

Safety Data Sheet (SDS)

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

Issue date 08/26/2015

Reviewed on 08/26/2015

*** 1 Identification**

- **Product identifier**
- **Trade name: 12-2-14-360-LND**
- **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 800-424-9300

www.Florikan.com

*** 2 Hazard(s) identification**

- **Classification of the substance or mixture:**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2B H320 Causes eye irritation.
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:**



GHS07

- **Signal word:** Warning
- **Hazard statements:**
Causes skin and eye irritation.
Harmful to aquatic life with long lasting effects.
- **Precautionary statements:**
Wear protective gloves.
Avoid release to the environment.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Unknown acute toxicity:**
27.7 percent of the mixture consists of ingredient(s) of unknown toxicity.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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



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

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture: consisting of the following components.

• **Dangerous Components:**

CAS: 14977-38-8	Sulfate of Potash Magnesia	15-35%
	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	
CAS: 57-13-6 RTECS: YR 6250000	Urea	15-35%
CAS: 7783-20-2 RTECS: BS 4500000	Ammonium Sulfate	5-10%
	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	
CAS: 7487-88-9 RTECS: OM 4500000	Magnesium Sulphate	2-12%
	⚠ STOT SE 3, H335	
CAS: 1309-48-4	Magnesium Oxide	≤ 2.5%
	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	
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: 10034-96-5 RTECS: OP0893500	Manganese(II) Sulfate Monohydrate	≤ 2.5%
	⚠ STOT RE 2, H373; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335; ⚠ Aquatic Acute 2, H401	
CAS: 7758-99-8 RTECS: GL 8800000	Copper Sulfate Pentahydrate	≤ 2.5%
	⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	
CAS: 7733-02-0	Zinc Sulphate (anhydrous)	≤ 2.5%
	⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	
CAS: 1314-13-2 RTECS: ZH 4810000	Zinc Oxide	≤ 2.5%
	⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

* 4 First-aid measures

- **Description of first aid measures:**
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Wash with soap and water.

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Immediately wash with water and soap and rinse thoroughly.

If skin irritation occurs, consult a doctor.

· **After eye contact:**

If eye irritation occurs, consult a doctor.

Rinse opened eye for at least 15 minutes under running water. If symptoms persist, 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:**

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:**

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 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:** 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:** No further relevant information available..

· **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.

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· **Control parameters:**

· **Components with occupational exposure limits:**

57-13-6 Urea

WEEL Long-term value: 10 mg/m³

7783-20-2 Ammonium Sulfate

PEL Short-term value: 10 mg/m³
Long-term value: 15 mg/m³

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

7720-78-7 iron(II) sulfate

REL Long-term value: 1 mg/m³
as Fe

TLV Long-term value: 1 mg/m³
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:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

· **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material:**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

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· **Eye protection:**



Tightly sealed goggles

* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

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:

1500 °C (2732 °F)

· **Flash point:**

None

· **Flammability (solid, gaseous):**

Not determined.

· **Ignition temperature:**

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:**

Organic solvents:

0.0 %

Solids content:

100.0 %

· **Other information:**

No further relevant information available.

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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.

* 11 Toxicological information

- **Information on toxicological effects:**

- **Acute toxicity:**

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

57-13-6 Urea

Oral	LD50	8471 mg/kg (rat)
------	------	------------------

7783-20-2 Ammonium Sulfate

Oral	LD50	2840 mg/kg (rat)
Inhalative	LC50/96 hours	36.7 mg/l (Trout)
		433 mg/l (Water flea)

7487-88-9 Magnesium Sulphate

Oral	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	>2000 mg/l (rabbit)
	LC50/96 hours	2820 mg/l (Pimephales)

7720-78-7 iron(II) sulfate

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

7758-99-8 Copper Sulfate Pentahydrate

Oral	LD50	300 mg/kg (rat)
------	------	-----------------

1314-13-2 Zinc Oxide

Oral	LD50	> 5000 mg/kg (rat)
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- **Primary irritant effect:**

- **On the skin:** Irritant to skin and mucous membranes.

- **On the eye:** Irritating effect.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **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.

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* 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)

7487-88-9 Magnesium Sulphate

EC50 2700 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.

· **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

· **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:**

Observe all federal, state and local environmental regulations when disposing of this material.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

* 14 Transport information

· **UN-Number:**

· **DOT, ADR, ADN, IMDG, IATA**

Non-Regulated Material

· **UN proper shipping name:**

· **DOT, ADR, ADN, IMDG, IATA**

Non-Regulated Material

· **Transport hazard class(es):**

· **DOT, ADR, ADN, 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.

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- **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

11129-60-5 Manganese oxide

10034-96-5 Manganese(II) Sulfate Monohydrate

7758-99-8 Copper Sulfate Pentahydrate

7733-02-0 Zinc Sulphate (anhydrous)

1314-13-2 Zinc Oxide

· **TSCA (Toxic Substances Control Act):**

7778-80-5 Potassium Sulfate

57-13-6 Urea

7447-40-7 Potassium Chloride

7783-20-2 Ammonium Sulfate

7487-88-9 Magnesium Sulphate

1317-61-9 Iron Oxide

1309-48-4 Magnesium Oxide

7720-78-7 iron(II) sulfate

25791-96-2 Poly(oxypropylene) triol

1332-58-7 Kaolin

7647-14-5 Sodium Chloride

7758-99-8 Copper Sulfate Pentahydrate

7733-02-0 Zinc Sulphate (anhydrous)

1314-13-2 Zinc Oxide

1332-37-2 Iron oxide

· **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.

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· **Carcinogenic categories:**

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

57-13-6	Urea	II
11129-60-5	Manganese oxide	D
10034-96-5	Manganese(II) Sulfate Monohydrate	D
7733-02-0	Zinc Sulphate (anhydrous)	D, I, II
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

· **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:**



GHS07

· **Signal word:** Warning

· **Hazard statements:**

Causes skin and eye irritation.
Harmful to aquatic life with long lasting effects.

· **Precautionary statements:**

Wear protective gloves.
Avoid release to the environment.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
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.

· **State Right to Know:**

CAS: 7778-80-5 RTECS: TT5900000	Potassium Sulfate	25-50%
CAS: 14977-38-8	Sulfate of Potash Magnesia ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	15-35%
CAS: 57-13-6 RTECS: YR 6250000	Urea	15-35%

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CAS: 7447-40-7	Potassium Chloride	5-10%
CAS: 7783-20-2	Ammonium Sulfate	5-10%
RTECS: BS 4500000	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	
	Polyurethane elastomer	2-12%
All 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:** 08/26/2015 / -

· **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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
Aquatic Acute 2: Hazardous to the aquatic environment - AcuteHazard, Category 2
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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

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