

Safety Data Sheet (SDS)

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

Issue date 10/18/2016

Reviewed on 10/18/2016

1 Identification

- **Product Identifier**
- **Trade name: Milorganite® 5-4-0 Fertilizer**
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description** A fertilizer product manufactured from various microbes used to digest sewage sludge.
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
Milwaukee Metropolitan Sewerage District
260 W. Seeboth Street
Milwaukee, WI 53204
Telephone: 1-800-287-9645
- **Emergency telephone number:** 1-800-304-6204

2 Hazard(s) Identification

- **Classification of the substance or mixture:**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2A H319 Causes serious eye irritation.
 STOT SE 3 H335 May cause respiratory irritation.
 Aquatic Acute 2 H401 Toxic to aquatic life.

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



GHS07

- **Signal word:** Warning
- **Hazard-determining components of labeling:**
Activated Sewage Sludge (biosolids, dried microbes)
- **Hazard statements:**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H401 Toxic to aquatic life.
- **Precautionary statements:**
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves.
P280 Wear eye protection / face protection.
P273 Avoid release to the environment.
P264 Wash thoroughly after handling.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Unknown acute toxicity:**
2 % of the mixture consists of component(s) of unknown toxicity.

- **Classification system:**

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



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

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

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

3 Composition/Information on Ingredients

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

- **Dangerous Components:**

8049-99-8	Activated Sewage Sludge (biosolids, dried microbes)	100%
	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320; Aquatic Acute 2, H401	

- **Additional information:**

Trace metals and volatile organics can be detected in quantities less than 1.0%, most less than 0.1%. These components and pathogenic agents are of a low quantity to allow this product to meet US EPA 40CFR Part 503 Class A Exceptional Quality biosolid requirements.

4 First-Aid Measures

- **Description of first aid measures:**
- **After inhalation:** Remove affected person to fresh air. Seek medical attention if symptoms persist.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Remove contact lenses at once. Rinse opened eye under running water for at least 15 minutes. If irritation persists, seek medical attention.
- **After swallowing:** If suffering gastrointestinal discomfort, treat symptomatically.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:**
Asthmatics exposed to excessive dusts may have trouble breathing.

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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:**
At high temperatures, this type of fertilizer can give off undefined fumes. Fine dust dispersion in air may form an explosive mixture. Bulk wetted material may generate heat upon storage. Use of TEFC electrical equipment is advised to aid in control of dust-caused explosions. Control fugitive dust at its' source by containment or treating Milorganite with a dust suppressant.
- **Advice for firefighters:**
Do not breathe fumes. Prevent runoff from entering drains, sewers or any body of water. Becomes slippery when wet, guard against falls.
- **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:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
Sweep, vacuum or shovel material into labeled container. If at all possible, reuse product. Ensure that disposal is in compliance with local, state or federal 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:**
Avoid breathing dust. Wash after handling. Do not contaminate water by disposal of equipment washwaters. Do not allow to become wet during storage.
- **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 the original container.
Store in a cool, dry area out of reach of children and animals. Keep dry. Bulk wetted material may generate heat upon storage.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Some coprophagic canines (fecal eating dogs) may be attracted by the odor of biosolids, transfer their fecal attraction to Milorganite® 5-4-0 fertilizer, rip open bags in storage and over eat. A dog may be sick for 24 to 48 hours, beginning with vomiting that can lead to dehydration, incontinence (stiffness in the hind legs), atrophy, depression, and black stools due to the high carbon content of Milorganite® 5-4-0. In most cases, symptomatic care prescribed by a veterinarian will relieve these symptoms.
- **Specific end use(s):** No further relevant information available.

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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:**
Provide general ventilation in processing and storage. Provide local exhaust if necessary to reduce dust levels below acceptable limits.
- **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.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

Form:	Granulate
Color:	Dark
- **Odor:** Earthy
- **Odor threshold:** Not determined.
- **pH-value:** Slightly acidic (9 parts water to 1 part Milorganite)
- **Change in condition**

Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	Not determined.
- **Flash point:** None
- **Flammability (solid, gaseous):** Not determined.
- **Ignition temperature:**

Decomposition temperature:	Not determined.
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- **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:** Slightly soluble
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- **Other information:** Bulk Density: 50-51 lbs/ft³

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:** Excessive heat; absorbs moisture in highly humid areas.
- **Incompatible materials:** Strong acids, alkalis and oxidizing agents.
- **Hazardous decomposition products:**
Expected to emit the same types of toxic smoke as would be released during combustion of other organic materials.

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:**
As a recycled product made by a municipal water reclamation facility, biosolids have the potential to contain various pollutants. The U.S. Environmental Protection Agency has extensively analyzed the risk from these pollutants. These analyses have considered over 400 compounds, including metals, volatile and semi-volatile organic compounds, pesticides, furans, dioxins, polychlorinated biphenyls, and polybrominated diphenyl ethers. These analyses have concluded that only metals present significant risks at the levels likely to be found in biosolids. In response, the U.S. Environmental Protection Agency has established limits for nine metals (40 CFR 503.13(b)). Metals concentrations in Milorganite® are consistently far below the applicable limits (40 CFR 503.13(b)(1)Table3).

In biosolids, pathogens may present a risk. In response, the U.S. Environmental Protection Agency has

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established pathogen limits. To destroy pathogens, Milorganite® is heated to 176° F and dried to a moisture content of less than 10%, which ensures compliance with the applicable limits (40 CFR 503.32(a)(7)).

· **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:** No further relevant information available.· **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 product 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:**

Sweep, vacuum or shovel material into labeled container. If at all possible, reuse product. Material is a fertilizer and should be used as such. Keep out of any body of water. Ensure that disposal is in compliance with local, state or federal regulations. Bulk wetted material may generate heat upon storage.

· **Uncleaned packagings**· **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, 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.

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- **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):**

None of the ingredients are listed.

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

7705-08-0 iron trichloride

10028-22-5 Ferric Sulfate

471-34-1 Calcium Carbonate

7732-18-5 Water, distilled water, deionized water

· **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.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

· **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

· **Signal word:** Warning· **Hazard-determining components of labeling:**

Activated Sewage Sludge (biosolids, dried microbes)

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Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
 P271 Use only outdoors or in a well-ventilated area.
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 P362+P364 Take off contaminated clothing and wash it before reuse.
 P405 Store locked up.
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 P501 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.

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: 10/18/2016 / 7

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
 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)
 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
 Skin Irrit. 2: Skin corrosion/irritation – Category 2

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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 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

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

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