Flash Point** > 208.8 °F (Tag Closed Tester)  
**Suitable extinguishing media** Use water spray, dry chemical powder, carbon dioxide, or chemical foam.  
**Specific fire-fighting instruction**  
Ventilate the area. Keep out of smoke. Prevent fire-extinguishing water from contaminating surface water or the ground water system.  
**Special protective equipment and precautions for firefighters**  
As in any fire, wear a MSHA/NIOSH-approved or equivalent, pressure-demand, self-contained breathing apparatus and full protective gear.  
**Hazardous combustion Products** Carbon oxides. Other irritating fumes and smokes.

## VI. ACCIDENTAL RELEASE MEASURES:

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages

cannot be contained. For personal protection, see section 8 of the SDS.

#### **Methods and materials for containment and cleaning up**

Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas. 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. Use appropriate containment to avoid environmental contamination.

### **VII. HANDLING AND STORAGE:**

#### **Precautions for safe handling**

Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

#### **Conditions for safe storage, including any incompatibilities**

Store in a cool (below 104F), dry place out of direct sunlight. Keep out of the reach of children. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section X of the SDS).

### **VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>Occupational exposure limits</b>	No exposure limits noted for ingredient(s).
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear protective goggle.
<b>Skin protection</b>	Wear protective clothing.
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Advice should be sought from glove suppliers.
<b>Respiratory protection</b>	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to fume at levels exceeding the exposure limits. Advice should be sought from respiratory protection specialists.

#### **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.

### **IX. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	
<b>Physical state</b>	Liquid.
<b>Color</b>	Light golden brown; Gardner Color #10.4
<b>Odor</b>	Peanut with a hint of garlic odor
<b>Odor threshold</b>	Not available.
<b>pH</b>	5.4
<b>Melting point/freezing point</b>	Not available
<b>Initial boiling point and boiling range</b>	Not available
<b>Flash point</b>	>208.8F
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.

<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Slightly soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	47.5 mPa*s at 40C
<b>Specific gravity</b>	0.925 g/ml at 21C

## X. STABILITY AND REACTIVITY

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Do not use in areas without adequate ventilation.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Refer to hazardous combustion products in Section 5.

## XI. TOXICOLOGY INFORMATION

### Information on likely routes of exposure

<b>Inhalation</b>	Yes
<b>Skin contact</b>	Yes
<b>Eye contact</b>	Yes
<b>Ingestion</b>	Yes

### Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight transient irritation. Direct eye contact may cause slight, transient irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Information on toxicological effects

<b>Skin corrosion/irritation</b>	Slightly irritating
<b>Serious eye damage/eye irritation</b>	Minimally irritating
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	This product is not expected to cause respiratory sensitization.
<b>Skin sensitizer</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	No components present at greater than 0.1% are considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
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### Specific target organ toxicity -single exposure

Not classified.

### Specific target organ toxicity -repeated exposure

Not classified as a specific target organ toxicity-repeated exposure.

<b>Aspiration toxicity</b>	Not expected to be hazardous by OSHA criteria.
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<b>Chronic effects</b>	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Prolonged or repeated overexposure may cause liver and kidney effects.
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## XII. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	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.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## XIII DISPOSAL CONSIDERATIONS

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	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).
<b>Contaminated packaging</b>	Empty containers should be tripled rinsed according to the product label prior to being offered for recycling or disposal. Since emptied containers may retain product residue, follow label directions even after container is emptied.

## XIV TRANSPORT INFORMATION

Not classified under DOT regulations.

## XV. REGULATORY INFORMATION

**US federal regulations** This product is not classified under OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

<b>Hazard categories</b>	Immediate Hazard - No
	Delayed Hazard - No
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)** Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**

Not regulated.

**US state regulations**

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Not regulated.

**US. New Jersey Worker and Community Right-to-Know Act**

Not listed.

**US. Pennsylvania Worker and Community Right-to-Know Law**

Not listed.

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

This material is not known to contain any chemicals listed as carcinogens or reproductive toxins.

**XVI. OTHER INFORMATION**

**Date of issue:**                      **October 4, 2018**

**Version #**                              **01**

**Declaration:** The information in this SDS relates to this specific material: Rango. It may not be valid for this material if used in combination with any other material or in any process.

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