



# SAFETY DATA SHEET

## FloraGro™ Advanced Nutrient System

### Section 1. Identification

|                                                             |                                                                                                                |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>GHS product identifier</b>                               | : FloraGro™ Advanced Nutrient System                                                                           |
| <b>Other means of identification</b>                        | : Nitrates, and inorganic minerals in aqueous solution.                                                        |
| <b>Product type</b>                                         | : Liquid.                                                                                                      |
| <b>Identified uses</b>                                      | : Hydroponic plant nutrient.                                                                                   |
| <b>Supplier's details</b>                                   | : General Hydroponics<br>2877 Giffen Ave<br>Santa Rosa, CA 95407<br>Tel: (707) 824-9376<br>Fax: (707) 824-9377 |
| <b>Emergency telephone number (with hours of operation)</b> | : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 (24/7)                                        |

### Section 2. Hazards identification

|                                                   |                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OSHA/HCS status</b>                            | : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product. |
| <b>Classification of the substance or mixture</b> | : Not classified.                                                                                                                                                                                                                                                                                            |
| <b>GHS label elements</b>                         |                                                                                                                                                                                                                                                                                                              |
| <b>Signal word</b>                                | : No signal word.                                                                                                                                                                                                                                                                                            |
| <b>Hazard statements</b>                          | : No known significant effects or critical hazards.                                                                                                                                                                                                                                                          |
| <b>Precautionary statements</b>                   |                                                                                                                                                                                                                                                                                                              |
| <b>Prevention</b>                                 | : Not applicable.                                                                                                                                                                                                                                                                                            |
| <b>Response</b>                                   | : Not applicable.                                                                                                                                                                                                                                                                                            |
| <b>Storage</b>                                    | : Not applicable.                                                                                                                                                                                                                                                                                            |
| <b>Disposal</b>                                   | : Not applicable.                                                                                                                                                                                                                                                                                            |
| <b>Hazards not otherwise classified (HNOC)</b>    | : None known.                                                                                                                                                                                                                                                                                                |

### Section 3. Composition/information on ingredients

|                                      |                                                         |
|--------------------------------------|---------------------------------------------------------|
| <b>Substance/mixture</b>             | : Mixture                                               |
| <b>Other means of identification</b> | : Nitrates, and inorganic minerals in aqueous solution. |
| <b>CAS number/other identifiers</b>  |                                                         |
| <b>CAS number</b>                    | : Not applicable.                                       |
| <b>Product code</b>                  | : Not available.                                        |



## Section 3. Composition/information on ingredients

| Ingredient name  | %       | CAS number |
|------------------|---------|------------|
| Ammonium nitrate | 3 - 5   | 6484-52-2  |
| Ammonium sulfate | 0.3 - 1 | 7783-20-2  |
| Urea             | 0 - 0.1 | 57-13-6    |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Maintain an open airway. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

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

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
nitrogen oxides  
sulfur oxides  
phosphorus oxides  
metal oxide/oxides

**Special protective actions for fire-fighters** : No special measures are required.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits                                                           |
|-----------------|---------------------------------------------------------------------------|
| Urea            | AIHA WEEL (United States, 10/2011).<br>TWA: 10 mg/m <sup>3</sup> 8 hours. |

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

|                                              |                               |
|----------------------------------------------|-------------------------------|
| Physical state                               | : Liquid. [Aqueous solution.] |
| Color                                        | : Green.                      |
| Odor                                         | : Odorless.                   |
| Odor threshold                               | : Not available.              |
| pH                                           | : 3.5                         |
| Melting point                                | : -1°C (30.2°F)               |
| Boiling point                                | : 101°C (213.8°F)             |
| Flash point                                  | : Not available.              |
| Evaporation rate                             | : Not available.              |
| Flammability (solid, gas)                    | : Not available.              |
| Lower and upper explosive (flammable) limits | : Not available.              |
| Vapor pressure                               | : Not available.              |
| Vapor density                                | : Not available.              |
| Relative density                             | : 1.108                       |
| Solubility                                   | : Soluble in water.           |
| Partition coefficient: n-octanol/water       | : Not available.              |
| Auto-ignition temperature                    | : Not available.              |
| Decomposition temperature                    | : Not available.              |
| Viscosity                                    | : Not available.              |
| Volatility                                   | : Not available.              |

## Section 10. Stability and reactivity

|                                    |                                                                                                        |
|------------------------------------|--------------------------------------------------------------------------------------------------------|
| Reactivity                         | : No specific test data related to reactivity available for this product or its ingredients.           |
| Chemical stability                 | : The product is stable.                                                                               |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| Conditions to avoid                | : No specific data.                                                                                    |
| Incompatible materials             | : Reactive or incompatible with the following materials: oxidizing materials.                          |
| Hazardous decomposition products   | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result    | Species | Dose       | Exposure |
|-------------------------|-----------|---------|------------|----------|
| Ammonium nitrate        | LD50 Oral | Rat     | 2217 mg/kg | -        |
| Ammonium sulfate        | LD50 Oral | Rat     | 2840 mg/kg | -        |
| Urea                    | LD50 Oral | Rat     | 8471 mg/kg | -        |

#### Irritation/Corrosion

| Product/ingredient name | Result                   | Species | Score | Exposure                            | Observation |
|-------------------------|--------------------------|---------|-------|-------------------------------------|-------------|
| Urea                    | Skin - Mild irritant     | Human   | -     | 72 hours 22 milligrams Intermittent | -           |
|                         | Skin - Moderate irritant | Human   | -     | 24 hours 20 Percent                 | -           |

#### Sensitization

There is no data available.

#### Carcinogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Delayed and immediate effects and also chronic effects from short and long term exposure

##### Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

##### Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

## Section 11. Toxicological information

### Potential chronic health effects

|                              |                                                     |
|------------------------------|-----------------------------------------------------|
| <b>General</b>               | : No known significant effects or critical hazards. |
| <b>Carcinogenicity</b>       | : No known significant effects or critical hazards. |
| <b>Mutagenicity</b>          | : No known significant effects or critical hazards. |
| <b>Teratogenicity</b>        | : No known significant effects or critical hazards. |
| <b>Developmental effects</b> | : No known significant effects or critical hazards. |
| <b>Fertility effects</b>     | : No known significant effects or critical hazards. |

### Numerical measures of toxicity

#### Acute toxicity estimates

| Route | ATE value     |
|-------|---------------|
| Oral  | 20074.8 mg/kg |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name              | Result                                     | Species                                                      | Exposure |
|--------------------------------------|--------------------------------------------|--------------------------------------------------------------|----------|
| Ammonium nitrate<br>Ammonium sulfate | Chronic NOEC 6 to 12 mg/L Fresh water      | Crustaceans - Cladocera                                      | 21 days  |
|                                      | Acute LC50 2.6 mg/L Fresh water            | Crustaceans - Ceriodaphnia dubia - Young                     | 48 hours |
|                                      | Acute LC50 14000 to 15000 µg/L Fresh water | Daphnia - Daphnia magna - Young                              | 48 hours |
|                                      | Acute LC50 68 µg/L Fresh water             | Fish - Oncorhynchus gorbusha - Alevin                        | 96 hours |
|                                      | Chronic NOEC 7.5 mg/L Marine water         | Algae - Phaeodactylum tricornutum - Exponential growth phase | 96 hours |
| Urea                                 | Chronic NOEC 143 µg/L Marine water         | Fish - Salmo salar - Post-smolt                              | 5 weeks  |
|                                      | Acute EC50 6573.1 mg/L Fresh water         | Crustaceans - Ceriodaphnia dubia - Neonate                   | 48 hours |
|                                      | Acute EC50 3910000 µg/L Fresh water        | Daphnia - Daphnia magna - Neonate                            | 48 hours |
|                                      | Acute LC50 22.5 ppt Fresh water            | Fish - Oreochromis mossambicus - Young                       | 96 hours |
|                                      | Chronic NOEC 2 g/L Fresh water             | Fish - Heteropneustes fossilis                               | 30 days  |

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| Urea                    | <-1.73             | -   | low       |

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : There is no data available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

|                                   | DOT Classification                                                                                                                                                                     | IMDG                                                                                                                                                                                     | IATA                                                                                                                                                                                          |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UN number</b>                  | Not regulated.                                                                                                                                                                         | Not regulated.                                                                                                                                                                           | Not regulated.                                                                                                                                                                                |
| <b>UN proper shipping name</b>    | -                                                                                                                                                                                      | -                                                                                                                                                                                        | -                                                                                                                                                                                             |
| <b>Transport hazard class(es)</b> | -                                                                                                                                                                                      | -                                                                                                                                                                                        | -                                                                                                                                                                                             |
| <b>Packing group</b>              | -                                                                                                                                                                                      | -                                                                                                                                                                                        | -                                                                                                                                                                                             |
| <b>Environmental hazards</b>      | No.                                                                                                                                                                                    | No.                                                                                                                                                                                      | No.                                                                                                                                                                                           |
| <b>Additional information</b>     | <b>Remarks</b><br>Special Provision 58: Concentrations of FloraGro™, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit. | <b>Remarks</b><br>Special Provision A270: Concentrations of FloraGro™, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit. | <b>Remarks</b><br>Special Provision A65 (270): Concentrations of FloraGro™, at the minimum temperature encountered during normal transportation, will not exceed 80% of the saturation limit. |

**AERG** : Not available.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 311:** Phosphoric acid

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed



## Section 15. Regulatory information

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Not applicable.

#### Composition/information on ingredients

| Name                     | %                | Fire hazard | Sudden release of pressure | Reactive   | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|--------------------------|------------------|-------------|----------------------------|------------|---------------------------------|---------------------------------|
| Ammonium nitrate<br>Urea | 3 - 5<br>0 - 0.1 | Yes.<br>No. | No.<br>No.                 | No.<br>No. | Yes.<br>Yes.                    | No.<br>No.                      |

### SARA 313

|                                        | Product name      | CAS number | %       |
|----------------------------------------|-------------------|------------|---------|
| <b>Form R - Reporting requirements</b> | Potassium nitrate | 7757-79-1  | 10 - 30 |
|                                        | Ammonium nitrate  | 6484-52-2  | 3 - 5   |
| <b>Supplier notification</b>           | Potassium nitrate | 7757-79-1  | 10 - 30 |
|                                        | Ammonium nitrate  | 6484-52-2  | 3 - 5   |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: Potassium nitrate; Ammonium nitrate

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Potassium nitrate; Ammonium nitrate

**Pennsylvania** : The following components are listed: Potassium nitrate; Ammonium nitrate

### California Prop. 65

No products were found.

## Section 16. Other information

### History

**Date of issue mm/dd/yyyy** : 02/15/2016

**Date of previous issue** : 06/30/2015

**Version** : 3

**Prepared by** : KMK Regulatory Services Inc.

## Section 16. Other information

### Key to abbreviations

- : ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- UN = United Nations

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.