

# Safety Data Sheet



Advanced Nutrients B-52

## Section 1. Identification

<b>GHS product identifier</b>	: Advanced Nutrients B-52
<b>Other means of identification</b>	: Product Code: 2100 Formula Code: 002A
<b>Recommended use of the chemical and restriction on use</b>	: 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.
<b>Supplier/Manufacturer's details</b>	: Advanced Nutrients Ltd. 109-31063 Wheel Ave. Abbotsford, BC Canada V2T6H1 Tel: (877) 604-8637 Email: <a href="mailto:info@advancednutrients.com">info@advancednutrients.com</a> <a href="http://www.advancednutrients.com">www.advancednutrients.com</a>
<b>Emergency Phone number</b>	: 24 Hour Transportation Emergency Number – CHEMTREC 1-800-424-9300 U.S.A, Canada, International

## Section 2. Hazard Identification

<b>GHS classification of the substance/mixture</b>	: 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.
<b>GHS label elements</b>	
<b>Pictogram symbol</b>	: Not applicable.
<b>Signal word</b>	: Not applicable.
<b>Hazard statement</b>	: Not hazardous.
<b>Precautionary statement</b>	
<b>General</b>	: Read label before use. Keep out of reach of children. If medical advice is needed, have product container/label at hand.
<b>Prevention</b>	: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.
<b>Response</b>	: If skin or eye irritation occurs get medical advice/attention.

	If in eyes: rinse cautiously with water for several minutes.
<b>Storage</b>	: Store in cool and dry place.
<b>Disposal</b>	: Dispose of contents and container in accordance with local, regional, national and international regulations.
<b>Other hazards (not covered the GHS)</b>	: 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

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

<b>Ingredient name</b>	<b>CAS number</b>	<b>% (w/w)</b>	<b>Classification according to OSHA Law and Regulations</b>
Potassium Nitrate	7757-79-1	10-13	Not classified as hazardous.
Urea	57-13-6	5-10	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

<b>Description of necessary measures</b>	
<b>Self-protection of first-aiders</b>	: 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.
<b>General information</b>	: Remove contaminated clothing immediately. In case of accident or unwellness, seek medical attention immediately.
<b>Inhalation</b>	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are

still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. 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. Get medical attention.

**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 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.

**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.

**Ingestion** : Irritating to 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

<b>Suitable extinguishing media</b>	: Any media suitable for extinguishing a surrounding fire.
<b>Unsuitable extinguishing media</b>	: Not known.
<b>Specific hazards arising from the chemical</b>	: No specific fire or explosion hazard.
<b>Special protective equipment for fire-fighters</b>	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
<b>Special protective precautions for fire-fighters</b>	: No special protection is required.

## Section 6. Accidental Release Measures

<b>Personal precautions, protective equipment and emergency procedures</b>	
<b>For non-emergency personnel</b>	: Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency personnel</b>	: 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".
<b>Environmental precautions</b>	: 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).
<b>Methods and materials for containment and clean up</b>	
<b>Small spill</b>	: 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 via a licensed waste disposal contractor.
<b>Large spill</b>	: Stop leak if without risk. Move containers from spill area. Use 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. Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

## 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. 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.

**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. Store locked up. 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** : Not applicable according to OSHA's mandatory PELs in the Z-Tables.

**Biological limit values** : None.

**Appropriate engineering** : Use only with adequate ventilation. If user operations

<b>controls</b>	generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
<b>Environmental exposure controls</b>	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
<b>Individual protection measures</b>	
<b>Hygiene measures</b>	: 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.
<b>Personal Protective Equipment (PPE)</b>	: 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.
<b>Eye/face protection</b>	: 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.
<b>Skin protection</b>	: 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 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.
<b>Respiratory protection</b>	: 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.
<b>Thermal hazards</b>	: None.

## Section 9. Physical and Chemical Properties

<b>Appearance (physical state)</b>	: Dark, opaque, liquid.
<b>Odor</b>	: Nutty/Earthy

<b>Odor threshold</b>	: Not available
<b>pH</b>	: 5.2
<b>Melting point/Freezing point</b>	: -4°C (24.8°F)
<b>Initial boiling point and boiling range</b>	: 100°C (212°F)
<b>Flash point</b>	: Not applicable
<b>Evaporation rate</b>	: Not available
<b>Flammability (solid, gas)</b>	: Not flammable
<b>Upper/lower flammability or explosive limits</b>	: Not applicable
<b>Vapor pressure</b>	: Not available
<b>Vapor density</b>	: Not available
<b>Relative density</b>	: 1.078 g/ml
<b>Solubility (ies)</b>	: Miscible in water
<b>Partition coefficient: n-octanol/water</b>	: Not available
<b>Auto-ignition temperature</b>	: Not applicable
<b>Decomposition temperature</b>	: Not available
<b>Viscosity</b>	: Not available

## Section 10. Stability and Reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Keep from freezing. Avoid contact with skin, eyes or ingestion.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: reducing materials, organic materials and acids.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological Information

<b>Acute toxicity</b>				
<b>Ingredient</b>	<b>Toxicity</b>	<b>Species</b>	<b>Dose*</b>	<b>Remark</b>
Potassium Nitrate	Oral LD50	Rat	>2000 mg/kg bw	At 60% concentration
	Inhalation LC50	Rat	>0.527 mg/L air	
	Dermal LD50	Rat	>5000mg/kg bw	
Urea	Oral LD50	Rat	600-1080 mg/kg bw	Very low toxicity.
	Inhalation LC50	-	No data available	No data available.
	Dermal LD50	Rat	>5000 mg/kg bw	
*- Obtained from ECHA (Updated Feb. 25, 2015)				
<b>Skin corrosion/irritation</b>	:	Not-irritating to the skin (Potassium nitrate and Urea).		
<b>Serious eye damage/irritation</b>	:	Non-irritant (Potassium nitrate). Mildly irritating to eyes (Urea).		
<b>Respiratory or skin sensitization</b>	:	Non skin sanitizer (Potassium nitrate, Urea).		
<b>Germ cell mutagenicity</b>	:	No data available.		
<b>Carcinogenicity</b>	:	No data available.		
<b>Reproductive toxicity</b>	:	No adverse effect (Potassium nitrate). No data available (Urea).		
<b>STOT-single exposure</b>	:	No data available.		
<b>STOT-repeated exposure</b>	:	No data available.		
<b>Aspiration hazard</b>	:	No data available.		
<b>The Likely routes of exposure, health effects and Symptoms related to the physical, chemical and toxicological characteristics</b>				
<b>Eye contact</b>	:	If in eyes, it causes eye irritation. The symptoms may include irritation, watering and redness.		
<b>Inhalation</b>	:	There is no known health effect.		
<b>Skin contact</b>	:	There is no known health effect.		
<b>Ingestion</b>	:	It is harmful if ingested. Irritating to mouth, throat and stomach. There is no known health effect.		
<b>Delayed and immediate effects and also chronic effects from short or long term exposure</b>				
<b>Short-term exposure</b>				
<b>Potential immediate effects</b>	:	No known significant effects or critical hazards.		
<b>Potential delayed effects</b>	:	No known significant effects or critical hazards.		
<b>Long-term exposure</b>				
<b>Potential immediate effects</b>	:	No known significant effects or critical hazards.		
<b>Potential delayed effects</b>	:	No known significant effects or critical hazards.		



<b>effects</b>	
<b>Potential Chronic health effect</b>	: No known significant effects or critical hazards.
<b>Numerical measures of toxicity</b>	
<b>Acute toxicity estimate</b>	
<b>Oral</b>	: No data available.
<b>Inhalation of vapors</b>	: No data available.

## Section 12. Ecological Information

<b>Toxicity</b>				
<b>Ingredient name</b>	<b>Result*</b>	<b>Species</b>	<b>Exposure</b>	<b>Reference</b>
Potassium nitrate	Acute LC50 490 mg/L Fresh water	Daphnia - Daphnia magna	48 hours	IUCLID 5
	Acute LC50 1378 mg/L Fresh water	Fish – Poecilia reticulata	96 hours	ECHA
Urea	Acute LC50 >6810mg/l Fresh water	Fish – Golden orfe fish	48 hours	ECHA
<b>Persistence and degradability</b>	: No data available.			
<b>Bio accumulative potential</b>	: No data available.			
<b>Mobility in soil</b>	: No data available.			
<b>Other adverse effects</b>	: No known significant effect.			

## Section 13. Disposal Considerations

<b>Disposal of waste methods</b>	: Disposal of all waste must be done in accordance with municipal, provincial and federal regulations. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. No sewage disposal!!
<b>Contaminated packaging</b>	: 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

<b>Identification of ingredients according to UN Model Regulations</b>	
<b>UN number</b>	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 Goods and/or one or more
<b>UN proper shipping name</b>	
<b>Transport hazard class(es)</b>	

<b>Packing group</b>	ingredients are included in the list but their mixture is exempted from the same Regulation based on the Articles 2.0.2.5 (C), 2.0.2.7 and 3.3.1 No. 208.
<b>Special precaution for user</b>	<b>Transport within user's premises:</b> 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.
<b>Transport in bulk</b>	Not applicable ( $\leq$ 1000L-container).

#### Environmental hazards

<b>Ingredient's name</b>	<b>IMDG</b>	<b>UN</b>	<b>ADR</b>	<b>RID</b>	<b>ADN</b>
Potassium Nitrate	No	No	No	No	No

### Section 15. Regulatory Information

<b>Safety, health and environmental regulations specific for the product in question</b>	:	No known specific national and/or regional regulations applicable to this product (including its ingredients).
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### Section 16. Other Information

<b>Prepared by</b>	:	Department of Product Development, Advanced Nutrients Ltd., Canada
<b>Date of preparation (d/m/y)</b>	:	28/04/2015
<b>Version</b>	:	4
<b>Date of Revision</b>	:	13/04/2020
<b>Revised Sections</b>	:	Section 1
<b>Key Acronyms:</b>		
<b>ADN</b>	:	The European Agreement concerning the International Transport of Dangerous Goods by Inland Waterways
<b>ADR</b>	:	The European Agreement concerning the International Carriage of Dangerous Goods by Road
<b>BW</b>	:	Body Weight
<b>IATA</b>	:	International Air Transport Association shipment of Dangerous Goods Regulation
<b>IMDG</b>	:	International Maritime Dangerous Goods code
<b>RID</b>	:	The Regulation concerning the International Carriage of Dangerous Goods by Rail
<b>SDS</b>	:	Safety Data Sheet
<b>Key Literature References:</b>		
		<b>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.</b> Intergovernmental Organization for International Carriage by Rail (OTIF). Berne, Switzerland, 2012.

**European Chemical Agency (ECHA) 2015. Information on Chemicals: Registered substances** <http://echa.europa.eu/information-on-chemicals/registered-substances>. Online Database. Accessed on March 16, 2015.

**European Agreement concerning the International Transport of Dangerous Goods by Inland Waterways (ADN), including the Annexed Regulations, applicable as from 1 January 2013.** Volume I and Volume II. ECE/TRANS/231 (Vol. I & II). UN Economic Commission for Europe-Committee on Inland Transport. New York and Geneva, 2012.

**European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), applicable as from 1 January 2013.** Volume I and Volume II. ECE/TRANS/225 (Vol. I & II). United Nations Economic Commission for Europe-Committee on Inland Transport, New York and Geneva, 2012.

**Globally Harmonized System of Classification and Labelling of Chemicals.** 5<sup>th</sup> Edition. ST/SG/AC. 10.30/Rev. 5. United Nations, New York and Geneva, 2013.

**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.

**International Maritime Dangerous Goods (IMDG) Code Volume 1 and 2. Incorporating Amendment 33-06, 2006 Edition.** International Maritime Organization. London, 2006.

**OSH Answers Fact Sheets. Canadian Centre for Occupational Health and Safety.** [http://www.ccohs.ca/oshanswers/chemicals/oxidizing/oxidizing\\_hazards.html](http://www.ccohs.ca/oshanswers/chemicals/oxidizing/oxidizing_hazards.html)  
Accessed on April 08, 2015.

**OSHA Law and Regulations. Occupational Safety and Health Standards 29 CFR: 1910.** <https://www.osha.gov/law-regs.html> Accessed on April 15, 2015.

**Recommendations on the Transport of Dangerous Goods – Manual of Test and Criteria.** 5<sup>th</sup> Edition. ST/SG/AC. 10/11/Rev. 5. United Nations, New York and Geneva, 2009.

**Recommendations on the Transport of Dangerous Goods – Model Regulations.** 18<sup>th</sup> Edition. Volume I and II. ST/SG/AC. 10/1/Rev. 18. UN, New York and Geneva, 2013.

**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.