

Safety Data Sheet (SDS)

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

Printing date 01/21/2015

Reviewed on 01/21/2015

*** 1 Identification**

- **Product identifier**
- **Trade name: TurfRx Micro+**
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **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**



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2B H320 Causes eye irritation.

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



GHS07



GHS09

- **Signal word** Warning
- **Hazard statements**
Causes skin and eye irritation.
Toxic 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 on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.

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If on skin: Wash with plenty of water.
 Collect spillage.
 Take off contaminated clothing and wash it before reuse.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Unknown acute toxicity:**

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMS-ratings (scale 0 - 4)**



· **Other hazards** None known

* **3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

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

· **Dangerous Components:**

CAS: 7439-89-6 RTECS: NO 4565500	iron ⚠ Flam. Sol. 2, H228; ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320; Combustible Dust	<3%
CAS: 7439-96-5 RTECS: OO 9275000	manganese ⚠ Pyr. Sol. 1, H250; Water-react. 1, H260	<3%
CAS: 7440-66-6	Zinc ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2B, H320; Combustible Dust	<3%

* **4 First-aid measures**

· **Description of first aid measures**

· **After inhalation:** In case of unconsciousness, place patient securely on side position for transportation.

· **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.
 Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Never give anything by mouth to an unconscious person.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

Treat symptoms and reduce over-exposure.

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- **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:** Keep receptacle tightly sealed.
- **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:**

7439-96-5 manganese

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 fume, as Mn
TLV	Long-term value: 0.02* 0.1* mg/m ³ as Mn; *respirable **inhalable fraction

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- **Additional information:** The lists that were valid during the creation 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.
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 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:** Tightly sealed goggles
- **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:**
 - Form:** Suspension
 - Color:** Brown
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value @ 20 °C (68 °F):** 1.5-2.5
- **Change in condition**
 - Melting point/Melting range:** Not determined.
 - Boiling point/Boiling range:** Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Ignition temperature:**
 - Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.

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- **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.
 - Vapour 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:** 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:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:**
 - Irritating effect.
 - Causes serious eye irritation.
- **Additional toxicological information:**
 - The product shows the following dangers according to internally approved calculation methods for preparations:
 - Irritant

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- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
None of the ingredients are listed.

Group 1 - Carcinogenic to humans
 Group 2A - Probably carcinogenic to humans
 Group 2B - Possibly carcinogenic to humans
 Group 3 - Not classifiable as to its carcinogenicity to humans
 Group 4 - Probably not carcinogenic to humans

- **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.
- **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:** Toxic for 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.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **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**
- Non-Regulated Material
UN3077

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· **UN proper shipping name**
 · **DOT**
 · **ADR**
 · **IMDG**
 · **IATA**
 · **Transport hazard class(es)**

Non-Regulated Material
 UN3077 Environmentally hazardous substances, solid, n.o.s. (Zinc, copper)
 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc, copper), MARINE POLLUTANT
 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc, copper)

· **DOT**
 · **Class**

Non-Regulated Material

· **ADR**



· **Class**
 · **Label**

9 (M7) Miscellaneous dangerous substances and articles
 9

· **IMDG, IATA**



· **Class**
 · **Label**
 · **Packing group**
 · **DOT**
 · **ADR, IMDG, IATA**
 · **Environmental hazards:**
 · **Marine pollutant:**

9 Miscellaneous dangerous substances and articles
 9
 Non-Regulated Material
 III
 Product contains environmentally hazardous substances: Zinc
 Yes

· **Special marking (ADR):**
 · **Special marking (IATA):**
 · **Special precautions for user**
 · **Danger code (Kemler):**
 · **EMS Number:**
 · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
 · **Transport/Additional information:**

Symbol (fish and tree)
 Symbol (fish and tree)
 Symbol (fish and tree)
 Warning: Miscellaneous dangerous substances and articles
 90
 F-A,S-F
 Not applicable.

· **ADR**
 · **Excepted quantities (EQ)**

Code: E1
 Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 1000 g

· **IMDG**
 · **Limited quantities (LQ)**

5 kg

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- **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g
- **UN "Model Regulation":** UN3077, Environmentally hazardous substances, solid, n.o.s. (Zinc, copper), 9, III

***15 Regulatory information**

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

· **Sara**

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

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

7439-96-5 manganese

7440-66-6 Zinc

7440-50-8 copper

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

All ingredients are listed.

· **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.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7439-96-5 manganese

D

7440-66-6 Zinc

D, I, II

7440-42-8 boron

I (oral)

7440-50-8 copper

D

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

· **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



GHS09

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- **Signal word** Warning
- **Hazard statements**
 - Causes skin and eye irritation.
 - Toxic 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 on this label).
 - If skin irritation occurs: Get medical advice/attention.
 - If eye irritation persists: Get medical advice/attention.
 - If on skin: Wash with plenty of water.
 - Collect spillage.
 - 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 labeled according with the prevailing version of the regulations on hazardous substances.
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· State Right to Know

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** 01/21/2015 / 2
- **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)
 - 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)
 - HMS: Hazardous Materials Identification System (USA)
 - Flam. Sol. 2: Flammable solids, Hazard Category 2
 - Pyr. Sol. 1: Pyrophoric Solids, Hazard Category 1
 - Water-react. 1: Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 1

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, 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

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

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