1 Identification

- **Trade name**: Grub Shield
- **Relevant identified uses of the substance or mixture and uses advised against**: No further relevant information
- **Product Description**: Grub Killer

2 Hazard(s) Identification

- **Classification of the substance or mixture**: GHS07
  - Skin Sens. 1 H317 May cause an allergic skin reaction.
- **Label elements**:
  - **GHS label elements**: The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**: GHS07
- **Signal word**: Warning
- **Hazard-determining components of labeling**:
  - Eugenol
- **Hazard statements**:
  - May cause an allergic skin reaction.
- **Precautionary statements**:
  - Avoid breathing dust/fume/gas/mist/vapors/spray.
  - Wear protective gloves.
  - Contaminated work clothing must not be allowed out of the workplace.
  - Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
  - Wash contaminated clothing before reuse.
  - If skin irritation or rash occurs: Get medical advice/attention.
  - IF ON SKIN: Wash with plenty of water.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity**:
  - 2.5% of the mixture consists of component(s) of unknown toxicity.

(Contd. on page 2)
Safety Data Sheet (SDS)
OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.
Issue date 11/07/2015 Reviewed on 11/07/2015

Trade name: Grub Shield

- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - HEALTH
      - Health = 0
    - FIRE
      - Fire = 0
    - REACTIVITY
      - Reactivity = 0
  - Hazard(s) not otherwise classified (HNOC): None known

3 Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Trade name</th>
<th>Description</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5 Water</td>
<td>Water, distilled water, deionized water</td>
<td></td>
</tr>
<tr>
<td>8008-74-0 Sesame oil</td>
<td>Sesame oil</td>
<td>≤ 2.5%</td>
</tr>
<tr>
<td>Oyster Shells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clam Shells</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Chemical characterization: Mixtures
- Description: Mixture: consisting of the following components.

- Dangerous Components:
  97-53-0 Eugenol
  - Acute Tox. 4, H302; Skin Sens. 1, H317
  - ≤ 2.5%
  8001-22-7 Soybean oil
  - Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320
  - ≤ 2.5%
  8015-91-6 Cinnamon Bark Essential Oil (Cinnamomum verum)
  - STOT SE 3, H335; Flam. Liq. 4, H227
  - ≤ 2.5%
  68917-75-9 Wintergreen Essential Oil (Gaultheria procumbens)
  - Skin Irrit. 2, H315; Eye Irrit. 2B, H320
  - ≤ 2.5%
  8000-25-7 Rosemary oil (Rosmarinus officinalis)
  - Skin Irrit. 2, H315; Flam. Liq. 4, H227; Eye Irrit. 2B, H320
  - ≤ 2.5%

4 First-Aid Measures

- Description of first aid measures:
  - After inhalation: In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact:
    - Immediately wash with water and soap and rinse thoroughly.
    - If skin irritation occurs, consult a doctor.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: If swallowed and symptoms occur, consult a doctor.
- Information for doctor:
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed:
    - No further relevant information available.

(Contd. on page 3)
5 Fire-Fighting Measures

- Extinguishing media:
- Suitable extinguishing agents:
  CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters:
- Protective equipment:
  As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions:
  Dilute with plenty of water.
  Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (t.e. sand, diatomite, acid binders, universal binders, sawdust).
  Ensure adequate ventilation.
  Dispose of the collected material according to regulations.
- Reference to other sections:
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and Storage

- Handling
  - Precautions for safe handling:
    Ensure good ventilation/exhaustion at the workplace.
    Prevent formation of aerosols.
  - Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities:
- Storage
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: None.
  - Specific end use(s): No further relevant information available.

8 Exposure Controls/Personal Protection

- Additional information about design of technical systems: No further data; see section 7.
- Control parameters:
  - Components with occupational exposure limits:
    8001-22-7 Soybean oil
    TWA | Short-term value: 5 mg/m³
         | Long-term value: 15 mg/m³
- Additional information: The lists that were valid during the creation of this SDS were used as basis.

(Contd. on page 4)
Trade name: Grub Shield

- Exposure controls:
- Personal protective equipment:
- General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed. Immediately remove all soiled and contaminated clothing and wash before reuse. Wash hands before breaks and at the end of work.
- Breathing equipment: Not required.
- Protection of hands:
  - Protective gloves

- Eye protection:
  - Goggles recommended during refilling.

9 Physical and Chemical Properties

- Information on basic physical and chemical properties
- General Information
  - Appearance:
    - Form: Liquid
    - Color: Tan
  - Odor: Wintergreen
  - Odor threshold: Not determined.
  - Change in condition
    - Melting point/Melting range: Not determined.
    - Boiling point/Boiling range: 100 °C (212 °F)
  - Flash point: None
  - Flammability (solid, gaseous): Not applicable.
  - Ignition temperature: Not determined
  - Decomposition temperature: Not determined.
  - Auto igniting: Product is not self-igniting.
  - Danger of explosion: Product does not present an explosion hazard.
  - Explosion limits:
    - Lower: Not determined.
    - Upper: Not determined.
  - Vapor pressure @ 20 °C (68 °F): 23 hPa (17 mm Hg)
  - Density:
    - Relative density: Not determined.
    - Vapor density: Not determined.
    - Evaporation rate: Not determined.

(Contd. on page 5)
Trade name: Grub Shield

- **Solubility in / Miscibility with:**
  - Water: Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **Solvent content:**
  - Organic solvents: 0.0 %
- **Other information:** No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**
  - 97-53-0 Eugenol
  - Oral | LD50 | 1930 mg/kg (rat)

- **Primary irritant effect:**
  - **On the skin:** May cause an allergic skin reaction.
  - **On the eye:** No irritating effect.
  - **Sensitization:** Sensitization possible through skin contact.
  - **Additional toxicological information:**
    The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

- **Carcinogenic categories:**
  - **IARC (International Agency for Research on Cancer):**
    - 97-53-0 | Eugenol
  - **NTP (National Toxicology Program):**
    None of the ingredients are listed.
  - **OSHA-Ca (Occupational Safety & Health Administration):**
    None of the ingredients are listed.

### 12 Ecological Information

- **Toxicity:**
  - **Aquatic toxicity:** No further relevant information available.
  - **Persistence and degradability:** No further relevant information available.

(Contd. on page 6)
Trade name: Grub Shield

- Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
- General notes:
  Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment:
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal Considerations

- Waste treatment methods:
- Recommendation:
  Observe all federal, state and local environmental regulations when disposing of this material.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport Information

- UN-Number:
  - DOT, ADR, ADN, IMDG, IATA: Non-Regulated Material
- UN proper shipping name:
  - DOT, ADR, ADN, IMDG, IATA: Non-Regulated Material
- Transport hazard class(es):
  - DOT, ADR, ADN, IMDG, IATA: Non-Regulated Material
- Class:
  - DOT, ADR, IMDG, IATA: Non-Regulated Material
- Packing group:
  - DOT, ADR, IMDG, IATA: Non-Regulated Material
- Environmental hazards:
  Not applicable.
- Special precautions for user:
  Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.
- UN "Model Regulation": Non-Regulated Material

15 Regulatory Information

- Safety, health and environmental regulations/legislation specific for the substance or mixture:
- SARA (Superfund Amendments and Reauthorization):
  - Section 355 (extremely hazardous substances):
    None of the ingredients are listed.
  - Section 313 (Specific toxic chemical listings):
    None of the ingredients are listed.
  - TSCA (Toxic Substances Control Act):
    All ingredients are listed.

(Contd. on page 7)
Trade name: Grub Shield

- California Proposition 65:
  - Chemicals known to cause cancer:
    None of the ingredients are listed.
  - Chemicals known to cause reproductive toxicity for females:
    None of the ingredients are listed.
  - Chemicals known to cause reproductive toxicity for males:
    None of the ingredients are listed.
  - Chemicals known to cause developmental toxicity:
    None of the ingredients are listed.

- Carcinogenic categories:
  - EPA (Environmental Protection Agency):
    None of the ingredients are listed.
  - TLV (Threshold Limit Value established by ACGIH):
    None of the ingredients are listed.
  - NIOSH-Ca (National Institute for Occupational Safety and Health):
    None of the ingredients are listed.

- GHS label elements
  The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms:

  GHS07

- Signal word: Warning

- Hazard-determining components of labeling:
  Eugenol

- Hazard statements:
  May cause an allergic skin reaction.

- Precautionary statements:
  Avoid breathing dust/fume/gas/mist/vapors/spray.
  Wear protective gloves.
  Contaminated work clothing must not be allowed out of the workplace.
  Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
  Wash contaminated clothing before reuse.
  If skin irritation or rash occurs: Get medical advice/attention.
  IF ON SKIN: Wash with plenty of water.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- National regulations:
  The product is subject to be classified according with the latest version of the regulations on hazardous substances.

- State Right to Know:
  7732-18-5 Water, distilled water, deionized water 60-90%
Trade name: Grub Shield

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<th>Material Description</th>
<th>%</th>
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</table>

All ingredients are listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision:** 11/07/2015 / 3

- **Abbreviations and acronyms:**
  - ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
  - ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Flam. Liq. 4: Flammable liquids, Hazard Category 4
  - Acute Tox. 4: Acute toxicity, Hazard Category 4
  - Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
  - Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B
  - Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
  - STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

- **Data compared to the previous version altered.**

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