Safety Data Sheet

Advanced Nutrients pH Perfect Bloom

Section 1. Identification

GHS product identifier	:	Advanced Nutrients pH Perfect Bloom
Other means of identification	:	Product Code: 1201 Formula Code: 001D
Recommended use of the chemical and restriction on use	:	A plant nutrient used to obtain faster growth and larger yields in all kinds of growing media. Not to be used as food or feed in any forms.
Supplier/Manufacturer's details	:	Advanced Nutrients Ltd. 109-31063 Wheel Ave. Abbotsford, BC Canada V2T6H1 Tel: (877) 604-8637 Email: info@advancednutrients.com www.advancednutrients.com
Emergency Phone number	:	24 Hour Transportation Emergency Number – CHEMTREC 1-800-424-9300 U.S.A, Canada, International

Section 2. Hazard Identification

GHS classification of the substance/mixture	:	Neither the mixture nor its major constituents are listed in (a) the CLP/GHS database (Table 3.1 and 3.2 of Annex VI to CLP) and (b) OSHA Laws & Regulations (29 CFR - 1910 Subpart Z: Table Z-1 to Z-3) as hazardous materials.
GHS label elements		
Pictogram symbol	:	Not applicable.
Signal word	:	Not applicable.
Hazard statement	:	Not hazardous.
Precautionary statement		
General	:	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention	:	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.
Response	:	If skin or eye irritation occurs get medical attention. If in eyes: rinse cautiously with water for several minutes.
Storage	:	Store in a cool dry place.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.

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Other hazards (not covered the GHS	:	Potassium nitrate is used in the manufacture of this product. The US National Fire Protection Association (NFPA) Code 430 (1995) has classified Potassium nitrate as oxidizing material in Class 1, which slightly increase the burning rate of combustible materials, but do not cause spontaneous ignition when it comes in contact with them.

Section 3. Composition/Information on Ingredients

Substance/Mixture	:	Mixture
Chemical identity	:	Not applicable
Common name/synonym	:	Not available
CAS number and other unique identifiers	:	Not applicable
Impurities and stabilizing additives	:	Not applicable

Ingredient name	CAS number	% (w/w)	Classification according to OSHA Laws & Regulations
Urea	57-13-6	5-10	Not classified as hazardous
Potassium nitrate	7757-79-1	5-10	Not classified as hazardous
Potassium sulfate	7778-80-5	1-5	Not classified as hazardous

The chemical identity of the remaining ingredients and their exact proportions used in the mixture are a proprietary trade secret (protected by the Confidential Business Information – CBI) and, within the current knowledge of the manufacturer and in the concentration applicable, they are not hazardous to health or the environment.

Section 4. First-aid Measures

Description of necessary measures

Self-protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
General information	:	Remove contaminated clothing immediately. In case of accident or unwellness, seek medical attention immediately.
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. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt

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or waistband. 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.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if adverse health effects persist or are severe. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed:

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : No known health effect due to skin contact.

Eye contact : If in eyes, it causes eye irritation. Adverse symptoms may include pain or irritation, watering and redness.

Ingestion : If swallowed, it irritates mouth, throat and stomach.

Indication of immediate medical attention and special treatment needed:

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.

See also toxicological information (Section 11).

Section 5. Fire-fighting Methods

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

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Unsuitable extinguishing media	:	None known.
Specific hazards arising from the chemical	:	In a fire, hazardous thermal decomposition products may be produced including nitrogen oxides and metal oxide/oxides.
Special protective equipment for fire-fighters	:	Firefighters may enter the area if a self-contained breathing apparatus (SCBA) and a full face piece is worn.
Special protective precautions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. If large quantities are involved in a major fire, evacuate the area. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fight fire from protected location or maximum possible distance.

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. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency personnel	:	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 clean up

Small spill	:	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Alternatively, or if water-insoluble, 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. Move containers from spill area. Use

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	spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. 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.

Section 7. Handling and Storage

Precautions for safe handling

Advice on general 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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Protective measures	:	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep away from heat. Empty containers retain product residue and can be hazardous. Do not reuse container.
Conditions for safe storage and 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.

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Section 8. Exposure Controls/Personal Protection

Control parameters

Occupational exposure limits : Not applicable according to OSHA's mandatory PELs in the Z-Tables.

Biological limit values : None.

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

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.

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. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment (PPE) : PPE should be used in conjunction with other control measures, including engineering controls, ventilation and isolation. See Section 5 (Fire-fighting measures) of the SDS for specific fire/chemical PPE advice.

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: chemical splash goggles.

Skin 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. 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. Appropriate footwear and any

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		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	:	Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.
Thermal hazards	:	None.

Section 9. Physical and Chemical Properties

Appearance (physical state)	:	Light red, transparent, liquid.
Odor	:	Not available
Odor threshold	:	Not available
pH	:	5.4
Melting point/Freezing point	:	-7.0 °C
Initial boiling point and boiling range	:	100°C (212°F)
Flash point	:	Not available
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not flammable
Upper/lower flammability or explosive limits	:	Not applicable
Vapor pressure	:	Not available
Vapor density	:	Not available
Relative density	:	1.11 g/mL
Solubility (ies)	:	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
Viscosity	:	Not available

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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	:	Keep from freezing. Avoid contact with skin, eyes or ingestion.
Incompatible materials	:	Reactive or incompatible with the following materials: reducing materials, organic materials, acids and alkalis.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Acute toxicity

Ingredient	Toxicity	Species	Dose*	Remark
Urea	Oral LD50	Rat	14.3-15.0 mg/kg bw >2000 mg/kg bw	Very low toxicity
Potassium nitrate	Oral LD50	Rat	6600 mg/kg	
Potassium sulfate	Oral LD50	Rat		
	Inhalation LC50	No data available	No data available	
	Dermal LD50	No data available	No data available	

*- Obtained from ECHA (Updated Feb. 25, 2015)

Skin corrosion/irritation	:	Not-irritating to the skin (Potassium nitrate, Potassium sulfate and Urea).
Serious eye damage/ irritation	:	Non-irritant (Potassium nitrate and Potassium sulfate) Mildly irritating to eyes (Urea).
Respiratory or skin sensitization	:	Non skin sanitizer (Potassium nitrate, Urea).
Germ cell mutagenicity	:	There is no data available.
Carcinogenicity	:	There is no data available.
Reproductive toxicity	:	There is no data available.
STOT-single exposure	:	There is no data available.
STOT-repeated exposure	:	There is no data available.
Aspiration hazard	:	There is no data available.

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The Likely routes of exposure, health effects and Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : If in eyes, it causes eye irritation. Adverse symptoms may include, pain or irritation, watering and redness

Inhalation : There is no known health effect.

Skin contact : There is no known health effect.

Ingestion : It is harmful if ingested. Irritating to mouth, throat and stomach.

Delayed and immediate effects and also chronic effects from short or 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.

Potential Chronic health effect : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimate

Oral : There is no data available.

Inhalation of vapors : There is no data available.

Section 12. Ecological Information

Toxicity

Ingredient name	Result*	Species	Exposure	Reference
Urea	Acute EC50 3910000 mg/L Fresh water	Daphnia - Daphnia magna – Neonate	48 hours	ECHA
	Acute LC50 1000 mg/L Marine water	Crustaceans - Chaetogammarus marinus – Young	48 hours	ECHA
	Acute LC50 5000 mg/L Fresh water	Fish - Colisa fasciata – Fingerling	96 hours	ECHA
Potassium nitrate	Acute LC50 490 mg/L Fresh water	Daphnia - Daphnia magna	48 hours	IUCLID 5
	Acute LC50 22500 mg/L Fresh water	Fish – Gambusia affinis-Adult	96 hours	ECHA

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Persistence and degradability	:	There is no data available.
Bio accumulative potential	:	There is no data available.
Mobility in soil	:	There is no data available.
Other adverse effects	:	No known significant effects or critical hazards.

Section 13. Disposal Considerations

Disposal of waste 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.
Contaminated packaging	:	Empty containers should be recycled or disposed of through an approved waste management facility. Persons conducting disposal, recycling or reclamation activities should follow the information in Section 8 of this SDS.

Section 14. Transport Information

Identification of ingredients according to UN Model Regulations	
UN number	This product is a mixture of ingredients which are not listed as 'Dangerous Goods' in Chapter 3.2 of UN Recommendations on the Transport of Dangerous.
UN proper shipping name	
Transport hazard class(es)	
Packing group	
Special precaution 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	Not applicable (≤ 1000L-container).

Environmental hazards

Ingredient's name	IMDG	UN	ADR	RID	ADN
	-	-	-	-	-

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Section 15. Regulatory Information

Safety, health and environmental regulations specific for the product in question	:	No known specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other Information

Prepared by : Department of Product Development, Advanced Nutrients Ltd., Canada
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Key Acronyms:

- **ADN** : The European Agreement concerning the International Transport of Dangerous Goods by Inland Waterways
- **ADR** : The European Agreement concerning the International Carriage of Dangerous Goods by Road
- **BW** : Body Weight
- **IATA** : International Air Transport Association shipment of Dangerous Goods Regulation
- **IMDG** : International Maritime Dangerous Goods code
- **RID** : The Regulation concerning the International Carriage of Dangerous Goods by Rail
- **SDS** : Safety Data Sheet

Key Literature References:

Convention concerning International Carriage by Rail (COTIF) Appendix C – Regulation concerning the International Carriage of Dangerous Goods by Rail (RID), with effect from 1 January 2013. Intergovernmental Organization for International Carriage by Rail (OTIF). Berne, Switzerland, 2012.

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Guidance on Labelling and Packaging Regulation in Accordance with EU Regulation 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation). European Chemical Agency, Finland, 2011.

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Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. Official Journal of the European Union L 353/1. 2008.

Others : The data here is for hazard communication to our employees, our customers and their employees and authorized regulatory agencies. For the intended purpose, this SDS may be duplicated or the data transcribed to an alternative form.

Note: The information contained herein is provided in good faith and is believed to be correct as of the date of hereof. However, Advanced Nutrients Ltd. makes no representation as to the comprehensiveness or accuracy of the information provided. It is expected that individuals receiving the information will exercise their independent judgement in determining the appropriateness for a particular period. Accordingly, Advanced Nutrients Ltd. will not be responsible for damages of any kind resulting from the use of or reliance upon such information. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder to which the information refers. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.

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