

Safety Data Sheet (SDS)

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

Issue date 06/21/2019

Reviewed on 06/21/2019

1 Identification

- **Product Identifier**
- **Trade Name: EMPAC 10**
- **Relevant identified uses of the substance or mixture and uses advised against:**
No further relevant information available.
- **Product Description:** FERTILIZER/PLANT FOOD
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
VERDEFLO LLC
7500 W LAKE MEAD BLD STE 9 127
LAS VEGAS, NV 89128
702-591-6838
- **Emergency telephone number:** 1-800-262-8200 (Chem Trec)

2 Hazard(s) Identification

- **Classification of the substance or mixture:**
Aquatic Acute 3 H402 Harmful to aquatic life.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
- **Label elements:**
- **Hazard pictograms:** Non-Regulated Material
- **Signal word:** Non-Regulated Material
- **Hazard statements:**
H402 Harmful to aquatic life.
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:**
This value refers to knowledge of known, established toxicological or ecotoxicological values.
26.3 % 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)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Physical Hazard = 0

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

*** 3 Composition/Information on Ingredients**

- **Non-hazardous components:**

CAS: 7727-37-9 RTECS: QW 9700000	Nitrogen	2-12%
CAS: 7440-44-0 RTECS: FF 5250100	Carbon	2-12%

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

· Dangerous Components:		
14265-44-2	Phosphate ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	2-12%
7704-34-9	Sulfur ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	2-12%
7440-66-2	Zinc ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2B, H320; Combustible Dust	≤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. Product contains trace amounts (<0.1%) of heavy metals (Mo, Cu, Zn, Se, Ni, Co, Cd As. Fe, Mg)

4 First-Aid Measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in the side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Immediate medical treatment is necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:**
Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- **After swallowing:**
Do not induce vomiting.
Drink copious amounts of water and provide fresh air. Immediately call 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.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters**
- **Special protective equipment for firefighters:**
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:**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.

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Use neutralizing agent.

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

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:**

7727-37-9	Nitrogen	7.96E+05 ppm
7440-44-0	Carbon	6 mg/m ³
7439-89-6	Iron	3.2 mg/m ³
7440-23-5	Sodium	13 mg/m ³
7439-95-4	Magnesium	18 mg/m ³
7440-47-3	Chromium	1.5 mg/m ³
7439-96-5	Manganese	3 mg/m ³
7440-02-0	Nickel	4.5 mg/m ³
7440-43-9	Cadmium	0.10 mg/m ³
7439-98-7	Molybdenum	30 mg/m ³

PAC-2:

7727-37-9	Nitrogen	8.32E+05 ppm
7440-44-0	Carbon	330 mg/m ³
7439-89-6	Iron	35 mg/m ³
7440-23-5	Sodium	140 mg/m ³
7439-95-4	Magnesium	200 mg/m ³
7440-47-3	Chromium	17 mg/m ³
7439-96-5	Manganese	5 mg/m ³
7440-02-0	Nickel	50 mg/m ³
7440-43-9	Cadmium	0.76 mg/m ³
7439-98-7	Molybdenum	330 mg/m ³

PAC-3:

7727-37-9	Nitrogen	8.69E+05 ppm
7440-44-0	Carbon	2,000 mg/m ³
7439-89-6	Iron	150 mg/m ³
7440-23-5	Sodium	870 mg/m ³
7439-95-4	Magnesium	1,200 mg/m ³
7440-47-3	Chromium	99 mg/m ³
7439-96-5	Manganese	1,800 mg/m ³
7440-02-0	Nickel	99 mg/m ³
7440-43-9	Cadmium	4.7 mg/m ³
7439-98-7	Molybdenum	2,000 mg/m ³

7 Handling and Storage**Handling****Precautions for safe handling:** Avoid creating and breathing dust/fume/gas/mist/vapors/spray.

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- **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:**
Store in a cool, dry place in tightly closed receptacles.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Acidic nature may corrode metal storage containers.
- **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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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.
- **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.
- **Eye protection:**



Tightly sealed goggles

- **Limitation and supervision of exposure into the environment:**
Keep away from drains, surface and ground waters.
Avoid release into the environment.

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Trade Name: **EMPAC 10****9 Physical and Chemical Properties**

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - **Form:** Liquid
 - **Color:** Black
- **Odor:** Chemical
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
 - **Melting point/Melting range:** Not determined.
 - **Boiling point/Boiling range:** Not determined.
- **Flash point:** >100 °C (>212 °F)
- **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:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - **Dynamic:** Not applicable.
 - **Kinematic:** Not applicable.
- **Solvent content:**
 - **VOC content:** 0.00 %
 - **Solids content:** 100.0 %
- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:**
- **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.

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- **Incompatible materials:** Strong oxidizing agents.
- **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:** No data available.
- **Primary irritant effect:**
- **On the skin:** May be irritating.
- **On the eye:** May be irritating.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories:**

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

7440-47-3	Chromium	3
7440-02-0	Nickel	2B
7440-43-9	Cadmium	1

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

7440-02-0	Nickel	R
7440-43-9	Cadmium	K

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

7440-43-9	Cadmium	
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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.
- **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 undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **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.

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- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

***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, ADN, IMDG, IATA**
- **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):		
None of the ingredients are listed.		
· Section 313 (Specific toxic chemical listings):		
7440-66-2	Zinc	
7440-47-3	Chromium	
7439-96-5	Manganese	
7440-02-0	Nickel	
7440-43-9	Cadmium	
· TSCA (Toxic Substances Control Act):		
7727-37-9	Nitrogen	ACTIVE
7440-44-0	Carbon	ACTIVE
14265-44-2	Phosphate	ACTIVE
7704-34-9	Sulfur	ACTIVE
7439-89-6	Iron	ACTIVE
7440-23-5	Sodium	ACTIVE
7439-95-4	Magnesium	ACTIVE
7440-47-3	Chromium	ACTIVE
7440-70-2	Calcium	ACTIVE
7439-96-5	Manganese	ACTIVE
7440-02-0	Nickel	ACTIVE
7440-43-9	Cadmium	ACTIVE
7439-98-7	Molybdenum	ACTIVE

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· Hazardous Air Pollutants		
7439-96-5	Manganese	
· California Proposition 65:		
· Chemicals known to cause cancer:		
7440-02-0	Nickel	
7440-43-9	Cadmium	
· Chemicals known to cause reproductive toxicity for females:		
None of the ingredients are listed.		
· Chemicals known to cause reproductive toxicity for males:		
7440-43-9	Cadmium	
· Chemicals known to cause developmental toxicity:		
None of the ingredients are listed.		
· New Jersey Right-to-Know List:		
7727-37-9	Nitrogen	
7704-34-9	Sulfur	
7440-66-2	Zinc	
7440-23-5	Sodium	
7439-95-4	Magnesium	
7440-47-3	Chromium	
7440-70-2	Calcium	
7439-96-5	Manganese	
7440-02-0	Nickel	
7440-43-9	Cadmium	
7439-98-7	Molybdenum	
· New Jersey Special Hazardous Substance List:		
7440-66-2	Zinc	F3, R1
7440-23-5	Sodium	F3, R2
7440-47-3	Chromium	F3
7440-70-2	Calcium	R2
7439-96-5	Manganese	F3, R1
7440-02-0	Nickel	CA
7440-43-9	Cadmium	CA, TE, F3
· Pennsylvania Right-to-Know List:		
7727-37-9	Nitrogen	
7704-34-9	Sulfur	
7440-66-2	Zinc	
7440-23-5	Sodium	
7439-95-4	Magnesium	
7440-47-3	Chromium	
7440-70-2	Calcium	
7439-96-5	Manganese	
7440-02-0	Nickel	

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7440-43-9	Cadmium
7439-98-7	Molybdenum

· Pennsylvania Special Hazardous Substance List:

7440-66-2	Zinc	E
7440-23-5	Sodium	E
7440-47-3	Chromium	ES
7439-96-5	Manganese	E
7440-02-0	Nickel	ES
7440-43-9	Cadmium	ES

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

7440-66-2	Zinc	D
7440-47-3	Chromium	D
7439-96-5	Manganese	D
7440-43-9	Cadmium	B1

· TLV (Threshold Limit Value established by ACGIH):

7440-47-3	Chromium	A4
7440-02-0	Nickel	A5
7440-43-9	Cadmium	A2
7439-98-7	Molybdenum	A3

· NIOSH-Ca (National Institute for Occupational Safety and Health):

7440-02-0	Nickel
7440-43-9	Cadmium

· 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:

H402 Harmful to aquatic life.

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:

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 last revision/ revision number:** 06/21/2019 / 3

· 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

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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)
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 and Health
OSHA: Occupational Safety & Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
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
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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