

Gro-Fine® Granular Fertilizer – All Analyses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 10/25/2014 Date of issue: 10/25/2014

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Gro-Fine Granular Fertilizer -- All Analyses

1.2. Intended Use of the Product

Use of the substance/mixture: Fertilizer

1.3. Details of the Supplier of the Safety Data Sheet

Knox Fertilizer Company, Inc.

P.O. Box 248

Knox, IN 46534

TEL: 574-772-6275

1.4. Emergency Telephone Number

Emergency Number: CHEMTREC 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Irrit. 2B	H320
STOT SE 3	H335
Aquatic Acute 2	H401
Aquatic Acute 3	H402

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US):



GHS07

Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H302 - Harmful if swallowed
H315 - Causes skin irritation
H320 - Causes eye irritation
H335 - May cause respiratory irritation
H401 - Toxic to aquatic life
H402 - Harmful to aquatic life

Precautionary Statements (GHS-US)

: P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear eye protection, protective gloves, protective clothing
P302+P352 - IF ON SKIN: Wash with plenty of water
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

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P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 - Call a poison center/doctor if you feel unwell

P321 - Specific treatment (see Section 4 on this label)

P332+P313 - If skin irritation occurs: Get medical advice/attention

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention

P337+P313 - If eye irritation persists: Get medical advice/attention

P362 - Take off contaminated clothing and wash before reuse

P362+P364 - Take off contaminated clothing and wash it before reuse

P403+P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

P501 - Dispose of contents/container according to local, regional, national, and international regulations

2.3. Other Hazards

Other Hazards: No additional information available

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Urea	(CAS No) 57-13-6	0.0 - 100	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
Potassium Sulfate	(CAS No) 7778-80-5	0.0 - 100	Not classified
Diammonium Phosphate	(CAS No) 7783-28-0	0.0 - 100	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335 Aquatic Acute 3, H402
Potassium Chloride	(CAS No) 7447-40-7	0.0 - 100	Aquatic Acute 3, H402
Monoammonium Phosphate	(CAS No) 7722-76-1	0.0 - 100	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
Ammonium Sulfate	(CAS No) 7783-20-2	0.0 - 100	Aquatic Acute 2, H401
Polymer Coated Urea	(CAS No) N/A	0.0 - 100	Not classified
Limestone	(CAS No) 1317-65-3	0.0 - 95	Not classified
Ferrous Sulfate	(CAS No) 7720-78-7	0.1 - 10	Acute Tox. 4 (Oral), H302
Manganese Oxide (Mn ₃ O ₄)	(CAS No) 1317-35-7	0.1 - 10	Not classified
Iron Oxide (Fe ₂ O ₃)	(CAS No) 1309-37-1	0.1 - 10	Not classified

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: If medical advice is needed, have product container or label at hand.

First-aid Measures After Inhalation: If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.

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First-aid Measures After Skin Contact: Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

First-aid Measures After Eye Contact: Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Obtain medical attention if irritation develops or persists.

First-aid Measures After Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/Injuries After Inhalation: Overexposure may be irritating to the respiratory system.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: If a large quantity has been ingested: Abdominal pain. Diarrhea. Nausea. Vomiting.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Not considered flammable but will burn at high temperatures. Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: None known.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Decomposes above 132 °C (270 °F). Under conditions of fire this material may produce: Ammonia. Nitrogen oxides. Biuret. Cyanuric acid.

Explosion Hazard: May form explosive compounds if mixed with: Calcium hypochlorite. Sodium hypochlorite. Nitrates. Nitric acid. Perchloric acid. Product itself is not explosive but if dust is generated, dust clouds suspended in air can be explosive.

Reactivity: This product as shipped in the form of coarse granules should not contain sufficient dust to present an explosion hazard. Prevent dust accumulation (to minimize explosion hazard).

5.3. Advice for Firefighters

Firefighting Instructions: Not flammable.

Protection During Firefighting: Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice. This material becomes slippery when wet.

6.1.1. For Non-emergency Personnel

Protective Equipment: Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Collect as any solid. Ventilate area. Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: If possible, stop flow of product. Contain and collect as any solid. Ventilate area. Evacuate unnecessary personnel.

6.2. Environmental Precautions

Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.

Methods for Cleaning Up: Recover the product by vacuuming, shoveling or sweeping. Avoid

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generation of dust during clean-up of spills. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Material may be used if uncontaminated.

6.4. Reference to Other Sections: No additional information available

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: This material becomes slippery when wet.

Precautions for Safe Handling: Handle in accordance with good industrial hygiene and safety procedures. Wear recommended personal protective equipment. Avoid creating or spreading dust.

Hygiene Measures: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

Prohibitions on mixed storage: Store away from: Ammonium nitrate. Refer to Section 10 on Incompatible Materials.

Special Rules on Packaging: Corrosive to copper and its alloys.

7.3. Specific End Use(s)

Fertilizer.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Limestone (1317-65-3)		
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³

Iron Oxide (Fe ₂ O ₃) (1309-37-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA IDLH	US IDLH (mg/m ³)	
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls: Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection. For particulates and dust: Safety glasses.



Hand Protection: Protective Gloves.

Eye Protection: Safety glasses.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Environmental Exposure Controls: Ensure adequate ventilation, especially in confined areas.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State:	Solid.
Appearance:	Granules. Multi-Colored.
Color:	Multi-Colored.
Odor:	Slight. Pungent.
Odor Threshold:	N/A
pH:	N/A
pH solution:	N/A
Relative Evaporation Rate (butylacetate=1):	N/A
Melting Point:	N/A
Freezing Point:	N/A
Boiling Point:	N/A
Flash Point:	N/A
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Flammability (solid, gas):	No data available
Vapor Pressure:	N/A
Relative Vapor Density at 20° C:	No data available
Relative Density:	No data available
Density:	45 (45-65) lb/ft ³
Solubility: Water:	Slightly soluble
Partition coefficient: n-octanol/water:	No data available
Viscosity:	N/A

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: This product as shipped in the form of coarse granules should not contain sufficient dust to present an explosion hazard. Prevent dust accumulation (to minimize explosion hazard).

10.2. Chemical Stability: Stable at standard temperature and pressure.

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Protect from moisture. Keep away from heat.

10.5. Incompatible Materials: May form explosive mixture if in contact with strong acid such as nitric or perchloric acids. Avoid contact with: Strong oxidizers. Strong acids, bases. Nitrates. Hypochlorites. Perchlorates. Chlorides. Corrosive to copper and its alloys.

10.6. Hazardous Decomposition Products: Under conditions of fire this material may produce: Nitrogen oxides. Ammonia. Biuret. Carbon oxides (CO, CO₂). Formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Potassium Sulfate (7778-80-5)	
LD ₅₀ Oral Rat	6600 mg/kg
ATE (Oral)	6,600.00 mg/kg body weight
Diammonium Phosphate (7783-28-0)	
LD ₅₀ Oral Rat	6500 mg/kg
LD ₅₀ Dermal Rabbit	>7950 mg/kg
ATE (Oral)	6,500.00 mg/kg body weight

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Potassium Chloride (7447-40-7)	
LD ₅₀ Oral Rat	2600 mg/kg
ATE (Oral)	2,600.00 mg/kg body weight
Monoammonium Phosphate (7722-76-1)	
LD ₅₀ Oral Rat	5750 mg/kg
LD ₅₀ Dermal Rabbit	>7940 mg/kg
ATE (Oral)	5,750.00 mg/kg body weight
Ammonium Sulfate (7783-20-2)	
LD ₅₀ Oral Rat	>2000 mg/kg
Iron Oxide (Fe₂O₃) (1309-37-1)	
LD ₅₀ Oral Rat	>10000 mg/kg
Ferrous Sulfate (7720-78-7)	
LD ₅₀ Oral Rat	237 mg/kg
ATE (Oral)	237.00 mg/kg body weight

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Iron Oxide (Fe₂O₃) (1309-37-1)	
IARC group	3

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Overexposure may be irritating to the respiratory system.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: If a large quantity has been ingested: Abdominal pain. Diarrhea. Nausea. Vomiting.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Potassium Sulfate (7778-80-5)	
LC ₅₀ Fish 1	26.5 mg/l (Exposure time: 96 h - Species: <i>Oncorhynchus mykiss</i>)
EC ₅₀ Daphnia 1	890 mg/l (Exposure time: 48 h Species: <i>Daphnia magna</i>)
LC ₅₀ Fish 2	3550 mg/l (Exposure time: 96 h Species: <i>Lepomis macrochius</i>) [static]
Diammonium phosphate (7783-28-0)	
LC ₅₀ Fish 1	653 mg/l (Exposure time: 96 h Species: <i>Lepomis macrochius</i>)
LC ₅₀ Fish 2	24.8-29.4 mg/l (Exposure time: 96 h-Species: <i>Oncorhynchus mykiss</i> [flow-thru])

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LC ₅₀ Fish 1	1060 mg/l (Exposure time: 96 h - Species: <i>Lepomis macrochirus</i> [static])
EC ₅₀ Daphnia 1	825 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i>)
LC ₅₀ Fish 2	750 - 1020 mg/l (Exposure time: 96 h - Species: <i>Pimephales promelas</i> [static])
EC ₅₀ Daphnia 2	83 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i> [Static])

Ammonium Sulfate (7783-20-2)	
LC ₅₀ Fish 1	5.2 (5.2-8.2) mg/l (Exposure time: 96 h-Species: <i>Oncorhynchus mykiss</i> [static])
EC ₅₀ Daphnia 1	14 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i>)
LC ₅₀ Fish 2	32.2 (32.2-41.9) mg/l (Exposure time: 96 h-Species: <i>Oncorhynchus mykiss</i> [flow- through])

Ferrous Sulfate (7720-78-7)	
LC ₅₀ Fish 1	925 mg/l (Exposure time: 96 h - Species: <i>Poecilia reticulata</i> [static])
EC ₅₀ Daphnia 1	152 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i>)
LC ₅₀ Fish 2	0.56 mg/l (Exposure time: 96 h - Species: <i>Cyprinus carpio</i> [semi-static])
EC ₅₀ Daphnia 2	6.15 - 9.26 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i> [Static])

Urea (57-13-6)	
LC ₅₀ Fish 1	16200 - 18300 mg/l (Exposure time: 96 h - Species: <i>Poecilia reticulata</i>)
EC ₅₀ Daphnia 1	3910 mg/l (Exposure time: 48 h - Species: <i>Daphnia magna</i> [Static])

12.2. Persistence and Degradability

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Persistence and Degradability	May cause long-term adverse effects in the environment. This product is water soluble and eventually biodegrades into elemental nitrogen. Excess nitrogen and nitrates in a body of water will contribute to eutrophication with visible effects such as toxic algae bloom.

12.3. Bioaccumulative Potential

Diammonium phosphate (7783-28-0)	
BCF fish 1	(no bioaccumulation expected)
Monoammonium phosphate (7722-76-1)	
BCF fish 1	(no bioaccumulation expected)
Ammonium sulfate (7783-20-2)	
Log Pow	-5.1 (at 25 °C)
Urea (57-13-6)	
BCF fish 1	< 10
Log Pow	-1.59 (at 25 °C)

12.4. Mobility in Soil: No additional information available.

12.5. Other Adverse Effects: No additional information available.

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste Disposal Recommendations: Place in an appropriate container and dispose of the contaminated material at a licensed site.

Additional Information: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT: Not regulated for transport

14.2. In Accordance with IMDG: Not regulated for transport

14.3. In Accordance with IATA: Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Gro-Fine Granular Fertilizer – All Analyses	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Potassium Sulfate (7778-80-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Diammonium phosphate (7783-28-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Potassium chloride (7447-40-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Monoammonium phosphate (7722-76-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ammonium sulfate (7783-20-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Limestone (1317-65-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Iron oxide (Fe₂O₃) (1309-37-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ferrous sulfate (7720-78-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Manganese oxide (Mn₃O₄) (1317-35-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Urea (57-13-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State Regulations

Ammonium sulfate (7783-20-2)
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

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Limestone (1317-65-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Iron oxide (Fe₂O₃) (1309-37-1)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Ferrous sulfate (7720-78-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

Manganese oxide (Mn₃O₄) (1317-35-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION

Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H302	Harmful if swallowed
H315	Causes skin irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H401	Toxic to aquatic life
H402	Harmful to aquatic life

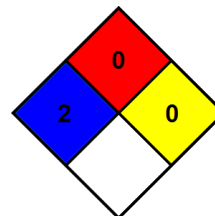
NFPA Health Hazard:

2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA Fire Hazard:

NFPA Reactivity:

0 - Materials that will not burn.
0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



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DISCLAIMER: The information contained in this SDS is based on available data. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof; and you should make your own investigation to determine safety for the use you intend. Knox Fertilizer Company, Inc. makes no warranty of merchantability of fitness for a particular use, nor is there any other express or implied warranty except as may be specifically provided otherwise on the product. Knox Fertilizer Company, Inc. assumes no responsibility or liability for any incidental or consequential damages whether related to personal injury or property damage, to buyers, users or third parties, caused by the product and Knox Fertilizer's responsibility is limited to replacement of, or repayment of, the purchase price for the product with respect to which any damages are claimed. All buyers or users assume all risk with the use of the product.