

Safety Data Sheet

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2024 and GHS Rev 07.

Date of issue: 09/24/2024

Reviewed on 09/24/2024

1 Identification

- **Product identifier**
- **Trade name:** 14-4-14-090B-NSZ-AG
- **Other means of identification**
- **Product Description:** Polymer Coated Fertilizer
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 FLORIKAN E.S.A. LLC
 2404 Commerce Court
 Bowling Green, Florida 33834
 (941) 379-4048
 www.Florikan.com
- **Emergency telephone number:**
 For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident
 Call CHEMTREC Day or Night
 Within USA and Canada: 1-800-424-9300
 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Specific target organ toxicity (repeated exposure) 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **Additional information:**

Hazards are exempt when in bonded form as produced and only are only released when the product is cut, ground, crushed, or otherwise removed from the outer coating.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

Mangan(II)-sulfat-Monohydrat

- **Hazard statements**

May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Get medical advice/attention if you feel unwell.

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.

0 % of the mixture consists of component(s) of unknown toxicity.

- **Information pertaining to particular dangers for man and environment:**

- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

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· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



· Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· Classification according to (d)(1)(ii) of § 1910.12000

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

· Hazards not otherwise classified

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 7720-78-7 RTECS: NO 8510000	iron sulphate ⚠ Acute toxicity - oral 4, H302; Skin irritation 2, H315; Eye irritation 2A, H319	1–5% *
CAS: 7733-02-0	Zinc Sulphate (anhydrous) ⚠ Eye damage 1, H318; ⚠ Acute toxicity - oral 4, H302	≥1–<3% *
CAS: 7758-99-8	copper(II) sulfate, pentahydrate ⚠ Eye damage 1, H318; ⚠ Acute toxicity - oral 4, H302	≥1–<3% *
CAS: 10034-96-5 RTECS: OP0893500	Mangan(II)-sulfat-Monohydrat ⚠ Specific target organ toxicity (repeated exposure) 2, H373	1–5% *

* Actual concentration ranges are withheld as a trade secret.

· 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

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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 eye irritation occurs, consult a doctor.

· **After swallowing:** If swallowed and symptoms occur, consult a 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** Treat symptomatically.

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5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Use fire fighting measures that suit the environment.

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

· **For safety reasons unsuitable extinguishing agents:** No further relevant information.

· **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

· **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** Mount respiratory protective device.

· **Environmental precautions:** 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.

· **Protective Action Criteria for Chemicals**

Protective Action Criteria (PACs) are essential components for planning and response to uncontrolled releases of hazardous chemicals.

· **PAC-1:**

PAC 1: Mild, transient health effects.

7487-88-9	Magnesium Sulphate	20 mg/m ³
7720-78-7	iron sulphate	8.2 mg/m ³
7733-02-0	Zinc Sulphate (anhydrous)	15 mg/m ³
7758-99-8	copper(II) sulfate, pentahydrate	12 mg/m ³
10034-96-5	Mangan(II)-sulfat-Monohydrat	9.2 mg/m ³

· **PAC-2:**

PAC 2: Irreversible or other serious health effects that could impair the ability to take protective action.

7487-88-9	Magnesium Sulphate	220 mg/m ³
7720-78-7	iron sulphate	41 mg/m ³
7733-02-0	Zinc Sulphate (anhydrous)	97 mg/m ³
7758-99-8	copper(II) sulfate, pentahydrate	32 mg/m ³
10034-96-5	Mangan(II)-sulfat-Monohydrat	15 mg/m ³

· **PAC-3:**

PAC 3: Life-threatening health effects.

7487-88-9	Magnesium Sulphate	1,300 mg/m ³
7720-78-7	iron sulphate	250 mg/m ³
7733-02-0	Zinc Sulphate (anhydrous)	580 mg/m ³
7758-99-8	copper(II) sulfate, pentahydrate	190 mg/m ³
10034-96-5	Mangan(II)-sulfat-Monohydrat	90 mg/m ³

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
 The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
 At this time, the remaining constituent has no known exposure limits.

7720-78-7 iron sulphate	
REL	Long-term value: 1 mg/m ³ as Fe
TLV	Long-term value: 1 mg/m ³ as Fe
7758-99-8 copper(II) sulfate, pentahydrate	
PEL	Short-term value: 1 mg/m ³
TWA	Short-term value: 1 mg/m ³
10034-96-5 Mangan(II)-sulfat-Monohydrat	
PEL	Ceiling limit value: 5 mg/m ³ as Mn
REL	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ as Mn
TLV	Long-term value: 0.02* 0.1** mg/m ³ as Mn; A4, *respirable **inhalable fraction

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **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.
 Store protective clothing separately.
- **Breathing equipment:**
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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· Protection of hands:



Protective gloves

· 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 can not 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 found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

· Limitation and supervision of exposure into the environment None

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Physical state

Solid

· Color:

Whitish

· Odor:

Slight

· Odor threshold:

Not determined.

· Melting point/Melting range:

Undetermined.

· Boiling point/Boiling range:

1,689 °C (3589 °F)

· Flammability:

Not determined.

· Explosion limits:

· Lower:

Not determined.

· Upper:

Not determined.

· Flash point:

Not applicable.

· Decomposition temperature:

Not determined.

· pH-value:

Not applicable.

· Viscosity:

· Kinematic:

Not applicable.

· Dynamic:

Not applicable.

· Solubility in / Miscibility with

· Water:

Soluble.

· Partition coefficient (n-octanol/water):

Not determined.

· Vapor pressure:

Not applicable.

· Vapor pressure:

· Density:

Not determined.

· Relative density

Not determined.

· Vapor density

Not applicable.

· Particle characteristics

Not determined.

· Other information

· Appearance:

· Form:

Granulate

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· **Important information on protection of health and environment, and on safety.**

· **Ignition temperature:**

Product is not selfigniting.

· **Danger of explosion:**

Product does not present an explosion hazard.

· **Solvent content:**

· **VOC content:**

0.00 %

· **Solids content:**

100.0 %

10 Stability and reactivity

· **Reactivity**

The product is stable under normal conditions.

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:**

ATE (Acute Toxicity Estimate)

Oral	LD50	10,555 mg/kg
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7720-78-7 iron sulphate

Oral	LD50	1,520 mg/kg (mouse)
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7758-99-8 copper(II) sulfate, pentahydrate

Oral	LD50	481 mg/kg (ATE)
Dermal	LD50	>2,000 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)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

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

· **Interactive effects** No interactive effects between components are known.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Alternative sources for toxicological information**

No non-standard sources for toxicological information where used.

* 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

7487-88-9 Magnesium Sulphate

EC50 343.56 mg/kg (Water flea)

2,700 mg/kg (Green algae)

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects**

· **Additional ecological information:**

· **General notes:**

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

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.

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

* 14 Transport information

· **UN-Number**

· **DOT, IMDG, IATA** not regulated

· **UN proper shipping name**

· **DOT, IMDG, IATA** not regulated

· **Transport hazard class(es)**

· **DOT, ADN, IMDG, IATA**

· **Class** not regulated

· **Packing group**

· **DOT, IMDG, IATA** not regulated

· **Environmental hazards:** Not applicable.

· **Transport in bulk according to Annex II of**

MARPOL73/78 and the IBC Code Not applicable.

· **Special precautions for user** Not applicable.

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· **UN "Model Regulation":** not regulated

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

7720-78-7	iron sulphate
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· **Section 313 (Specific toxic chemical listings):**

7733-02-0	Zinc Sulphate (anhydrous)
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10034-96-5	Mangan(II)-sulfat-Monohydrat
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· **TSCA (Toxic Substances Control Act):**

7487-88-9	Magnesium Sulphate	ACTIVE
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7720-78-7	iron sulphate	ACTIVE
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7733-02-0	Zinc Sulphate (anhydrous)	ACTIVE
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· **Hazardous Air Pollutants**

10034-96-5	Mangan(II)-sulfat-Monohydrat
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· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **New Jersey Right-to-Know List:**

7720-78-7	iron sulphate
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7733-02-0	Zinc Sulphate (anhydrous)
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· **New Jersey Special Hazardous Substance List:**

None of the ingredients is listed.

· **Pennsylvania Right-to-Know List:**

7720-78-7	iron sulphate
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7733-02-0	Zinc Sulphate (anhydrous)
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· **Pennsylvania Special Hazardous Substance List:**

7720-78-7	iron sulphate	E
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7733-02-0	Zinc Sulphate (anhydrous)	E
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7733-02-0	Zinc Sulphate (anhydrous)	D, I, II
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10034-96-5	Mangan(II)-sulfat-Monohydrat	D
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· TLV (Threshold Limit Value)
None of the ingredients is listed.
· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

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

· **Hazard pictograms**



GHS08

· **Signal word** Warning

· **Hazard-determining components of labeling:**

Mangan(II)-sulfat-Monohydrat

· **Hazard statements**

May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Get medical advice/attention if you feel unwell.

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

· **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.

· **Department issuing SDS:** Environment protection department.

· **SDS created by:** Access GHS, LLC - 888-363-4870 - Team@access-ghs-sds.com

· **Date of previous version** 09/24/2024

· **Date of preparation** 09/24/2024

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

VOC: Volatile Organic Compounds (USA, EU)

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

Acute toxicity - oral 4: Acute toxicity – Category 4

Skin irritation 2: Skin corrosion/irritation – Category 2

Eye damage 1: Serious eye damage/eye irritation – Category 1

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

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

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