

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

* 1 Identification

• Product identifier

- Trade name: 14-4-14-090-NANO-CNF
- 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:

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:

Harmful to aquatic life with long lasting effects.

• Precautionary statements:

Avoid release to the environment.

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

• Unknown acute toxicity:

6.9 percent of the mixture consists of ingredient(s) of unknown toxicity.

• Classification system:

• NFPA ratings (scale 0 - 4)



Health = 0

Fire = 0

Reactivity = 0

• HMIS-ratings (scale 0 - 4)



Health = 0

Fire = 0

Reactivity = 0

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

* 3 Composition/information on ingredients

• Chemical characterization: Mixtures

- Description: Mixture: consisting of the following components.

(Contd. on page 2)

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

Trade name: 14-4-14-090-NANO-CNF

· Dangerous Components:		
CAS: 7487-88-9 RTECS: OM 4500000	Magnesium Sulphate ⚠ STOT SE 3, H335	15-35%
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: 10034-96-5 RTECS: OP0893500	Manganese(II) Sulfate Monohydrate ⚠ STOT RE 2, H373; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335; ⚠ Aquatic Acute 2, H401	≤ 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. 2, 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%

* 4 First-aid measures

- **Description of first aid measures:**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Wash with soap and water.
If skin irritation occurs, consult a doctor.
- **After eye contact:** 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:**
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.

(Contd. on page 3)

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

Trade name: 14-4-14-090-NANO-CNF

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:** 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:**

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 required.
- **Penetration time of glove material:** Not applicable.
- **Eye protection:** Not required.

* 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:** 1689 °C (3072 °F)
- **Flash point:** None
- **Flammability (solid, gaseous):** Not determined.

(Contd. on page 4)

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

Trade name: 14-4-14-090-NANO-CNF

· **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: 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.

· **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:**

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)
------	------	--------------------

(Contd. on page 5)

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

Trade name: 14-4-14-090-NANO-CNF

7758-99-8 Copper Sulfate Pentahydrate

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

- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No 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.

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.

(Contd. on page 6)

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

Trade name: 14-4-14-090-NANO-CNF

* 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.
- **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):**

10034-96-5 Manganese(II) Sulfate Monohydrate

7758-99-8 Copper Sulfate Pentahydrate

7733-02-0 Zinc Sulphate (anhydrous)

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

7778-80-5 Potassium Sulfate

7487-88-9 Magnesium Sulphate

7720-78-7 iron(II) sulfate

1332-58-7 Kaolin

15708-41-5 EDTA feric sodium complex

25791-96-2 Poly(oxypropylene) triol

7758-99-8 Copper Sulfate Pentahydrate

7733-02-0 Zinc Sulphate (anhydrous)

1319-33-1 Boron

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.

(Contd. on page 7)

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

Trade name: 14-4-14-090-NANO-CNF

· Chemicals known to cause developmental toxicity:		
None of the ingredients are listed.		
· Carcinogenic categories:		
· EPA (Environmental Protection Agency):		
10034-96-5	Manganese(II) Sulfate Monohydrate	D
7733-02-0	Zinc Sulphate (anhydrous)	D, I, II
1319-33-1	Boron	I
· TLV (Threshold Limit Value established by ACGIH):		
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: Non-Regulated Material		
· Signal word: Non-Regulated Material		
· Hazard statements:		
Harmful to aquatic life with long lasting effects.		
· Precautionary statements:		
Avoid release to the environment.		
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	70-90%
CAS: 7487-88-9 RTECS: OM 4500000	Magnesium Sulphate	15-35%
	⚠ STOT SE 3, H335	
	Polyurethane elastomer	5-10%
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: 1332-58-7	Kaolin	≤ 2.5%
CAS: 15708-41-5	EDTA feric sodium complex	≤ 2.5%
	⚠ Acute Tox. 4, H332; STOT SE 3, H335	
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:** 08/25/2015 / -

· **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

(Contd. on page 8)

Safety Data Sheet (SDS)

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

Issue date 08/25/2015

Reviewed on 08/25/2015

Trade name: 14-4-14-090-NANO-CNF

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
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.**

SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106