



# Metropolitan Water Reclamation District of Greater Chicago

## SAFETY DATA SHEETS (SDS)

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

### Section 1. Product Identification and Company Information

<b>Product Name</b>	<b>Lagoon Aged Air-Dried Biosolids</b>
Synonyms	Class A Biosolids, EQ Biosolids
Recommended Use	Use as a soil amendment by blending with topsoil or incorporating into in-place soil for establishing plants or broadcast on existing turf grass to improve growth.
Manufacturer	MWRD Headquarters 100 East Erie Street Chicago, IL 60611
Telephone Number	(312) 751-5600
Emergency Contact	(312) 787-3575
Non-Emergency Contact	(708) 588-4201 or Email: <a href="mailto:Biosolids@mwr.org">Biosolids@mwr.org</a>

### Section 2. Hazard(s) Identification

Emergency Overview	Not classified as dangerous for supply/use
Routes of Entry	Through ingestion, inhalation, or eye, not skin
Acute Health Hazards	None identified
Chronic Health Hazards	None identified
<b>Label Elements (Not Applicable – Only Supplied in Bulk)</b>	

### Section 3. Composition and Information on Ingredients

Name	CAS Number	% of Weight	Exposure Limits: TLV/PEL*
Anaerobically Digested Biosolids	NA	> 65%	Total Dust: 15 mg/m <sup>3</sup> (PEL) 10 mg/m <sup>3</sup> (TLV) Respirable Dust: 5 mg/m <sup>3</sup>

			(PEL and TLV)
Polymerization Agents	Varies	< 1%	NA
Water	7732-18-5	Balance <sup>§</sup>	

\*OSHA Standards: PEL – Permissible Exposure Limits; TLV – Threshold Limit Values


<sup>§</sup>Trace metals may be detected in quantities < 1%, most < 0.1%.

## Section 4. First Aid Measures



Eye Contact	Remove any contact lenses and immediately flush eyes thoroughly with water for at least 15 minutes to avoid irritation due to dust. Seek medical attention if irritation persists.
Skin Contact	None
Inhalation	Seek medical attention if symptoms of illness related to irritations from dust after inhalation are noticed.
Ingestion	As is the case with typical topsoil and other types of amendments, in case of ingestion and if any symptoms occur, seek medical attention.

## Section 5. Fire Fighting Measures and Explosion Data

Flammability	Most constituents are non-combustible at normal moisture and temperature conditions. Bulk wetted material may generate heat upon storage in piles greater than two meters' height, causing a potential for fire.
Flash Point	Not Available Data from Literature <sup>§</sup> Minimum Ignition Energy: >250 mJ Minimum Ignition Temperature: 200 – 260 °C Minimum Explosive Concentration: 40 - 200 g/m <sup>3</sup>
NFPA Hazard Classification	 Health – 0; Fire – 1; Reactivity – 0 Rank: 0 – No obvious hazard, 1 – Least, 2-Moderate, 3-High, 4-Extreme
Explosive Limits in Air	LEL <sup>‡</sup> : NA UEL <sup>‡</sup> : NA
Unusual Fire and Explosion Hazards	Do not breathe fumes, as fire may generate smoke and fine particles similar to other non-hazardous organic materials.

Fire Fighting Media, Procedures and Instructions	As in any fire, use full protective gear as approved by NIOSH*. Use dry chemical, carbon dioxide, alcohol-resistant foam, or water for fire control. Prevent runoff from entering drains, sewers, or any water body. Becomes slippery when wet.
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§From: [https://www.icheme.org/communities/subject\\_groups/safety%20and%20loss%20prevention/resources/hazards%20archive/~//media/Documents/Subject%20Groups/Safety\\_Loss\\_Prevention/Hazards%20Archive/XVI/XVI-Paper-18.pdf](https://www.icheme.org/communities/subject_groups/safety%20and%20loss%20prevention/resources/hazards%20archive/~//media/Documents/Subject%20Groups/Safety_Loss_Prevention/Hazards%20Archive/XVI/XVI-Paper-18.pdf) (Assessed on: February 13, 2018).

¥LEL – Lower Explosive Limit; UEL – Upper Explosive Limit.

\*National Institute for Occupational Safety and Health.

## Section 6. Accidental Release Measures

Accidental Spills	Sweep, vacuum, or shovel material into labeled containers, and if possible, reuse product. Ensure that disposal or reuse is in compliance with local, state, or federal regulations.
Environmental Precautions	Do not let product or runoff from product enter drains or water bodies.
Procedures and Personal Precautions	Prevent generating dust and inhalation and ingestion of dust. Lagoon aged air-dried biosolids are typically moist and not likely to produce dust under normal use. Avoid mixing with dry soil to reduce the potential for generating dust.

## Section 7. Handling and Storage

Precautions for Safe Handling	Wash hands with soap and water as a general hygienic practice.
Conditions for Safe Storage, Including Any Incompatibilities	For bulk storage recommendations, refer to EPA’s “Guide to Field Storage of Biosolids.” This document can be found on the EPA’s website at <a href="https://www.epa.gov/biosolids/guide-field-storage-biosolids">https://www.epa.gov/biosolids/guide-field-storage-biosolids</a> .

## Section 8. Exposure Control/Personal Protection

CAS #	Generic Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Biosolids	ND	ND	ND
Ventilation Requirements	None required under outdoor use conditions			
Eye Protection	None required for normal use			
Skin Protection	None required for normal use			
Respiratory Protection	None required for normal use			

Other Protection	None required for normal use
Work/Hygienic Practices	Wash hands as a hygienic practice after working with biosolids as you would practice after doing gardening.

## Section 9. Physical and Chemical Properties

Description and Appearance	Solid, light to dark brown in color when moist; looks like loose and friable soil with different sized aggregates.
Odor	Earthy
pH	Slightly acidic/neutral
Boiling Point	Not Relevant
Specific Gravity	35 – 55 lbs/ft <sup>3</sup>

## Section 10. Stability and Reactivity Data

Chemical Stability	Product is stable.
Conditions of Instability	Keep away from heat, sparks, and open flame; moisture and high humidity may result in odors.
Incompatibility with Various Substances	None under normal conditions
Hazardous Decomposition Products	Expected to release same type of smoke and fine particles as would be released during combustion of any nonhazardous organic material.
Hazardous Polymerization	Not likely

## Section 11. Toxicological Information

Epidemiology	No information available
Reproductive Toxicity	No data available
Eye Contact	May cause eye irritation due to dust if the material is dry
Skin Contact	No data available
Inhalation	May cause nasal or throat irritation due to dust if the material is dry
Ingestion	Non-toxic
Carcinogenicity	Not listed as carcinogenic by OSHA, NTP, or IARC.
Sensitizer	Not known to be sensitizer
Mutagen	Not known to be mutagen

**USEPA 40 CFR Part 503 (Biosolids Rule)**

The United States Environmental Protection Agency (USEPA) conducted an extensive risk assessment aimed at protecting human health and the environment and developed 40 CFR Part 503 regulations promulgated in 1993, which dictate acceptable pollutant concentrations, pathogen levels, and material stability of biosolids that are land applied. The risk assessment evaluated 14 pathways through which humans, plants, and animals can be exposed to biosolids, and the USEPA used the most restrictive pathway for each pollutant in setting the limits. In the first round of the risk assessment that resulted in the promulgation of 40 CFR Part 503 regulations on biosolids in 1993, 12 Contaminants of Emerging Concern (CECs) were also evaluated in the initial hazard assessment, including Benzo[a]pyrene. However, no CEC pollutants were ultimately regulated, as either concentrations of these organic pollutants in the Targeted National Sewage Sludge Survey (TNSSS) samples were very low or the risk assessment did not show reasonably anticipated adverse effects on public health or the environment. The 1993 technical support documents on biosolids risk assessment are available at the EPA’s website: <https://www.epa.gov/biosolids/guide-risk-assessment-epa-part-503-rule>, and the National Biosolids Partnership also links the scientific risk assessments at [www.biosolids.org](http://www.biosolids.org). In general, it is well established that uptake and bioaccumulation of CECs in plants are expected to be little, if any, and are restricted to the roots for most CECs. The USEPA conducted additional pollutant screening in 2001 and TNSSS in 2006 and 2007. The results of these additional evaluations did not imply that the concentrations for any CEC are of particular concern to the USEPA. The federal standards for biosolids use, 40 CFR Part 503, established limits for nine common metals and pathogenic organisms. The levels of metals and pathogenic organisms in the MWRD’s lagoon aged air-dried biosolids are well below the Part 503 federal limits for land application. The MWRD’s lagoon-aged air-dried biosolids meet the Exceptional Quality (EQ) Criteria for both trace metals and pathogen levels established for the highest quality biosolids.

**Section 12. Ecological Information**

General Ecological Information	The EQ biosolids have been widely used as a soil amendment and have been shown to enhance plant growth and performance and improve soil health. EQ biosolids, when added to soil, improve many of the soils physical and biological properties.
Terrestrial Environment	No adverse impact noted, if EQ biosolids are applied at recommended rates and followed recommended management practices according to state and federal regulations.
Aquatic Environment	No adverse impact if proper best management practices are used; for example, appropriate buffer areas between application sites and water bodies or drainage ditches are applied according to regulations.

### Section 13. Disposal Considerations

Waste Disposal	Sweep, vacuum, or shovel material into labeled containers. If possible, reuse product. Material is a soil amendment and should be beneficially used. Keep out of drains and any water body. Ensure compliance with local, state, and federal regulations.
RCRA P-Series	None listed

### Section 14. Transport Information

Proper Shipping Name	Soil amendment
DOT Identification Number	NA – Not regulated
Hazard Class	NA
SEC 302, 304, 313	Not listed
CERCLA	Not listed
CAA	Not listed
TSCA	Not listed

### Section 15. Regulatory Information

U.S. FEDERAL REGULATIONS/STATE REGULATIONS	
SARA Title III Information:	
Immediate Health Impact	No
Delayed Health Impact	No
Fire	Yes
Sudden Release of Pressure	No
Reactivity	No

### Section 16. Other Information

**Disclaimer:** The information provided herein to the best of our knowledge is accurate and reliable as of the date this SDS was created/updated. However, the MWRD makes no representation as to the comprehensiveness or accuracy of the information. The MWRD will not be responsible for damages of any kind resulting from improper use of this amendment and not following local, state, or federal regulations. No representations or warranties, either expressed or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information set forth herein or to the product to which the information refers.

SDS Creation Date	6/4/2018	Biosolids Utilization & Soil Science Section
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