


Super Rainbow® Plant Food 6-6-22

Section 1. Identification

GHS product identifier : Super Rainbow® Plant Food 6-6-22
Other means of identification :  Product code: 1336-30540
Product type : Granular solid.

Relevant identified uses of the substance or mixture and uses advised against


Identified uses
Fertilizer.

Supplier's details : Agrium Canada Partnership (A Subsidiary of Nutrien Ltd.)
 13131 Lake Fraser Drive, S.E.
 Calgary, Alberta, Canada, T2J 7E8

 Agrium U.S. Inc. (A Subsidiary of Nutrien Ltd.)
 5296 Harvest Lake Drive
 Loveland, CO 80538

 Company phone number (North America):
 1-800-403-2861 (Customer Service)

 sds@nutrien.com - www.nutrien.com

Emergency telephone number (with hours of operation) :  Nutrien North American
 24 HOUR EMERGENCY TELEPHONE NUMBERS:

 English:
 Transportation Emergencies: 1-800-792-8311
 Medical Emergencies: 1-303-389-1653

 French or Spanish:
 Transportation or Medical Emergencies: 1-303-389-1654

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : EYE IRRITATION - Category 2B
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) (inhalation) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Causes eye irritation.
 May cause damage to organs through prolonged or repeated exposure if inhaled. (central nervous system (CNS))

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Do not breathe dust or mist. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Section 2. Hazards identification

- Storage** : Not applicable.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Section 3. Composition/information on ingredients

Substance/mixture : Multi-constituent substance

CAS number/other identifiers

CAS number : See below.

Ingredient name	%	CAS number
Potassium magnesium sulfate	35 - 37	14977-37-8
Potassium nitrate	19 - 21	7757-79-1
Potassium sulfate	11 - 13	7778-80-5
Ammonium dihydrogen orthophosphate	8 - 11	7722-76-1
Ammonium sulfate	0 - 9	7783-20-2
Calcium sulfate, dihydrate	5 - 7	10101-41-4
Ammonium nitrate	2 - 3	6484-52-2
Manganous oxide	1 - 2	1344-43-0
Ulexite	1	1319-33-1

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** : Begin eye irrigation immediately. Exposures to eye irritants may require medical evaluation following decontamination if pain or irritation persists. Immediately rinse eyes with large quantities of water or saline for a minimum of 15 minutes. If possible, remove contact lenses being careful not to cause additional eye damage. If the initial water supply is insufficient, keep the affected area wet with a moist cloth and transfer the person to the nearest place where rinsing can be continued for the recommended length of time. For additional advice call the medical emergency number on this SDS or your poison center or doctor.
- Inhalation** : Not considered to be acutely toxic. Repeated or prolonged exposure to the substance can produce nervous system damage. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. In a fire, hazardous decomposition products may be produced. In case of inhalation of decomposition products in a fire, symptoms may be delayed. If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : No known effect after skin contact. Rinse with water for a few minutes.
- Ingestion** : Ingestion may cause gastrointestinal irritation and diarrhea. Wash out mouth with water. Never give anything by mouth to an unconscious person. 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. For additional advice call the medical emergency number on this SDS or your poison center or doctor.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes eye irritation.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

Section 4. First aid measures

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
See also: Section 11. Toxicological information
- Skin contact** : No specific data.
- Ingestion** : No specific data. May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

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

- Notes to physician** : Treat symptomatically and supportively. Contact poison treatment specialist immediately if ingested or inhaled. In case of inhalation of the substance, or exposure to its decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. For professional, multilingual, medical support, in case of medical emergencies involving Nutrien products, telephone the Nutrien 24 hour Emergency Number - From Canada or the U.S., English: 1-303-389-1653; French or Spanish: 1-303-389-1654. From all other countries, English: 00-1-303-389-1653; French or Spanish: 00-1-303-389-1654.
- Specific treatments** : No specific treatment. Treat symptomatically.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Depending on the situation, the rescuer should wear an appropriate mask, gloves, protective clothing and a respirator or self-contained breathing apparatus. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Non-flammable. Material will not burn. Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : No specific fire or explosion hazard. The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases. Contains an oxidizing substance. Not an oxidizer at the manufactured concentration, but may support combustion.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
nitrogen oxides
sulfur oxides

- Special protective actions for fire-fighters** : 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.

- 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.

- Remark** : Contain and collect the water used to fight the fire for later treatment and disposal.

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. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Will dissolve and disperse in water. Reclaiming material may not be possible. If possible, recover spilled product and place in suitable containers for recycle, reuse, or disposal. Product will promote algae growth and may degrade water quality and taste. Notify downstream water users. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Avoid dust generation. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle, if possible.
or
Dispose of via a licensed waste disposal contractor.
- Large spill** : Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Avoid creating dusty conditions and prevent wind dispersal. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle to process, if possible.
or
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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust.
- 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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product. Ensure that bulk bags or smaller packaged products stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, rolling, or collapse. Use caution when opening truck or railcar doors as product may have shifted during transport.

Must be stored in a dry location. Absorbs moisture on long-term storage under high humidity conditions. Store away from incompatible materials (see Section 10). When product is stored in sealable containers, keep container tightly closed and sealed until ready for use. Sealable 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. Refer to NFPA 400 Hazardous Materials Code for further information on the safe storage and handling of hazardous materials.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<u>Ingredient name</u>	<u>Exposure limits</u>
Potassium magnesium sulfate	OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ .
Potassium nitrate	OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ .
Potassium sulfate	OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ .
Ammonium dihydrogen orthophosphate	OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ .
Calcium sulfate, dihydrate	ACGIH TLV (United States, 4/2014). TWA: 10 mg/m ³ 8 hours. Form: Inhalable fraction
Ammonium nitrate	OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ .
Manganous oxide	Manganese: ACGIH TLV-TWA 0.2 mg/m ³ as Mn OSHA Permissible Exposure Limit: 5 mg/m ³ ceiling
Ulexite	Borax (Borates): ACGIH TLV-TWA: 2 mg/m ³ as the inhalable fraction; 6 mg/m ³ as the inhalable fraction. Fed OSHA Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 15 mg/m ³ as total dust
Ammonium sulfate	OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m ³ ; Respirable fraction: 5 mg/m ³ .

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

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. Wash contaminated clothing before reusing.

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. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Hand protection : The personal protective equipment required varies, depending upon your risk assessment. No special protection is required. For prolonged or repeated handling, use the following type of gloves: leather work gloves

Section 8. Exposure controls/personal protection

- 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. Cotton or cotton/synthetic overalls or coveralls are normally suitable.
- 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. No special measures are typically indicated.
- Respiratory protection** : 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. Contact your personal protective equipment manufacturer to verify the compatibility of the equipment for the intended purpose. For U.S. work sites where respiratory protection is required, ensure that a respiratory protection program meeting 29 CFR 1910.134 requirements is in place.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Granular solid.
- Color** : Grayish - Brown
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 6 [Conc. (% w/w): 10%]
- Melting point** : Not available.
- Boiling point** : Decomposes.
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not applicable. The substance will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and flammable gases.
- Lower and upper explosive (flammable) limits** : Not applicable.
- Vapor pressure** : Not applicable.
- Vapor density** : Not applicable.
- Relative density** : Not available.
- Solubility** : Easily soluble in the following materials: hot water.
Soluble in the following materials: cold water.
- Solubility in water** : Water soluble.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not available.
- Viscosity** : Not applicable.

Aerosol product

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** : Absorbs moisture on long-term storage under high humidity conditions. Store in a well-ventilated, dry place. Protect from moisture.
- Incompatible materials** : Incompatible with halogens. Incompatible with copper alloys. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.

Section 10. Stability and reactivity

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
Potassium magnesium sulfate	LD50 Oral	Rat	3 g/kg	-
Potassium nitrate	LD50 Oral	Rat	3540 mg/kg	-
	LD50 Oral	Rat	3750 mg/kg	-
Potassium sulfate	LD50 Oral	Rat	6600 mg/kg	-
Ammonium dihydrogen orthophosphate	LD50 Oral	Rat - Male, Female	>2000 mg/kg	-
Calcium sulfate, dihydrate	LC50 Inhalation Dusts and mists	Rat - Male, Female	>3.26 mg/l CaSO4.2H2O	4 hours
	LD50 Oral	Rat - Male, Female	>1581 mg/kg	-
Ammonium sulfate	LD50 Oral	Mouse - Male, Female	3040 mg/kg	-
	LD50 Oral	Rat	2840 mg/kg	-
	LD50 Oral	Rat - Male, Female	>2000 mg/kg	-
Ammonium nitrate	LD50 Oral	Rat	2217 mg/kg	-
	LD50 Oral	Rat - Male, Female	2950 mg/kg	-

Conclusion/Summary : Not considered to be acutely toxic. Repeated or prolonged overexposure may result in chronic health effects.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Ammonium sulfate	Skin	Rabbit	0	20 hours	24 hours
	Eyes	Rabbit	0	-	72 hours
Ammonium nitrate	Skin	Rabbit	0	-	72 hours
	Eyes - Edema of the conjunctivae	Rabbit	3	-	3 days

Conclusion/Summary

Skin : No known significant effects or critical hazards.

Eyes : Causes eye irritation.

Respiratory : No known significant effects or critical hazards.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Ammonium sulfate	Skin	Guinea pig	Not sensitizing
Calcium sulfate, dihydrate	Skin	Guinea pig	Not sensitizing
Ammonium nitrate	Skin	Mouse	Not sensitizing

Conclusion/Summary

Skin : Non-sensitizer.

Respiratory : No known significant effects or critical hazards.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Potassium nitrate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 479 Genetic Toxicology: <i>In vitro</i> Sister Chromatid Exchange Assay in Mammalian Cells	Experiment: In vitro Subject: Mammalian-Animal	Negative
Calcium sulfate, dihydrate	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ	Negative

Section 11. Toxicological information

Ammonium sulfate	OECD 476	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 473	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ	Negative
Ammonium nitrate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

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

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium sulfate	Negative - Oral - TCLo	Rat - Male, Female	1288 mg/kg	2 years; 7 days per week

Conclusion/Summary : No known significant effects or critical hazards. Potential for nitrosamine formation if ingested. Do not ingest.

Classification

Product/ingredient name	OSHA	IARC	NTP
Ammonium sulfate	None.	-	-

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Potassium nitrate	Negative	Negative	Negative	Rat - Male, Female	Oral: 1500 mg/ kg	-
Calcium sulfate, dihydrate	Negative	Negative	Negative	Rat - Male, Female	Oral	-
Ammonium sulfate	Negative	Negative	-	Mouse - Male, Female	Oral: 5000 mg/ kg	-

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

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium sulfate	Negative - Oral	Rat - Male, Female	1500 mg/kg	-

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

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Manganese oxide	Category 2	Inhalation	central nervous system (CNS)

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Inhalation.

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact : No known significant effects or critical hazards.

Section 11. Toxicological information

Ingestion : May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
See also: Section 11. Toxicological information

Skin contact : No specific data.

Ingestion : No specific data. May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

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

Short term exposure

Potential immediate effects : May interfere with the oxygen carrying capacity of the blood if ingested in large quantities or over a prolonged period of time. Persons with anemia, bowel diseases, or infants, are more likely to develop effects. Over-exposure by ingestion is unlikely under normal working conditions.

Acute or intermediate exposure to excess manganese affects the respiratory system and the central nervous system. Inflammation of the lungs may occur after acute toxic inhalation. "Manganese pneumonia" has been reported in mine workers with clinical signs of alveolar inflammation, marked dyspnea, shallow respiration, facial cyanosis and an increased susceptibility to infection. Acute renal failure, abdominal pain, and mild methemoglobinemia have been reported following the ingestion of manganese-containing products.

Potential delayed effects : See below.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Potential for nitrosamine formation if ingested. Do not ingest. Inhalation of large quantities of manganese containing dust over many years may result in damage to the central nervous system, with symptoms of sleepiness, tremors and weakness in the legs, slurred speech, emotional disturbances, loss of balance, and in more advanced cases, an irreversible condition with symptoms similar to Parkinsons or Lou Gehrig's disease, including a mask-like facial expression, spastic gait, tremors, slurred speech, fatigue, anorexia, apathy, and inability to concentrate in more advanced cases. The neurologic disorder that develops is known as "manganism". A syndrome may develop with symptoms of compulsive behavior, emotional volatility and hallucinations. High levels of manganese in the blood may increase anemia by interfering with iron absorption. Iron deficiency may increase an individual's susceptibility to manganese. Studies suggest that populations at risk of adverse effects due to manganese exposure are infants, and those with existing iron deficiency.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Ammonium sulfate	Chronic NOAEL Oral	Rat - Male, Female	256 mg/kg	52 weeks; 7 days per week
Ammonium nitrate	Chronic NOAEL Oral	Rat - Male, Female	256 mg/kg	-

Conclusion/Summary : Repeated or prolonged overexposure may result in chronic health effects.

General : See above.

Carcinogenicity : Potential for nitrosamine formation if ingested. Do not ingest.

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.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3160.4 mg/kg
Inhalation (dusts and mists)	26.79 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Potassium nitrate	Acute LC50 120 to 140 mg/l Marine water	Crustaceans - Portunus pelagicus - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 490 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1200000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 191000 µg/l Fresh water	Fish - Poecilia reticulata - Fry	96 hours
	Acute LC50 22500 µg/l Fresh water	Fish - Gambusia affinis - Adult	96 hours
Potassium sulfate	Acute LC50 720000 to 880000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3550000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
Calcium sulfate, dihydrate	EC50 >79 mg/l	Algae	72 hours
	EC50 >79 mg/l	Daphnia	48 hours
	EC50 >790 mg/l	Micro-organism	3 hours
	Acute LC50 >1970 mg/l	Fish	96 hours
Ammonium sulfate	Acute LC50 2.6 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Young	48 hours
	Acute LC50 14000 µg/l Fresh water	Daphnia - Daphnia magna - Young	48 hours
	Acute LC50 53 mg/l	Fish - Oncorhynchus mykiss	96 hours
Ammonium nitrate	Chronic NOEC 6 to 12 mg/l Fresh water	Crustaceans - Cladocera	21 days

Conclusion/Summary : May be harmful to the environment if released in large quantities. Excessive nutrient runoff to a body of water may result in eutrophication.

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not 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 at all times 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 packaging should be recycled. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-	-

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.

Section 15. Regulatory information

U.S. Federal Regulations: : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
TSCA 8(b) Active inventory:: All components are listed or exempted.

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

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
 Delayed (chronic) health hazard.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard.
Potassium nitrate	19.8	No.	No.	No.	No.	Yes.
Ammonium nitrate	2.8	No.	No.	No.	Yes.	No.
Manganese oxide	1.6	No.	No.	No.	No.	Yes.

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Potassium nitrate	7757-79-1	20
	Ammonium dihydrogen orthophosphate	7722-76-1	8 - 11
	Ammonium sulfate	7783-20-2	0 - 9
	Ammonium nitrate	6484-52-2	2.8
	Manganous oxide	1344-43-0	1.6
Supplier notification	Potassium nitrate	7757-79-1	20
	Ammonium dihydrogen orthophosphate	7722-76-1	8 - 11
	Ammonium sulfate	7783-20-2	0 - 9
	Ammonium nitrate	6484-52-2	2.8
	Manganous oxide	1344-43-0	1.6

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 sulfate; Ammonium nitrate
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: Potassium nitrate; Nitric acid, potassium salt; Ammonium nitrate; Nitric acid, ammonium salt; Manganese compounds, n.o.s.
- Pennsylvania** : The following components are listed: Nitric acid, potassium salt; Sulfuric acid diammonium salt; Manganese compounds; Nitric acid, ammonium salt

California Prop. 65

Not applicable – This product is not registered for sale into the State of California and has not been evaluated for Prop 65 notification requirements.

International regulations

International lists

National inventory

- Canada** : All components are listed or exempted.
- Europe** : Not determined.

Section 16. Other information

History

- Date of issue/Date of revision** : 5/6/2019
- Date of previous issue** : 6/13/2018
- Version** : 2.5

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

References

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Section 16. Other information

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 California Code of Regulations, Title 27, Div 4, Chapter 1, Proposition 65 Aug 30, 2018 rev and current updates

▀ Indicates information that has changed from previously issued version.

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