

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 11/07/2017

Reviewed on 11/07/2017

* 1 Identification

- **Product Identifier**
- **Trade name:** 18-3-16-120
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description** Fertilizer
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
Florikan ESA, LLC
6801 Energy Ct. Suite 100
Sarasota, FL 34234
Ph: 941-379-4048 ext 332
Fax: 941-377-3633
Email product info: Doug Cabe; dcabe@florikan.com
- **Emergency telephone number:** Chemtrec 1-800-424-9300 or outside USA 1-703-527-3887

www.Florikan.com

2 Hazard(s) Identification

- **Classification of the substance or mixture:**
Eye Irrit. 2B H320 Causes eye irritation.
Aquatic Acute 3 H402 Harmful to aquatic life.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
- **Label elements:**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:** Non-Regulated Material
- **Signal word:** Warning
- **Hazard statements:**
H320 Causes eye irritation.
H402 Harmful to aquatic life.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements:**
P264 Wash thoroughly after handling.
P273 Avoid release to the environment.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity:**
This value refers to knowledge of known, established toxicological or ecotoxicological values.
13.6 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



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- **Hazard(s) not otherwise classified (HNOC):** None known
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

* 3 Composition/Information on Ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with non-hazardous additions.

• **Dangerous Components:**

CAS: 57-13-6 RTECS: YR 6250000	Urea	25-50%
CAS: 14977-38-8	Sulfate of Potash Magnesia ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	5-10%
CAS: 7783-28-0 RTECS: TB 9375000	Diammonium phosphate ⚠ Skin Irrit. 2, H315; Eye Irrit. 2B, H320	5-10%
CAS: 7487-88-9 RTECS: OM 4500000	Magnesium Sulphate ⚠ STOT SE 3, H335	2-12%
CAS: 7783-20-2 RTECS: BS 4500000	Ammonium Sulfate ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	2-12%
CAS: 7720-78-7 RTECS: NO 8510000	iron(II) sulfate ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	≤2.5%
CAS: 7758-99-8 RTECS: GL 8800000	Copper Sulfate Pentahydrate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	≤2.5%
CAS: 7733-02-0	Zinc Sulphate (anhydrous) ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	≤2.5%

• **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4 First-Aid Measures

- **Description of first aid measures:**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** If skin irritation occurs, consult a doctor.
- **After eye contact:**
If easy to do so, remove contact lenses if worn.
If eye irritation occurs, consult a doctor.
Rinse opened eye for several minutes under running water.
- **After swallowing:** If swallowed and symptoms occur, consult a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

5 Fire-Fighting Measures

- **Extinguishing media:**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture:** No further relevant information available.

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· **Advice for firefighters:**

· **Protective equipment:**

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures:** Not required.

· **Environmental precautions:** Do not allow to enter sewers/surface or ground water.

· **Methods and material for containment and cleaning up:**

Dispose of the collected material according to regulations.

· **Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

57-13-6	Urea	30 mg/m ³
7778-80-5	Potassium Sulfate	20 mg/m ³
7783-28-0	Diammonium phosphate	20 mg/m ³
7487-88-9	Magnesium Sulphate	20 mg/m ³
7783-20-2	Ammonium Sulfate	13 mg/m ³
7720-78-7	iron(II) sulfate	8.2 mg/m ³
10034-96-5	Manganese(II) Sulfate Monohydrate	9.2 mg/m ³
7758-99-8	Copper Sulfate Pentahydrate	12 mg/m ³
7733-02-0	Zinc Sulphate (anhydrous)	15 mg/m ³
7631-95-0	Sodium Molybdate	3.2 mg/m ³

· **PAC-2:**

57-13-6	Urea	280 mg/m ³
7778-80-5	Potassium Sulfate	220 mg/m ³
7783-28-0	Diammonium phosphate	210 mg/m ³
7487-88-9	Magnesium Sulphate	220 mg/m ³
7783-20-2	Ammonium Sulfate	140 mg/m ³
7720-78-7	iron(II) sulfate	41 mg/m ³
10034-96-5	Manganese(II) Sulfate Monohydrate	15 mg/m ³
7758-99-8	Copper Sulfate Pentahydrate	32 mg/m ³
7733-02-0	Zinc Sulphate (anhydrous)	97 mg/m ³
7631-95-0	Sodium Molybdate	17 mg/m ³

· **PAC-3:**

57-13-6	Urea	1,700 mg/m ³
7778-80-5	Potassium Sulfate	1,300 mg/m ³
7783-28-0	Diammonium phosphate	1,300 mg/m ³
7487-88-9	Magnesium Sulphate	1,300 mg/m ³
7783-20-2	Ammonium Sulfate	840 mg/m ³
7720-78-7	iron(II) sulfate	250 mg/m ³
10034-96-5	Manganese(II) Sulfate Monohydrate	90 mg/m ³

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7758-99-8	Copper Sulfate Pentahydrate	190 mg/m ³
7733-02-0	Zinc Sulphate (anhydrous)	580 mg/m ³
7631-95-0	Sodium Molybdate	100 mg/m ³

7 Handling and Storage

- **Handling**
- **Precautions for safe handling:** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities:**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters:**
- **Components with occupational exposure limits:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

57-13-6 Urea	
WEEL	Long-term value: 10 mg/m ³
7720-78-7 iron(II) sulfate	
REL	Long-term value: 1 mg/m ³ as Fe
TLV	Long-term value: 1 mg/m ³ as Fe

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls:**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:** Not required.
- **Material of gloves:** Not applicable.
- **Penetration time of glove material:** Not applicable.
- **Eye protection:** Not required.
- **Limitation and supervision of exposure into the environment:**
Keep away from drains, surface and ground waters.
Avoid release into the environment.

* 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form:** Granulate
 - Color:** Grey

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- **Odor:** Slight
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
 - Melting point/Melting range:** Not determined.
 - Boiling point/Boiling range:** $\geq 1,689\text{ }^{\circ}\text{C}$ ($\geq 33.8\text{ }^{\circ}\text{F}$)
- **Flash point:** None
- **Flammability (solid, gaseous):** Not determined.
- **Ignition temperature:** Not applicable
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure:** Not applicable.
- **Density:**
 - Relative density:** Not determined.
 - Vapor density:** Not applicable.
 - Evaporation rate:** Not applicable.
- **Solubility in / Miscibility with:**
 - Water:** Soluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- **Solvent content:**
 - VOC content:** 0.00 %
- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

57-13-6 Urea

Oral	LD50	8,471 mg/kg (Rat)
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7778-80-5 Potassium Sulfate

Oral	LD50	6,600 mg/kg (Rat)
Inhalative	LC50/96 hours	680 mg/l (Pimephales)

7783-28-0 Diammonium phosphate

Oral	LD50	>5,000 mg/kg (Rat)
Dermal	LD50	>5,000 mg/kg (Rat)

7487-88-9 Magnesium Sulphate

Oral	LD50	>2,000 mg/kg (Rat)
Inhalative	LC50/4 h	>2,000 mg/l (Rabbit)
	LC50/96 hours	2,820 mg/l (Pimephales)

7783-20-2 Ammonium Sulfate

Oral	LD50	2,840 mg/kg (Rat)
Inhalative	LC50/96 hours	36.7 mg/l (Trout)
		433 mg/l (Water flea)

7720-78-7 iron(II) sulfate

Oral	LD50	1,520 mg/kg (Mouse)
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7758-99-8 Copper Sulfate Pentahydrate

Oral	LD50	300 mg/kg (Rat)
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- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** Irritating effect.
- **Additional toxicological information:**
- **Carcinogenic categories:**

- **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

- **NTP (National Toxicology Program):**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

12 Ecological Information

- **Toxicity:**
- **Aquatic toxicity:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

57-13-6 Urea

EC50	>10,000 mg/l (Daphnia)
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Trade name: 18-3-16-120

7487-88-9 Magnesium Sulphate

EC50 2,700 mg/l (Green algae)

343.56 mg/l (Water flea)

- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

- **Waste treatment methods:**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport Information

- **UN-Number:**
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:**
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **Class:** Non-Regulated Material
- **Packing group:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

Section 355 (extremely hazardous substances):

7720-78-7 iron(II) sulfate

Section 313 (Specific toxic chemical listings):

7783-20-2 Ammonium Sulfate

10034-96-5 Manganese(II) Sulfate Monohydrate

7758-99-8 Copper Sulfate Pentahydrate

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7733-02-0	Zinc Sulphate (anhydrous)	
• TSCA (Toxic Substances Control Act):		
57-13-6	Urea	
7778-80-5	Potassium Sulfate	
7783-28-0	Diammonium phosphate	
7487-88-9	Magnesium Sulphate	
7783-20-2	Ammonium Sulfate	
25791-96-2	Poly(oxypropylene) triol	
7720-78-7	iron(II) sulfate	
15708-41-5	EDTA feric sodium complex	
1332-58-7	Kaolin	
7733-02-0	Zinc Sulphate (anhydrous)	
7631-95-0	Sodium Molybdate	
• TSCA new (21st Century Act) (Substances not listed)		
14977-38-8	Sulfate of Potash Magnesias	
7758-99-8	Copper Sulfate Pentahydrate	
• California Proposition 65:		
• Chemicals known to cause cancer:		
None of the ingredients are listed.		
• Chemicals known to cause reproductive toxicity for females:		
None of the ingredients are listed.		
• Chemicals known to cause reproductive toxicity for males:		
None of the ingredients are listed.		
• Chemicals known to cause developmental toxicity:		
None of the ingredients are listed.		
• New Jersey Right-to-Know List:		
7720-78-7	iron(II) sulfate	
1332-58-7	Kaolin	
7733-02-0	Zinc Sulphate (anhydrous)	
• New Jersey Special Hazardous Substance List:		
None of the ingredients are listed.		
• Pennsylvania Right-to-Know List:		
7783-20-2	Ammonium Sulfate	
7720-78-7	iron(II) sulfate	
1332-58-7	Kaolin	
7733-02-0	Zinc Sulphate (anhydrous)	
• Pennsylvania Special Hazardous Substance List:		
7783-20-2	Ammonium Sulfate	E
7720-78-7	iron(II) sulfate	E
7733-02-0	Zinc Sulphate (anhydrous)	E

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• **Carcinogenic categories:**

• **EPA (Environmental Protection Agency):**

57-13-6	Urea	II
10034-96-5	Manganese(II) Sulfate Monohydrate	D
7733-02-0	Zinc Sulphate (anhydrous)	D, I, II

• **TLV (Threshold Limit Value established by ACGIH):**

1332-58-7	Kaolin	2 mg/m ³
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• **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

• **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms:** Non-Regulated Material

• **Signal word:** Warning

• **Hazard statements:**

H320 Causes eye irritation.

H402 Harmful to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

• **Precautionary statements:**

P264 Wash thoroughly after handling.

P273 Avoid release to the environment.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• **National regulations:**

None of the ingredients are listed.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

• **Date of preparation / last revision:** 11/07/2017 / 1

• **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· *** Data compared to the previous version altered.**

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