


# Safety Data Sheet

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1- -United States

## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	Dakine 420 Grow 15-0-15
PRODUCT TYPE	Granular Concentrate
CODE	UPC - 728028467161 (1,000g)
GENERAL USE	Professional fertilizer application
NAME	Dakine 420, LLC.
STREET ADDRESS	494 SW Veterans Way Ste 6
CITY, STATE, POSTAL CODE, COUNTRY	Redmond, OR 97756, United States
PHONE/FAX NUMBER	P. 541-420-4645/F. 541-203-4525
E-MAIL	info@dakine420.com
NATIONAL POISON CENTER TELEPHONE NUMBER	American Association of Poison Control Centers 800-222-1222

## 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:	PHYSICAL STATE	- Granular Concentrate
	COLOR	- White
	ODOR	- Odorless
	SIGNAL WORD	- Danger
	HAZARD STATEMENTS	- Harmful if swallowed, causes serious eye irritation.
	PRECAUTIONARY MEASURES	- Do not ingest. Avoid contact with eyes. Wash thoroughly after handling.
	OSHA/HCS STATUS	- Communication standard (29 CF 1910.1200)
GHS LABEL ELEMENTS:	HAZARD SYMBOLS	
	SIGNAL WORD	- Danger
	HAZARD STATEMENTS	- Harmful if swallowed, causes serious eye damage.
POTENTIAL ACUTE HEALTH EFFECTS:	INHALATION	- Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	INGESTION	- Toxic if swallowed.
	SKIN	- May cause skin irritation.
	EYES	- Irritating to eyes.
	POTENTIAL CHRONIC HEALTH EFFECTS	- No known significant effects or critical hazards.
	CHRONIC EFFECTS	- No known significant effects or critical hazards.
	CARCINOGENICITY	- No known significant effects or critical hazards.
	MUTAGENICITY	- No known significant effects or critical hazards.
	TERATOGENICITY	- No known significant effects or critical hazards.
	DEVELOPMENTAL EFFECTS	- No known significant effects or critical hazards.
	FERTILITY EFFECTS	- No known significant effects or critical hazards.
	TARGET ORGANS	- Not available.
MEDICAL CONDITIONS AGGRAVATED BY OVER-EXPOSURE		- None known.
SEE TOXICOLOGICAL INFORMATION		- Section 11

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	POTASSIUM NITRATE	CAS #7757-79-1/Concentration 30-65%
	HYDRATED AMMONIUM CALCIUM NITRATE DOUBLE SALT	CAS #15245-12-2/Concentration 30-70%
	PERCHLORATE	(ClO <sub>4</sub> ) <0.01%
	IODATE	(IO <sub>3</sub> ) <50 ppm

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	- Rinse with plenty of running water. Check for and remove any contact lenses.
SKIN CONTACT	- Wash with soap and water. Get medical attention if irritation develops.
INHALATION	- If inhaled, remove to fresh air. Get medical attention if symptoms occur. 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.
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. Get medical attention 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.
NOTE TO PHYSICIAN	-Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. 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 AND NOT SUITABLE)	- Use flooding quantities of water for extinction. - Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand.
SPECIAL EXPOSURE HAZARDS	- Promptly isolate the scene by removing all persons from the vicinity of the incident If there is a fire. No action shall be taken involving any personal risk or without suitable training.
HAZARDOUS THERMAL DECOMPOSITION PRODUCTS	- Decomposition products may include the following materials: nitrogen oxides. Avoid breathing dusts, vapors or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS	- Non-flammable substance. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
SPECIAL REMARKS ON EXPLOSION HAZARDS	- None.

**6. ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS	- 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
ENVIRONMENTAL PRECAUTIONS	- A void 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	- Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
METHODS FOR CLEANING UP LARGE SPILL	- Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

### 7. HANDLING AND STORAGE

HANDLING	- 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. Do not get in eyes or on skin or clothing. Do not ingest. 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. See also Section 8 for additional information on hygiene measures.
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. Keep away from: organic materials, oil and grease.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS	- No exposure standard limits. Consult local authorities for acceptable exposure limits.
ENGINEERING MEASURES	- No special ventilation requirements. Good general ventilation should be enough 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.
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. Wash contaminated clothing before reusing. A washing facility or water for eye and skin cleaning purposes should be present.
PERSONAL PROTECTION RESPIRATORY	- Use a properly fitted, particulate filter 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. Recommended: In case of inadequate ventilation wear respiratory protection. Filter P2 (EN 143)
PERSONAL PROTECTION HANDS	- Chemical-resistant, impervious gloves complying with an approved standard should always be worn when handling chemical products if a risk assessment indicates this is

PERSONAL PROTECTION EYES	necessary. > 8 hours (breakthrough time): Protective gloves should be worn under normal conditions of use, Viton, neoprene.
PERSONAL PROTECTION SKIN	- 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 or dusts. chemical splash goggles. Recommended: Tightly-fitting goggles.
ENVIRONMENTAL EXPOSURE CONTROLS	- 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. - 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	Powder concentrate
FLASH POINT	Not determined.
BURNING TIME	Not determined.
BURNING RATE	Not determined.
AUTO-IGNITION TEMPERATURE	Not determined.
FLAMMABLE LIMITS	<b>Lower:</b> Not determined. <b>Upper:</b> Not determined.
EXPLOSIVE PROPERTIES	None
OXIDIZING PROPERTIES	Oxidizer
COLOR	White
ODOR	Odorless
PH	5 -7 [Cone.: 110 g/1]
BOILING/CONDENSATION POINT	Not determined.
SUBLIMATION TEMPERATURE	Not determined.
MELTING/FREEZING POINT	400°C (752°F) Will lose water at 90-100°C.
BULK DENSITY	1,100 kg/m <sup>3</sup>
RELATIVE DENSITY	2.05
VAPOR PRESSURE	Not determined.
ODOR THRESHOLD	Not determined.
EVAPORATION RATE	Not determined.
VISCOSITY	<b>Dynamic:</b> Not determined. <b>Kinematic:</b> Not determined. 100 g/1 @20°C (68°F)
SOLUBILITY	Easily soluble in the following Materials: cold water
SOLUBILITY IN WATER	> 100 g/1

### 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY	- The product is stable.
CONDITIONS TO AVOID	- Avoid contamination by any source including metals, dust and organic materials.
INCOMPATIBLE MATERIALS	- Alkalis, combustible materials, reducing materials and organic materials acids.
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.

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	References
Nitric acid, calcium salt (2: 1)					
	LD50 Oral	Rat- Female	500 mg/kg 423 Acute Oral toxicity - Acute Toxic Class Method	-	IUCLID 5
	LD50 Dermal	Rat	> 2,000 mg/kg OECD 402	-	IUCLID 5
Nitric acid ammonium salt (1: 1)					
	LD50 Oral	Rat	2,950 mg/kg OECD 401	-	IUCLID 5
	LD50Dermal	Rat	> 5,000 mg/kg OECD 402	-	IUCLID 5

**Conclusion/Summary** : Harmful if swallowed.

#### Chronic toxicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Nitric acid, calcium salt (2: 1)	Sub-acute NOAEL Oral	Rat	> 1000 mg/kg OECD 407	28 days	IUCLID 5
Nitric acid ammonium salt (1: 1)	Chronic NOAEL Oral	Rat	256 mg/kg OECD 422	28 days	IUCLID 5
	Sub-acute NOEC Dusts and mists Inhalation	Rat	> 185 mg/kg OECD 412	2 weeks 5 hours per day	IUCLID 5

**Conclusion/Summary** : Not toxic.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	References
Nitric acid, calcium salt (2: 1)	Eyes - Severe irritant OECD405	Rabbit		24 - 72 h	-	
Nitric acid ammonium salt (1:1)	Eyes - Irritant OECD405	Rabbit			-	IUCLID 5

#### CONCLUSION/SUMMARY

SKIN	May cause skin irritation.
EYES	Causes serious eye damage.
RESPIRATORY	No known significant effects or critical hazards.
SKIN SENSITIZATION	Not sensitizing.
RESPIRATORY SENSITIZATION	Not determined.
CARCINOGENICITY	No carcinogenic effect.
MUTAGENICITY	No mutagenic effect.
TERATOGENICITY	No known significant effects or critical hazards.



## Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure	References
Nitric acid, calcium salt (2:1)	-	Negative	Negative	Rat	Oral: > 1500 mg/kg bw/day Repeated dose	-	IUCLID 5
Nitric acid ammonium salt (1:1)	-	Negative	Negative	Rat	Oral: > 1500 mg/kg bw/day	28 days	IUCLID 5

**Conclusion/Summary** : No known significant effects or critical hazards.

**IDLH** : No data available.

## 12. ECOLOGICAL INFORMATION

ECOTOXICITY : No known significant effects or critical hazards.

**Ecotoxicity** : No known significant effects or critical hazards.

### Aquatic ecotoxicity

Product / ingredient name	Result	Species	Exposure	References
Nitric acid, calcium salt (2:1)				
	Acute LC50 1,378 mg/l Fresh water OECD 203	Fish - Labeo boga	96 h	IUCLID 5
	Acute LC50 2,400 mg/l Fresh water	Fish - Lepomis macrochirus	4 d	Proc. Acad. Nat. Sci. Philadelphia 106: 185-205
	Acute LC50 490 mg/l Fresh water	Aquatic invertebrates. - Daphnia	48 h	IUCLID 5
	Acute EC50 > 1,700 mg/l Salt water	Aquatic plants - Heterosigma akashiwo	10 d	IUCLID 5
Nitric acid ammonium salt (1:1)				
	Acute LC50 447 mg/l Fresh water	Fish - Labeo boga	48 h	IUCLID 5
	Acute EC50 490 mg/l Fresh water	Aquatic invertebrates. - Daphnia	48 h	IUCLID 5
	Acute EC50 1,700 mg/l Salt water	Aquatic plants - Heterosigma akashiwo	10 d	IUCLID 5

CONCLUSION/SUMMARY	- The product does not show any bioaccumulation phenomena. The product is not expected to harm the environment when used properly according to directions.
PERSISTENCE/DEGRADABILITY; CONCLUSION/SUMMARY	- Readily biodegradable in plants and soils.
PARTITION COEFFICIENT: N-OCTANOL/WATER	- Not available.
MOBILITY	- This product may move with surface or groundwater flows because its water solubility is high.
OTHER ADVERSE EFFECTS	- No known significant effects or critical hazards.

**13. DISPOSAL CONSIDERATIONS**

DISPOSAL METHOD	<ul style="list-style-type: none"> <li>- The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should always 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. A void dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty the bag by shaking to remove as much as possible of its contents. Empty bags may be disposed of as non-hazardous material or returned for recycling.</li> </ul>
SPECIAL PRECAUTIONS FOR DISPOSAL	<ul style="list-style-type: none"> <li>- Disposal should be in accordance with applicable regional, national and local laws and regulations.</li> </ul>

**14. TRANSPORT INFORMATION**

TRANSPORTATION INFORMATION SPECIAL PRECAUTIONS FOR USER	<ul style="list-style-type: none"> <li>- Not regulated for transport of dangerous goods</li> <li>- 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.</li> </ul>
REMARK	An NPK fertilizer not liable to self-sustaining decomposition according to the IMO-standard trough test as defined in the recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, 2. part III, section 38.

**15. REGULATORY INFORMATION**

United States HCS Classification U.S. Federal regulations	<ul style="list-style-type: none"> <li>- Toxic and irritating material.</li> <li>- United States -TSCA 12(b) -Chemical export notification: None of the components are listed.</li> <li>United States -TSCA 4(a)-Final Test Rules: Not listed</li> <li>United States -TSCA 4(e) -ITC Priority list: Not listed</li> <li>United States -TSCA 4(a) -Proposed test rules: Not listed</li> <li>United States -TSCA 4(1) -Priority risk review: Not listed</li> <li>United States -TSCA 5(a)2 -Final new use rules: Not listed</li> <li>United States -TSCA 5(a)2 -Proposed new use rules: Not listed</li> <li>United States -TSCA 5(e)-Substances consent order: Not listed</li> <li>United States -TSCA 6 -Final risk management: Not listed</li> <li>United States -TSCA 6 -Proposed risk management: Not listed</li> <li>United States -TSCA 5(a) -Comprehensive assessment report (CAIR): Not listed</li> <li>United States -TSCA 8(a) -Chemical risk rules: Not listed</li> <li>United States -TSCA 8(a)-Dioxin/Furane precursor: Not listed</li> <li>United States -TSCA 8(a) -Chemical Data Reporting (CDR): Not determined</li> <li>United States -TSCA 8(a)-Preliminary assessment report (PAIR): Not listed</li> <li>United States -TSCA 8(c) -Significant adverse reaction (SAR): Notlisted</li> <li>United States -TSCA 8(d) -Health and safety studies: Not listed</li> </ul>
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	<p>SARA 302/304/311/312 extremely hazardous substances: No products were found.</p> <p>SARA 302/304 emergency planning and notification: No products were found.</p> <p>SARA 302/304/311/312 hazardous chemicals: No products were found.</p> <p>SARA 311/312 MSDS distribution -chemical inventory -hazard identification: Nitric acid ammonium salt (1: 1): Fire hazard - flammable, combustible liquid, pyrophoric, Reactive Nitric acid, calcium salt (2: 1 ): Fire hazard -flammable, combustible liquid, pyrophoric</p> <p>United States -EPA Clean water act (CWA) section 307 - Priority pollutants: Not listed</p> <p>United States -EPA Clean water act (CWA) section 311 - Hazardous substances: Not listed</p> <p>United States -EPA Clean air act (CAA) section 112 -Accidental release prevention -Flammable substances: Not listed</p> <p>United States -EPA Clean air act (CAA) section 112 -Accidental release prevention -Toxic substances: Not listed</p> <p>United States -Department of commerce -Precursor chemical: Not listed</p>
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<b>16. OTHER INFORMATION</b>	
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Date of preparation	March 2019
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