

Safety Data Sheet (SDS)

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

Issue date 04/29/2016

Reviewed on 04/29/2016

1 Identification

- **Product Identifier**
- **Trade name: 12-4-16-360-LND-SW**
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description** PC12 Fertilizers
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
Florikan ESA, LLC
6801 Energy Ct.
Suite 100
Sarasota, FL. 34240
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:**
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:** Non-Regulated Material
- **Hazard statements:**
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements:**
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity:**
19 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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

HEALTH	*0	Health = *0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Hazard(s) not otherwise classified (HNOC):** None known

3 Composition/Information on Ingredients

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

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· Dangerous Components:		
CAS: 14977-38-8	Sulfate of Potash Magnesia	5-10%
	☞ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	
CAS: 57-13-6 RTECS: YR 6250000	Urea	2-12%
CAS: 1332-37-2	Iron oxide	≤ 2.5%
CAS: 1309-48-4	Magnesium Oxide	≤ 2.5%
	☞ Acute Tox. 4, H302	
CAS: 7720-78-7 RTECS: NO 8510000	iron(II) sulfate	≤ 2.5%
	☞ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	
CAS: 7785-87-7	Manganese Sulphate	≤ 2.5%
	☞ STOT RE 2, H373; ☞ Aquatic Chronic 2, H411	
CAS: 12179-04-3	disodium tetraborate pentahydrate	≤ 2.5%
	☞ Repr. 1B, H360; Eye Irrit. 2B, H320	
CAS: 1314-13-2 RTECS: ZH 4810000	Zinc Oxide	≤ 2.5%
	☞ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
CAS: 1317-38-0	Copper (II) Oxide	≤ 2.5%
	☞ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☞ Acute Tox. 4, H302	

4 First-Aid Measures

· **Description of first aid measures:**

· **General information:**

Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:**

Rinse opened eye for several minutes under running water.

If eye irritation occurs, consult a doctor.

· **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:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture:** No further relevant information available.

· **Advice for firefighters:**

· **Protective equipment:**

Mouth respiratory protective device.

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.

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6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
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.

7 Handling and Storage

- **Handling**
- **Precautions for safe handling:**
Avoid creating and breathing dust/fume/gas/mist/vapors/spray.
Ensure good ventilation/exhaustion at the workplace.
- **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:** Keep receptacle tightly sealed.
- **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/m³

1332-37-2 Iron oxide

REL Long-term value: 1 mg/m³
as Fe

TLV Long-term value: 1 mg/m³
as Fe

1309-48-4 Magnesium Oxide

PEL Long-term value: 15* mg/m³
fume; *total particulate

TLV Long-term value: 10* mg/m³
*as inhalable fraction

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7720-78-7 iron(II) sulfate

REL Long-term value: 1 mg/m³
as Fe

TLV Long-term value: 1 mg/m³
as Fe

7785-87-7 Manganese Sulphate

PEL Ceiling limit value: 5 mg/m³
as Mn

REL Short-term value: 3 mg/m³
Long-term value: 1 mg/m³
as Mn

TLV Long-term value: 0.02* 0.1* mg/m³
as Mn; *respirable **inhalable fraction

12179-04-3 disodium tetraborate pentahydrate

REL Long-term value: 1 mg/m³

TLV Short-term value: 6* mg/m³
Long-term value: 2* mg/m³
*as inhalable fraction

1314-13-2 Zinc Oxide

PEL Long-term value: 15* 5** mg/m³
*total dust **respirable fraction and fume

REL Short-term value: 10** mg/m³
Long-term value: 5 mg/m³
Ceiling limit value: 15* mg/m³
*dust only **fume

TLV Short-term value: 10* mg/m³
Long-term value: 2* mg/m³
*as respirable fraction

· **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:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

· **Material of gloves:** Not required.

· **Penetration time of glove material:** Not applicable.

· **Eye protection:** Not required.

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Granulate

Color:

Whitish

· Odor:

Slight

· Odor threshold:

Not determined.

· pH-value:

Not applicable.

· Change in condition**Melting point/Melting range:**

Not determined.

Boiling point/Boiling range:

1689 °C (3072 °F)

· Flash point:

None

· Flammability (solid, gaseous):

Not determined.

· Ignition temperature:

Not determined.

· 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:**

Insoluble.

· Partition coefficient (n-octanol/water):

Not determined.

· Viscosity:**Dynamic:**

Not applicable.

Kinematic:

Not applicable.

· Solvent content:**Organic solvents:**

0.0 %

Solids content:

100.0 %

· 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.

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- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

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

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

7778-80-5 Potassium Sulfate

Oral	LD50	6600 mg/kg (rat)
Inhalative	LC50/96 hours	680 mg/l (Pimephales)

57-13-6 Urea

Oral	LD50	8471 mg/kg (rat)
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1309-48-4 Magnesium Oxide

Oral	LD50	810 mg/kg (mouse)
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7720-78-7 iron(II) sulfate

Oral	LD50	1520 mg/kg (mouse)
------	------	--------------------

7785-87-7 Manganese Sulphate

Oral	LD50	2150 mg/kg (rat)
------	------	------------------

12179-04-3 disodium tetraborate pentahydrate

Oral	LD50	3305 mg/kg (rat)
Inhalative	LC50/4 h	>2.0 mg/l (rat)

1314-13-2 Zinc Oxide

Oral	LD50	> 5000 mg/kg (rat)
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- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **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	>10000 mg/l (daphnia)
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Trade name: 12-4-16-360-LND-SW

1317-38-0 Copper (II) Oxide

EC50 25.4 mg/l (daphnia)

- **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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
Harmful to aquatic organisms
- **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, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:**
- **DOT, ADR, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **DOT, ADR, IMDG, IATA**
- **Class:** Non-Regulated Material
- **Packing group:**
- **DOT, ADR, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL 73/78 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):

7785-87-7 Manganese Sulphate

11129-60-5 Manganese oxide

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1314-13-2	Zinc Oxide
1317-38-0	Copper (II) Oxide
· TSCA (Toxic Substances Control Act):	
7778-80-5	Potassium Sulfate
57-13-6	Urea
1332-37-2	Iron oxide
1309-48-4	Magnesium Oxide
7720-78-7	iron(II) sulfate
7785-87-7	Manganese Sulphate
16389-88-1	Dolomitic limestone
1332-58-7	Kaolin
15708-41-5	EDTA feric sodium complex
8002-74-2	Paraffin Waxes
77-92-9	Citric Acid
25791-96-2	Poly(oxypropylene) triol
1314-13-2	Zinc Oxide
1317-38-0	Copper (II) Oxide
7631-95-0	Sodium Molybdate
· 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:	
1309-48-4	Magnesium Oxide
7720-78-7	iron(II) sulfate
1332-58-7	Kaolin
8002-74-2	Paraffin Waxes
1314-13-2	Zinc Oxide
· New Jersey Special Hazardous Substance List:	
None of the ingredients are listed.	
· Pennsylvania Right-to-Know List:	
1309-48-4	Magnesium Oxide
7720-78-7	iron(II) sulfate
1332-58-7	Kaolin
8002-74-2	Paraffin Waxes
1314-13-2	Zinc Oxide

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· **Pennsylvania Special Hazardous Substance List:**

7720-78-7	iron(II) sulfate	E
1314-13-2	Zinc Oxide	E

· **Carcinogenic categories:**

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

57-13-6	Urea	II
7785-87-7	Manganese Sulphate	D
1319-33-1	Boron	I
11129-60-5	Manganese oxide	D
12179-04-3	disodium tetraborate pentahydrate	I (oral)
1314-13-2	Zinc Oxide	D, I, II

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

1309-48-4	Magnesium Oxide	A4
1332-58-7	Kaolin	2 mg/m3
12179-04-3	disodium tetraborate pentahydrate	A4

· **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:** Non-Regulated Material

· **Hazard statements:**

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements:**

P273 Avoid release to the environment.

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

· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· **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:** 04/29/2016 / -

· **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

DOT: US Department of Transportation

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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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

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

Repr. 1B: Reproductive toxicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

*** Data compared to the previous version altered.**SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106