SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
Trade name: SPECTIN 1.8 EC
Common name: Abamectin 1.8% EC
Chemical family: Avermectin
Chemical name: 5-O-Demethylavermectin A1a (i) mixture with 5-O-demethyl-25-de(1-methylpropyl)-25-(1-methylethyl)avermectin A1a (ii)
Company identification:
JIANGSU QIAOJI BIOCHEM CO., LTD.
No. 168, Qiuhu Road(S), Duntou Town, Hai An County, Jiangsu 226692, P.R. China
Tel: +86-513-88433136; Fax: +86-513-88433168

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abamectin</td>
<td>71751-41-2</td>
<td>&gt; 18 g/L</td>
</tr>
<tr>
<td>Emulsifiers</td>
<td>---</td>
<td>&lt; 150 g/L</td>
</tr>
<tr>
<td>Solvents</td>
<td>---</td>
<td>Balance</td>
</tr>
</tbody>
</table>

SECTION 3 – HAZARDS IDENTIFICATION
Inhalation: May cause irritation of nose, throat and lungs.
Eye contact: Direct contact with material can cause moderate irritation.
Skin contact: Prolonged or repeated skin contact can cause possible skin irritation, or dermatitis due to skin sensitization.
Health hazard: Moderate toxicity and irritant via ocular, dermal, inhalation and ingestion routes. Causes substantial but temporary eye injury. May be fatal if swallowed. Prolonged or frequently repeated exposure may cause allergic skin reactions in some individuals.
Emergency antidote: No specific antidote. Treat symptomatically.

SECTION 4 – FIRST AID MEASURES
Inhalation: Move subject to fresh air. If breathing is difficult, administer oxygen; if breathing stops administer artificial respiration. Get medical attention immediately.
Eye contact: Flush eyes with water. Consult a physician if irritation persists.
Skin contact: Wash affected skin areas thoroughly with soap and water. Consult a physician if irritation persists. Remove and wash contaminated clothing thoroughly. Do not take clothing home to be laundered.
Ingestion: If swallowed, give 2-3 glasses of water to drink. See a physician. Never give anything by mouth or induce vomiting to an unconscious person.
Note to physician: No specific antidote is available. If poisoning is suspected apply symptomatic therapy.
SECTION 5 – FIRE FIGHTING MEASURES

Flash point: >30°C and combustible if ignition.

Extinguishing media: Dry chemical, foam, and carbon dioxide.

Special fire fighting procedures: Wear full protective equipment and breathing protection. Avoid creating significant airborne dust.

Unusual fire and explosion hazards: Toxic gases including carbon monoxide, carbon dioxide, oxides of nitrogen, and smoke.
SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal protection: Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during cleanup operation, see SECTION 4, First Aid Measures, for actions to follow. Remove all contaminated clothing promptly. Wash all exposed skin areas with soap and water immediately after exposure. Thoroughly launder clothing before reuse. Do not take clothing home to be laundered.

Procedures: Keep spectators away. Avoid breathing vapor. Transfer spilled material to suitable containers for recovery or disposal.

Caution: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

SECTION 7 – HANDLING AND STORAGE

Handling product: KEEP OUT OF REACH OF CHILDREN and animals, and away from open flames or other sources of ignition. Avoid contact with eyes, skin or clothing and avoid breathing vapour or spray mist. Wear full protective clothing and equipment (see Section 8). After work, rinse gloves and remove protective equipment, and wash hands before eating, smoking, drinking, or using the toilet. Clean up spilled product immediately, and clean clothes and equipment after use. Wash contaminated clothing before re-use. Keep product, spray, wash or rinse water, and contaminated materials out of water, and away from access by people, animals and bees. Keep containers closed when not in use. Do not re-enter treated areas until residues have dried.

Storage: Store in original containers in a well-ventilated, cool, dry, secure area, inaccessible to children and domestic animals. Store away from heat or flame. Keep separate from other products. Clean up spilled product immediately.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection: Wear appropriate protective respirator whenever workplace conditions warrant a respirator’s use.

Eye protection: Use chemical splash goggles. Eye protection worn must be compatible with respiratory protection system employed.

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. Rinse and remove gloves immediately after use. Wash hands with soap and water.

Other protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor: Yellow clear liquid with characteristic odor.
pH value: 4-7 (1% aqueous emulsion)
Vapor pressure (mPa): Not available
Specific Gravity: About 0.900±0.050
Solubility (g/l) at 21℃: Form emulsion with water.
Molecular formula: C_{48}H_{72}O_{14} (avermectin B\textsubscript{1a}); C_{47}H_{70}O_{14} (avermectin B\textsubscript{1b})
Molecular weight: 873.1 (avermectin B\textsubscript{1a}); 860.1 (avermectin B\textsubscript{1b})
SECTION 10 – REACTIVITY AND STABILITY
Stability: Stable under normal storage conditions.
Conditions to avoid: High heat, open flames
Incompatibility with other materials: Strong caustic solutions, strong acid solutions, oxidizing agents
Hazard decomposition: None known
Hazardous polymerization: Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION
Acute toxicity LD_{50} (mg/kg): Acute oral for rat 300 mg/kg. Moderate toxicity.
Acute dermal for rat >2000 mg/kg. Low toxicity.
Chronic toxicity: Central nervous system effects in animals.
Reproductive effects: Abamectin is a reproductive toxin in animal studies at doses acutely toxic to the maternal animal.
Teratogenic effects: In a study with mice, Abamectin was teratogenic (cleft palate) at doses higher than the toxic dose for the maternal animal.
Mutagenic effects: None observed (Ames Test and Micronucleus Test)
Carcinogenic effects: None observed

SECTION 12 – ECOLOGICAL INFORMATION
Based on abamectin technical
Birds: Acute oral LD_{50} for mallard ducks 84.6, bobwhite quail > 2000 mg/kg.
Fish: LC_{50} (96 h) for rainbow trout 3.2, bluegill sunfish 9.6μg/l.
Others: Toxic to bees; daphnia EC_{50} (48 h) 0.34 ppb; LC_{50} (96 h) for pink shrimp 1.6, mysid shrimp 0.022, blue crab 153 ppb.
According to the above information, SPECTIN 1.8 EC is slightly toxic to birds and very highly toxic to fish.

SECTION 13 – DISPOSAL CONSIDERATIONS
For disposal, incinerate this material at a facility that complied with local, state and country regulations.

SECTION 14 – TRANSPORTATION INFORMATION
| UN number: | 3021 |
| Class:     | 3 (6.1) |
| Packing group: | III |
| Proper shipping name: | Pesticides, liquid, flammable, toxic |

SECTION 15 – REGULATORY INFORMATION
Issued: 21/07/2010
Hazard Classification: T, N
Risk phrase:
R10 Flammable.
R 20/22 Harmful by inhalation and if swallowed.
R25 Toxic if swallowed.
R 36 Irritating to eyes.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrase:
S 2 Keep out of the reach of children.
S 20/21 When using do not eat, drink or smoke.
S 24/25 Avoid contact with skin and eyes.
S 36/37 Wear suitable protective clothing and gloves.
S 46 If swallowed, seek medical advice immediately and show container or label.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

SECTION 16 – OTHER INFORMATION
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Qiaoji be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Qiaoji has been advised of the possibility of such damages.