

# TECHNAFLORA PLANT PRODUCTS LTD.

## MATERIAL SAFETY DATA SHEET

Pura Vida Grow

### 1. Product and company identification

<b>Product name</b>	: Pura Vida Grow
<b>Material uses</b>	: Fertilizer.
<b>Supplier/Manufacturer</b>	: Technaflora Plant Products Ltd. 7261 River Place, 101 Mission, B.C. Canada, V4S 0A3 Tel. 604-826-4759 / 1-800-586-1211
<b>MSDS authored by</b>	: KMK Regulatory Services inc.
<b>In case of emergency</b>	: CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887
<b>Product type</b>	: Liquid.

### 2. Hazards identification

#### Emergency overview

<b>Color</b>	: Brown. [Dark]
<b>Physical state</b>	: Liquid. [Thick]
<b>Odor</b>	: Seaweed.
<b>Signal word</b>	: DANGER!
<b>Hazard statements</b>	: CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
<b>Precautions</b>	: Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation. Ingestion.

#### Potential acute health effects

<b>Inhalation</b>	: Corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	: Harmful if swallowed. May cause burns to mouth, throat and stomach.
<b>Skin</b>	: Corrosive to the skin. Causes burns.
<b>Eyes</b>	: Corrosive to eyes. Causes burns.

#### Potential chronic health effects

<b>Chronic effects</b>	: Contains material that may cause target organ damage, based on animal data.
<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.
<b>Target organs</b>	: Contains material which may cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

#### Over-exposure signs/symptoms



## 2. Hazards identification

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Ingestion** : Adverse symptoms may include the following:  
stomach pains
- Skin** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Eyes** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

## 3. Composition/information on ingredients

Name	CAS number	%
Urea	57-13-6	10 - 30
Phosphoric acid	7664-38-2	1 - 5

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.

## 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Call medical doctor or poison control center immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. 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.
- 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.

## 5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.

## 5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 sulfur oxides  
 phosphorus oxides
- 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.

## 6. Accidental release measures

- Personal precautions** : Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- 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 for cleaning up**
- Small spill** : Stop leak if without risk. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. 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. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : 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.

## 8. Exposure controls/personal protection

Ingredient	Exposure limits
Urea Phosphoric acid	<p><b>AIHA WEEL (United States, 1/2009).</b> TWA: 10 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>ACGIH TLV (United States, 1/2009).</b> STEL: 3 mg/m<sup>3</sup> 15 minute(s). TWA: 1 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2009).</b> STEL: 3 mg/m<sup>3</sup> 15 minute(s). TWA: 1 mg/m<sup>3</sup> 10 hour(s).</p> <p><b>OSHA PEL (United States, 11/2006).</b> TWA: 1 mg/m<sup>3</sup> 8 hour(s).</p>

## 8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.
- Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. 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.
- Respiratory** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits.
- Hands** : Use gloves appropriate for work or task being performed. Recommended: Nitrile gloves.
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Chemical splash goggles or face shield.
- Skin** : 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. Recommended: Rubber apron and/on long sleeves.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

- Physical state** : Liquid. [Thick]
- Color** : Brown. [Dark]
- Odor** : Seaweed.
- pH** : 3.2
- Specific gravity** : 1.05 g/cm<sup>3</sup>
- Relative density** : 1.05
- Solubility** : Miscible in water.

## 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials, metals, acids and alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea	LD50 Oral	Rat	8471 mg/kg	-
Phosphoric acid	LD50 Oral	Rat	1.25 g/kg	-

**Chronic toxicity** : No specific data.

## 12. Ecological information

**Environmental effects** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Urea	Acute EC50 3910000 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours	48 hours
	Acute LC50 >1000 mg/L Marine water	Crustaceans - Chaetogammarus marinus - Young - 5 mm	48 hours
	Acute LC50 5000 ug/L Fresh water	Fish - Colisa fasciata - Fingerling	96 hours

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




## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid)	8	III		-
<b>IMDG Class</b>	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid)	8	III		-
<b>IATA-DGR Class</b>	UN3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid)	8	III		-

PG\* : Packing group

Exemption to the above classification may apply.

## 15 . Regulatory information

- HCS Classification** : Corrosive material  
Target organ effects
- U.S. Federal regulations** : **United States inventory (TSCA 8b):** All components are listed or exempted.  
**SARA 302/304/311/312 extremely hazardous substances** No products were found.  
**SARA 302/304 emergency planning and notification:** No products were found.  
**SARA 302/304/311/312 hazardous chemicals** Urea; Phosphoric acid  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Urea: Immediate (acute) health hazard, Delayed (chronic) health hazard; Phosphoric acid: Immediate (acute) health hazard  
**Clean Water Act (CWA) 307:** Copper sulphate; Zinc sulphate (hydrous) mono-, hexa- and hepta hydrate  
**Clean Water Act (CWA) 311:** Phosphoric acid; Potassium hydroxide; Diiron tris(sulphate)  
**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.  
**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.
- Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : Not listed
- 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
- State regulations** : **Connecticut Carcinogen Reporting:** None of the components are listed.  
**Connecticut Hazardous Material Survey:** None of the components are listed.  
**Florida substances:** None of the components are listed.  
**Illinois Chemical Safety Act:** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.  
**Louisiana Reporting:** None of the components are listed.  
**Louisiana Spill:** None of the components are listed.  
**Massachusetts Spill:** None of the components are listed.  
**Massachusetts Substances:** The following components are listed: Phosphoric acid  
**Michigan Critical Material:** None of the components are listed.  
**Minnesota Hazardous Substances:** None of the components are listed.  
**New Jersey Hazardous Substances:** The following components are listed: Phosphoric acid  
**New Jersey Spill:** None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.  
**New York Acutely Hazardous Substances:** The following components are listed: Phosphoric acid  
**New York Toxic Chemical Release Reporting:** None of the components are listed.  
**Pennsylvania RTK Hazardous Substances:** The following components are listed: Phosphoric acid  
**Rhode Island Hazardous Substances:** None of the components are listed.

### California Prop. 65

No products were found.

### International regulations



## 15 . Regulatory information

- International lists** :
- Australia inventory (AICS)** : Not determined.
  - China inventory (IECSC)** : Not determined.
  - Japan inventory**: Not determined.
  - Korea inventory**: Not determined.
  - New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
  - Philippines inventory (PICCS)** : Not determined.

## 16 . Other information

- Label requirements** : CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

- Hazardous Material Information System (U.S.A.)** : **Health** : 3 \* **Flammability** : 0 **Physical hazards** : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

- National Fire Protection Association (U.S.A.)** : **Health** : 3 **Flammability** : 0 **Instability** : 0

- References** : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part 1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG.

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### 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.



Dr. Luc Séguin, PhD chemist, 25 years as a professional in regulatory compliance

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