

PRODUCT: N-Rich® Soil Amendment**Section 01: Identification****1.1 Product identifier:**

N-Rich®

1.2 Other means of identification:

Soil Amendment derived from municipal biosolids.

1.3 Recommended use and restrictions on use**Identified uses:**

N-Rich® Soil Amendment is manufactured from dewatered municipal biosolids mixed with cement kiln dust and/or quicklime, to attain pathogen pasteurization. The product is a granular material, which is applied to agricultural soils for nutrient and pH enhancement.

Restrictions on use: Keep out of reach of children

1.4 Supplier identifier:

Walker Environmental
PO Box 100
Thorold, Ontario
Canada
L2V 3Y8

1.5 Emergency telephone number:

Business Hours: 1-866-694-9360
After Hours: 1-902-220-5930

Section 02: Hazards Identification**2.1 Classification of the substance or mixture:**

Eye irritation, Category 2B

Skin irritation, Category 2

Specific Target Organ Toxicity, Single Exposure, Category 3

2.2 GHS Label Elements**Signal Word:**

Warning

Hazard Statements:

H320 - Causes eye irritation

H315 - Causes skin irritation

H335 - May cause respiratory irritation

Precautionary Statements:

Prevention:

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- P280 - Wear protective gloves, eye protection, and protective clothing.
- P261 - Avoid breathing dust
- P264 - Wash exposed skin thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.

Response:

- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P337 + P313: If eye irritation persists: Get medical advice/attention.
- P302+P352: IF ON SKIN: Wash with plenty of water and mild soap.
- P332+P313: If skin irritation occurs: Get medical advice.
- P362+P364: Take off contaminated clothing and wash it before reuse.
- P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312: Call a POISON CENTER or doctor if you feel unwell.

Disposal:

- P501: Dispose of contents and containers in accordance with local, regional, national and international regulations.

Other Hazards:

Material is highly alkaline, accidental swallowing may be harmful and cause irritation to the lips, mouth, throat, and esophagus. This product, in contact with water, may render surfaces extremely slippery.

Section 03: Composition & Information on Ingredients

Ingredient Name	Percent (by weight)	CAS #
Dewatered municipal biosolids	25-50	Not applicable
Cement kiln dust	0-50	68475-76-3
Quicklime (Calcium Oxide – CaO)	0-3	1305-78-8

Section 04: First Aid Measures

4.1 Description of First Aid Measures

- Eye Contact:** Rinse under eyelid with cool water and continue to rinse for at least 5 minutes. Check for, and remove, contact lenses. If eye irritation persists, seek medical attention.
- Skin Contact:** Wash irritated skin with soap and water. If irritation persists, seek medical attention.
- Inhalation:** Remove to fresh air. Get medical attention if you feel unwell.

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Ingestion: Not an expected route of exposure. Consult medical attention if gastrointestinal irritation with nausea, vomiting, and diarrhea occurs.

Skin Absorption: Unlikely to be absorbed through the skin

4.2 Most Important symptoms and effects, acute and delayed:

Eye contact: May cause immediate or delayed irritation, inflammation.

Skin Contact: May cause irritation. Skin affected by dermatitis may include symptoms such as redness, itching, rash, scaling, and cracking. Irritant dermatitis may be caused by high alkalinity and abrasion.

Inhalation: The application process generates airborne particulate, which may cause respiratory irritation or distress. Symptoms such as coughing, sneezing, and shortness of breath. Smoking aggravates the effects of particulate dust exposure.

Section 05: Fire Fighting Measures

5.1 Extinguishing Media:

Water, dry chemical, foam, sand

Unsuitable extinguishing media: None known

5.2 Specific hazards arising from the product:

Product is not flammable or combustible

5.3 Special protective equipment and precautions for firefighters:

Evacuate the area and fight the fire from a safe distance.

Section 06: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Wear adequate personal protective equipment, including an appropriate respirator as indicated in Section 8. Do not breathe dusts.

6.2 Environmental precautions:

Avoid releases of airborne dusts. Avoid release into watercourses. Do not apply product to the land base during high winds. This may generate excessive dust that could carry away from the intended application area.

6.3 Methods and material for containment and cleaning up:

Use containment methods that will not generate excessive airborne dust. Do not use blowers or compressed air. Place material in a properly labelled container. Wash clothing and equipment after handling. Re-use material.

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Section 07: Handling and Storage

7.1 Precautions for safe handling:

Do not handle until all safety precautions have been read and understood.
 Minimize dust generation and accumulation.
 Avoid contact with skin, eyes, and clothing. Avoid ingestion and inhalation. Wear a particulate filtering respirator.
 Wash exposed skin thoroughly after handling. Wash clothing before reuse.
 Use only in well-ventilated areas.
 May be corrosive to metals when mixed with water.

7.2 Advice on general occupational hygiene:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking, smoking and using the toilet.

7.3 Conditions for safe storage:

Store in a well ventilated and dry area only, do not leave exposed to the elements. Long-term bulk storage may result in ammonia (NH₃) and hydrogen sulphide (H₂S) release when the storage pile is disturbed. Air quality testing and alternative personal protective equipment may be necessary when handling under such conditions.
 Keep out of reach of children.
 Avoid unintended release into the environment.

Section 08: Exposure Controls & Personal Protection

8.1 Control parameters:

Ingredient Name	ACGIH® TLV®	U.S. OSHA PEL	Other Exposure Limits
Calcium Oxide - CaO	TWA 2 mg/m ³ - 8 hours	TWA 5 mg/m ³ - 8 hours	NIOSH REL 2mg/m ³ – 10 hours
Particulates Not Otherwise Specified	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable fraction)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)	Ontario, Canada TWA: 10 mg/m ³ (inhalable) 3 mg/m ³ (respirable fraction)

8.2 Exposure Controls:
Appropriate engineering controls:

Handle product in a well-ventilated area. Wear a NIOSH approved particulate respirator for nuisance levels of dust.
 An emergency eyewash station, or portable eyewash kit, needs to be in close proximity during product application. Ensure regular cleaning of equipment, work area, and clothing.

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8.3 Individual Protection Measures:

Eye/Face Protection

Wear approved safety glasses with side shields or chemical safety goggles.

Skin Protection:

Wear full length shirt-sleeves and long pants. Wear waterproof boots. Wash skin well with soap and water after exposure.

Respiratory Protection:

Use a properly fitted NIOSH approved respirator with filtration for nuisance level dust particulate.

Other Information:

Use appropriate safety equipment for any hazards encountered besides those mentioned above. Operations that store or utilize this product should be equipped with an eyewash station or equipment. Handle in accordance with good industrial hygiene and safety practices. Do not eat, drink or smoke where this material is handled, stored and processed. Wash hands thoroughly before eating, drinking, smoking and using the toilet.

Section 09: Physical & Chemical Properties

Appearance:	Black, brown, grey granular solid
Odour:	Earthy, manure, mild ammonia
Odor threshold:	Not available
pH:	≥ 11.5
Melting Point:	N/A
Freezing Point:	N/A
Boiling Point:	N/A
Flashpoint:	N/A
Evaporation Rate:	N/A
Flammability:	N/A
Vapour Pressure:	N/A
Vapour Density:	N/A
Relative Density:	N/A
Density:	600 to 800 kg/m ³
Solubility:	N/A

Section 10: Stability & Reactivity

10.1 Reactivity:

No

10.2 Chemical Stability:

Yes

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10.3 Possibility of Hazardous Reactions:

None

10.4 Conditions to Avoid:

Long-term storage of product where possible.

10.5 Incompatible Materials:

None

10.6 Hazardous Decomposition Products

Storage of product in large quantities for extended duration may create anaerobic conditions whereby hydrogen sulphide (H₂S) gas could be liberated when the pile is disturbed.

Section 11: Toxicology

11.1 Acute Toxicity:

No data available.

11.2 Irritation/Corrosion:

N-Rich® mixed with water may have a pH of 11.5 or greater. Anecdotal evidence, gained from the experience of over 20 years of worker exposures (i.e. manufacturing and application process), has shown no incident of chemical burns to exposed skin or eyes. Proper hygiene (i.e. washing skin after use), gloves, and full-length sleeves and pants is recommended to prevent incidents of irritation to skin. Safety glasses, with side shields, is recommended to prevent eye irritation.

11.3 Sensitization

No data available.

11.4 Mutagenicity:

Not mutagenic.

11.5 Carcinogenicity:

The product is not carcinogenic.

11.6 Reproductive Toxicity:

Not toxic for reproduction

11.7 Single Target Organ Toxicity, Single Exposure:

Not classified, no data available

11.8 Single Target Organ Toxicity, Repeated Exposure:

Not classified, no data available

11.9 Aspiration Hazard:

Not classified

11.10 Likely Routes of Exposure:

Dermal contact, eye contact, inhalation, ingestion

Potential Acute Health Effects:**11.11 Eye contact:**

May cause irritation.

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11.12 Inhalation:

May cause respiratory irritation. May cause irritation to throat and nasal passages.

11.13 Skin Contact:

May cause irritation. Irritation may be aggravated if contact is prolonged and if skin is wet with water or sweat. Accumulation of product in the creases of skin may increase the likelihood of irritation.

11.14 Ingestion:

Ingestion is unlikely through normal anticipated use of this product. Accidental swallowing may cause irritation to the lips, mouth, throat and stomach. May cause vomiting.

Section 12: Ecological Information

Ectotoxicity:	Avoid release into watercourses. The nutrient loading from this product may increase growth rates of affected aquatic plant populations.
Biodegradability:	Material breaks down in soil over time.
Bioaccumulative Potential:	None measureable.
Other Adverse Affects:	None.

Section 13: Disposal Considerations

General: If possible, reuse the material as directed by label. Dispose of in accordance with provincial and municipal guidelines.

Section 14: Transportation Information

UN Number:	Not regulated as a dangerous good for transport.
Proper Shipping Name:	Not applicable
DG Class:	Not classified as a dangerous good
Other Information:	Not regulated for transport purposes

Section 15: Regulatory Information

N-Rich® is registered soil amendment under the Canadian Food Inspection Agency.

Section 16: Other Information

Application Rate: Before use, consult an agricultural specialist to develop a Nutrient Management Plan.

Pathogen Testing: The mixing of additives (cement kiln dust/quicklime) and drying process ensures pathogens are eliminated in the product. Typical results shown below.

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<u>PARAMETER</u>	<u>RESULT</u>	<u>METHOD REFERENCE</u>	
E.coli	<3 MPN/g dry	TMECC 07.01	
Fecal Coliform	<3 MPN/g dry	TMECC 07.01	
Salmonella spp.	NEGATIVE	MFLP-75	

Walker Environmental N-Rich® Production Facilities

Niagara Biosolids Processing Facility 2800 Thorold Town Line Road Thorold, Ontario L2V 3Y8 Canada	Halifax Biosolids Processing Facility 350 Aerotech Drive Goffs, Nova Scotia B2T 1K3 Canada	Sudbury Biosolids Management Facility 1173 Kelly Lake Road Sudbury, Ontario P3E 5P4 Canada
City of Sarnia Waste Water Treatment Plant 333 St. Andrews Street Sarnia, Ontario N7T 7N2 Canada	Town of Leamington Water Pollution Control Plant 435 Seacliff Drive East Leamington, Ontario N8H 3E1 Canada	

Disclaimer: This information is to the best of our knowledge accurate and reliable as of the date that this SDS was updated. Walker Environmental is not responsible for any damage done due to inappropriate use of this product

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