1 Identification of the substances/ mixture and of the company/ undertaking

1.1 Product Identifiers
Product Number: TS1117
Product Name: Hoagland No.2 Basal Salt Mixture
REACH Registration Number: Reach registration number is not available for this mixture. According to REACH regulation EC 1907/2006 this product is exempted from registration. The annual tonnage does not require a REACH registration or it is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against
1.2.1 Relevant identified uses: Laboratory chemicals, Manufacture of substances
1.2.2 Uses advised against: No data available

1.3 Details of the supplier of the safety data sheet
Produced by: HiMedia Laboratories Private Limited
Address: 23, Vadhani Industrial Estate, LBS Marg, Ghatkopar (W), Mumbai - 400 086, India
Tel. No.: +91-22-2500 0970, +91-22-2500 1607
Fax No.: Phone.
Mail Id: ptc@himedialabs.com
Website: www.himedialabs.com

1.4 Emergency Tel. No.
Emergency Tel. No.: Please contact the regional HiMedia representation in your country

2 Hazards Identification

2.1 Classification of the substance or mixture
CLP Classification-Regulation (EC) No. 1272/2008[EUGHS/CLP]
Serious eye damage or eye irritation, (Category 2A), H319
For the full text of the H-Statements mentioned in this Section, See Section 16

2.2 Label elements
Labeling according to Regulation (EC) No.1272/2008

Pictogram
Signal word: Warning
Hazard Statement(s)
H319: Causes serious eye irritation
Precautionary Statement(s)
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313  IF eye irritation persists: Get medical advice/attention.
P280  Wear protective gloves/protective clothing/eye protection/face protection.

### 3 Composition/Information On Ingredients
#### 3.2 Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride dihydrate, Plant Culture Tested</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS No.:</td>
<td>10035-04-8</td>
<td></td>
</tr>
<tr>
<td>EC No.:</td>
<td>233-140-8</td>
<td></td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>CaCl$_2$.2H$_2$O</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>147.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>As Per EC Regulation 1272/2008</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye Irrit. 2A H319</td>
<td><strong>&gt;=30 - &lt;=50%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boric acid, Plant Culture Tested</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS No.:</td>
<td>10043-35-3</td>
<td></td>
</tr>
<tr>
<td>EC No.:</td>
<td>233-139-2</td>
<td></td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>H$_3$BO$_3$</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>61.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>As Per EC Regulation 1272/2008</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Repr.Tox. 1A, 1B H360FD</td>
<td><strong>&gt;=0.1 - &lt;=0.3%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS No.:</td>
<td>13446-34-9</td>
<td></td>
</tr>
<tr>
<td>EC No.:</td>
<td>231-869-6</td>
<td></td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>MnCl$_2$.4H$_2$O</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>197.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>As Per EC Regulation 1272/2008</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute Tox.oral 4 H302</td>
<td><strong>&gt;=0.1 - &lt;=0.2%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (II) chloride, anhydrous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS No.:</td>
<td>7447-39-4</td>
<td></td>
</tr>
<tr>
<td>EC No.:</td>
<td>231-210-2</td>
<td></td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>CuCl</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>134.45</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>As Per EC Regulation 1272/2008</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute Tox.oral 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Aquatic Chronic 1 H302; H315; H319; H335; H410</td>
<td><strong>&gt;=0.003 - &lt;=0.004%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS No.:</td>
<td>7646-85-7</td>
<td></td>
</tr>
<tr>
<td>EC No.:</td>
<td>231-592-0</td>
<td></td>
</tr>
<tr>
<td>Index-No:</td>
<td>030-003-00-2</td>
<td></td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>ZnCl$_2$</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>136.30</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>As Per EC Regulation 1272/2008</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute Tox.oral 4; Skin Corr. 1A; Aquatic Chronic 1 H302; H314; H410</td>
<td><strong>&gt;=0.008 - &lt;=0.009%</strong></td>
</tr>
</tbody>
</table>
4 First Aid Measures
4.1 Description of first aid measures
   General advice
   Consult a physician. Show this safety data sheet to the doctor in attendance.
   If inhaled
   If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
   In case of skin contact
   Wash off with soap and plenty of water. Consult a physician.
   In case of eye contact
   Rinse immediately with plenty of water for at least 15 minutes. Consult a physician.
   If swallowed
   Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5 Fire Fighting Measures
5.1 Extinguishing media
   Suitable extinguishing media
   Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
   Unsuitable extinguishing media
   No data available.
5.2 Special hazards arising from the substance or mixture
   Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas, Potassium oxides, Oxides of phosphorus, Magnesium oxide, Calcium oxide, Manganese/manganese oxides, Molybdenum oxides, Zinc/zinc oxides
5.3 Precautions for fire-fighters
   Cool closed containers exposed to fire with water spray.
5.4 Further information
   Wear self-contained breathing apparatus for firefighting if necessary.

6 Accidental Release Measures
6.1 Personal precautions, protective equipment and emergency procedures
   Use personnel protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2 Environmental precautions
   Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into environment must be avoided.
6.3 Methods and materials for containment and cleaning up
   Keep in suitable, closed containers for disposal. Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
For disposal see Section 13.

7 Handling and Storage
7.1 Precautions for safe handling
Keep away from heat and source of ignition. Avoid contact with skin, eyes and clothing. Avoid inhalation of dust and aerosols. Provide appropriate exhaust ventilation, where dust is formed. For precautions see section 2.2

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Non Combustible Solids

7.3 Specific end uses
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8 Exposure Controls/Personal Protection
8.1 Control parameters
8.2 Exposure controls

Appropriate engineering controls
Handle in accordance to general industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Safety glasses with side-shields conforming to EN 166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Have eye-washing facilities readily available where eye contact can occur.

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environment exposure controls
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9 Physical and chemical properties
9.1 Information on basic physical and chemical properties
Appearance  White to off-white, homogenous powder
Odour  No data available
Odour Threshold  No data available
pH  4.2 - 5.2
Melting/freezing point  No data available
Initial boiling point and boiling range  No data available
Flash point  No data available
Upper/lower flammability or explosive limits  No data available
Evaporation rate  No data available
Flammability (Solid, gas)  No data available
Vapour pressure  No data available
Relative density  No data available
Autoignition Temperature  No data available
Decomposition Temperature  No data available
Viscosity  No data available
Explosive properties  No data available
Oxidizing properties  No data available
Vapour density  No data available
Thermal decomposition  No data available

9.2 Other safety information
No data available

10 Stability and Reactivity
10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions- Nature of decomposition not known. In event of fire - refer section 5

11 Toxicological Information
11.1 Information on toxicological effects

Acute toxicity
No data available
Remarks : No data available
No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Additional Information**
RTECS : Not applicable

12  Ecological Information
12.1  Toxicity
  No data available

12.2  Persistence and degradability
  No data available

12.3  Bioaccumulative potential
  No data available

12.4  Mobility in soil
  No data available

12.5  PBT and vPvB assessment
  This preparation contains no substance considered to be persistent, bioaccumulating or toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6  Other adverse effects

13  Disposal Considerations
13.1  Waste treatments methods
  **Product**
  Dispose of as unused product.

13.2  Contaminated packaging
  Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licenced professional waste disposal service to dispose off this material.

14  Transport Information
14.1  UN-No
  ADNR : ADR : IATA_C : IATA_P : IMDG : RID :
14.2 **UN proper shipping name**
ADNR : Not dangerous goods
ADR  : Not dangerous goods
IATA_C : Not dangerous goods
IATA_P  : Not dangerous goods
IMDG  : Not dangerous goods
RID  : Not dangerous goods

14.3 **Transport hazard class(es)**
ADNR : - ADR  : - IATA_C : - IATA_P  : - IMDG  : - RID  : -

14.4 **Packaging group**
ADNR    : - ADR    : - IATA_C    : - IATA_P    : - IMDG    : - RID    : -

14.5 **Environmental hazards**
ADR  : - IMDG  : MarinePollutant - No IATA_C  : -

14.6 **Special precautions for use**
No data available

15 **Regulatory Information**
15.1 **Safety health and environment regulations/legislation specific for the substance or mixture**

15.2 **Chemical Safety Assessment**
For this product a chemical safety assessment was not carried out.

16 **Other information**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H360FD</td>
<td>May damage fertility. May damage the unborn child</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
<tr>
<td>Acute Tox. oral 4</td>
<td>Acute toxicity, oral, Category 4</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment, long term hazard, Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage or eye irritation, Category 2A</td>
</tr>
<tr>
<td>Repr. Tox. 1A, 1B</td>
<td>Reproductive toxicity, Category 1A, 1B</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion or irritation, Category 1A</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion or irritation, Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity, single exposure, Respiratory tract irritation, Category 3</td>
</tr>
</tbody>
</table>

**Further Information**

Copyright 2010 HiMedia Laboratories Pvt. Ltd. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present...
state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. HiMedia Laboratories, shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.