

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 09/18/2014

Reviewed on 09/18/2014

### \* 1 Identification

- **Product identifier**
- **Trade name: TurfRx Green Flowable**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Redox Chemicals LLC  
 130 South 100 West  
 PO Box 129  
 Burley, ID 83318  
 Phone: 208-678-2610  
 Fax: 208-677-3609
- **Emergency telephone number:** 208-431-2314

### \* 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.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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



### \* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

#### · **Dangerous Components:**

7446-19-7	zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate) ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	≤ 2.5%
7785-87-7	manganese sulphate ⚠ STOT RE 2, H373; ⚠ Aquatic Chronic 2, H411	≤ 2.5%

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7758-99-8	Copper Sulfate Pentahydrate <span style="font-size: small;">⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319</span>	≤ 2.5%
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· **Additional information:**

- Available Phosphate (P2O5) 4.00 %
- Soluble Potash (K2O) 6.00 %

**\* 4 First-aid measures**

· **Description of first aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Remove contaminated clothing. Wash clothing before reuse.  
Immediately wash skin with soap and plenty of water for at least 20 minutes.  
If symptoms persist, consult a doctor.
- **After eye contact:**  
Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes.  
Seek immediate medical advice.
- **After swallowing:** Never give anything by mouth to an unconscious person
- **Most important symptoms and effects, both acute and delayed**  
Treat symptoms and reduce over-exposure.
- **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**  
Hazardous Combustion Products: Upon combustion, this product may release oxides of phosphorous and nitrogen, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Phosphines may be formed after all water has been removed.
- **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:**  
Absorb with liquid-binding material (ie. sand, diatomite, acid binders, universal binders, sawdust).  
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.

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### \* 7 Handling and storage

- **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:**  
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 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:**  
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 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 determined and observed by the manufacturer of the protective gloves.
- **Eye protection:** Goggles recommended during refilling.
- **Body protection:** Wear long-sleeved shirt and long pants. Wash contaminated clothing before reuse.

### \* 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Chocolate brown
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value @ 20 °C (68 °F):</b>	4-5

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- **Change in condition**
  - Melting point/Melting range:** Not determined.
  - Boiling point/Boiling range:** Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:**
  - Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower:** Not determined.
  - Upper:** Not determined.
- **Vapor pressure:** Not determined.
- **Density:**
  - Relative density** Not determined.
  - Vapour density** Not determined.
  - Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 0.0 %
  - Solids content:** 12.2 %
- **Other information** No further relevant information available.

### \* 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Product is 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:** Alkali metals and alkaline earth metals may cause fires or explosions
- **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:**

**7446-19-7 zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate)**

Oral	LD50	2150 mg/kg (rat)
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<b>7758-99-8 Copper Sulfate Pentahydrate</b>		
Oral	LD50	300 mg/kg (rat)
<ul style="list-style-type: none"> <li>· <b>Primary irritant effect:</b></li> <li>· <b>on the skin:</b> No irritant effect.</li> <li>· <b>on the eye:</b> No irritating effect.</li> <li>· <b>Additional toxicological information:</b></li> <li>· <b>Carcinogenic categories</b></li> </ul>		
· <b>IARC (International Agency for Research on Cancer)</b>		
· <b>NTP (National Toxicology Program)</b>		
None of the ingredients are listed.		
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
None of the ingredients are listed.		

### \* 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **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:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
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:**  
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.

### \* 14 Transport information

- **UN-Number**
  - **DOT**
  - **ADR, IMDG, IATA**
  - **UN proper shipping name**
  - **DOT**
  - **ADR**
  - **IMDG, IATA**
- Non-Regulated Material  
 UN3082  
  
 Non-Regulated Material  
 UN3082 Environmentally hazardous substances, liquid, n.o.s.  
 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
 N.O.S.

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· **Transport hazard class(es)**

- DOT
- Class

Non-Regulated Material

· **ADR, IATA**



- Class
- Label

9 Miscellaneous dangerous substances and articles  
9

· **IMDG**



- Class
- Label
- Packing group
- DOT

9 Miscellaneous dangerous substances and articles  
9

· **ADR, IMDG, IATA**

Non-Regulated Material  
III

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Miscellaneous dangerous substances and articles

· **EMS Number:**

F-A,S-F

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN3082, Environmentally hazardous substances, liquid, n.o.s.,  
9, III

### \* 15 Regulatory information

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

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

7664-41-7	ammonia, anhydrous
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· **Section 313 (Specific toxic chemical listings):**

7446-19-7	zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate)
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7785-87-7	manganese sulphate
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7758-99-8	Copper Sulfate Pentahydrate
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7664-41-7	ammonia, anhydrous
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· <b>TSCA (Toxic Substances Control Act):</b>		
7727-37-9	nitrogen	
7439-89-6	iron	
7439-95-4	magnesium	
7785-87-7	manganese sulphate	
7440-42-8	boron	
7758-99-8	Copper Sulfate Pentahydrate	
7664-41-7	ammonia, anhydrous	
· <b>Proposition 65</b>		
· <b>Chemicals known to cause cancer:</b>		
None of the ingredients are listed.		
· <b>Chemicals known to cause reproductive toxicity for females:</b>		
None of the ingredients are listed.		
· <b>Chemicals known to cause reproductive toxicity for males:</b>		
None of the ingredients are listed.		
· <b>Chemicals known to cause developmental toxicity:</b>		
None of the ingredients are listed.		
· <b>Carcinogenic categories</b>		
· <b>EPA (Environmental Protection Agency)</b>		
7446-19-7	zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate)	D, I, II
7785-87-7	manganese sulphate	D
7440-42-8	boron	I (oral)
· <b>TLV (Threshold Limit Value established by ACGIH)</b>		
None of the ingredients are listed.		
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
This product is listed as a hazardous material under criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200		
· <b>GHS label elements</b>		
The product is classified and labeled according to the Globally Harmonized System (GHS).		
· <b>Hazard pictograms</b> Non-Regulated Material		
· <b>Signal word</b> Non-Regulated Material		
· <b>Hazard statements</b>		
Harmful to aquatic life with long lasting effects.		
· <b>Precautionary statements</b>		
Avoid release to the environment.		
Dispose of contents/container in accordance with local/regional/national/international regulations.		
· <b>National regulations:</b>		
The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.		
· <b>State Right to Know</b>		
98059-61-1	Phosphate	2-12%
	Soluble Potash (K <sub>2</sub> O)	2-12%

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7727-37-9	nitrogen ⚠ Press. Gas, H280; ⚠ STOT SE 2, H371; Simple Asphyxiant	≤ 2.5%
7439-89-6	iron	≤ 2.5%
7446-19-7	zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate) ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	≤ 2.5%
7439-95-4	magnesium ⚠ Pyr. Sol. 1, H250; Water-react. 1, H260	≤ 2.5%
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** 09/18/2014 / -

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- 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
- 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
- STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
- Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
- 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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