

MATERIAL SAFETY DATA SHEET — 16 Sections

SECTION 1 — Product Identification and Company Information

Product Identifier N-TEXX® Soil Inoculant Seven 7-0-0		
Product Use Intended for professional agricultural and horticultural fertilizer for end user.		
Manufacturer's Name Chem-X International, LLC (DBA CXI)		
Street Address 1100 East Sandy Lake Road		
City Coppell	Province Texas	
Postal Code 75019	Emergency Telephone (214) 533-9933	
Date MSDS Prepared 22 July 2015	MSDS Prepared By CXI Division of Operations	Phone Number 972-471-7775

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	%	CAS Number	LD ₅₀ of Ingredient (specify species and route)	LC ₅₀ of Ingredient (specify species)
Sodium Nitrate NaNO ₃	.07	7631-99-4	>2000mg/kg bw Rat	>0.527mg/L (4-H) Rat
Non-Hazardous Ingredients				
Humic Acid	.06	1415 -93-6		
<i>Psuedomonas putida</i>	.0014			
<i>Bacillus subtilis</i>	.0014			

SECTION 3 — HAZARDS IDENTIFICATION

[Emergency Overview]		Route of Entry		<input type="checkbox"/> Skin Contact	<input type="checkbox"/> Skin Absorption	<input type="checkbox"/> Eye Contact	<input type="checkbox"/> Inhalation	<input type="checkbox"/> Ingestion
Liquid brownish in color, odorless. Potential oxidizer when contact with combustible materials. Will not cause spontaneous ignition; however, sodium nitrate will enhance an existing fire.								
NFPA 704: National Fire Protection Association				HMIS® III				
Health	1			Health		1		
Fire	0			Flammability		0		
Reactivity	1			Physical Hazards		1		
OSHA Regulatory Status Sodium Nitrate NaNO ₃ in crystalline or prilled form is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)								
Potential Health Effects Likely Routes of Exposure								
In case of inhalation	Irritation to respiratory tract							
In case of skin contact	May cause redness or irritation							
In case of eye contact	May cause redness or irritation							
In case of ingestion	Ingestion of large amounts may cause: Gastrointestinal disturbances							

SECTION 4 — FIRST AID MEASURES

General Information: In case of persisting adverse effects consult a physician. Never give anything by mouth to an unconscious person or a person with cramps.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically

Skin Contact

Wash with plenty of soap and water Remove contaminated clothing. If skin irritation occurs: Get medical advice/attention.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Inhalation

Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention for any breathing difficulty.

Ingestion

Induce vomiting. Rinse mouth immediately and drink plenty of water.

SECTION 5 — FIRE FIGHTING MEASURES

Flammable Properties

Not flammable

Attention should be paid to compatibility with surrounding chemicals.

Means of Extinction

Use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.

Flashpoint (° C) and Method

Not applicable

Upper Flammable Limit (% by volume)

Not applicable

Lower Flammable Limit (% by volume)

Not applicable

Autoignition Temperature (°C)

Not applicable

Explosion Data — Sensitivity to Impact

Not applicable

Explosion Data — Sensitivity to Static Discharge

Not applicable

Hazardous Combustion Products

Thermal decomposition products (> 1112 F / 600 °C): Nitrous oxides (NOx), sodium nitrite and sodium oxide.

[NFPA]

Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures

Personal Protections: Provide adequate ventilation. Wear personal protection equipment (Section 8).

Environmental and Containment/Clean Up Procedures: Do not allow to enter into surface water or drains. Ensure waste is collected and contained. Take up mechanically, placing in appropriate containers for disposal or recovery. Unsuitable material for containment/taking up: Do not absorb in saw-dust or other combustible absorbents.

SECTION 7 — HANDLING AND STORAGE

Handling Procedures and

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from flammable, combustible and reducing agents.

Storage

Keep/store only in original container. Store in a well-ventilated place. Keep container tightly closed. Do not store together with: Combustible substance, reducing agents.

Best stored inside out of direct sunlight between 50°-90°F.

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits

No specific occupational exposure limit.

Specific Engineering Controls (such as ventilation, enclosed process)

Use exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protective Equipment

Eye/face protection Chemical goggles required at all times.

Skin Protection Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time, recommended.

Respiratory Protection Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical State Liquid	Odor and Appearance No odor and brownish in color	Odor Threshold (ppm) Not applicable
Specific Gravity 1.33	Vapor Density (air = 1) 2.26 at 20°C/68 F	Vapor Pressure (mmHg) Considered negligible (based on melting point)
Evaporation Rate Not available	Boiling Point (°F) 208°	Freezing Point (° F) 31°
pH 8.2	Coefficient of Water/Oil Distribution Not applicable	[Solubility in Water] Not applicable

SECTION 10 — STABILITY AND REACTIVITY

Chemical Stability

Stable under normal storage and temperature conditions.

Conditions to Avoid

Keep away from flammable, combustible and reducing substances.

Incompatibility with Other Substances

Flammable, combustible and reducing substances under specific conditions. For storage and handling incompatibilities, refer to Section 7.

Reactivity and Hazardous Decomposition Products

Thermal decomposition products (> 1112 F / 600 °C): Nitrous oxides (NOx), sodium nitrite and sodium oxide.

SECTION 11 — TOXICOLOGICAL INFORMATION

The following information mostly refers to the major component of the product.

Information on toxicological effects

Acute toxicity

Acute oral toxicity LD50: > 2000 mg/kg bw
 Acute dermal toxicity LD50: > 5000 mg/kg bw
 Acute inhalation toxicity LC50: > 0.527 mg/L (4-h)

Species:

Method:

Rat. OECD Guideline 425 Data obtained by analogy conclusion
 Rat. OECD Guideline 402 Data obtained by analogy conclusion
 Rat. OECD Guideline 403 (maximum achievable concentration) Data obtained by analogy conclusion

Irritant and corrosive effects

Irritation to the skin

Equivalent/similar to OECD guideline 404 non-irritant.
 Primary dermal irritation index (PDII): 0 of max. 5 (mean)

Result Species

Rabbit. Data obtained by analogy conclusion
 (Time point: 1, 24, 48,72h)

Irritation to eyes

OECD Guideline 437
 OECD Guideline 405

Result

Species

non-irritant. In vitro study
 Irritant Rabbit.

Respiratory or skin sensitisation

OECD Guideline 429
 Respiratory sensitization

Result

Species

not sensitizing Mouse
 No information available.

Germ cell mutagenicity / Genotoxicity

In-vitro genotoxicity

Gene-mutations microorganisms
 Chromosome aberrations mammalian cells

Method

Equivalent or similar to OECD 471
 OECD Guideline 473/EU B.10

Result

negative (literature information)
 negative

In-vivo genotoxicity

In-vivo unscheduled DNA Synthesis (UDS)
 In-vivo micronucleus assay
 In-vivo chromosome aberrations

According to Alavantic, D. (1988)

negative (literature information)
 equivocal (literature info)
 equivocal (literature info)

Overall assessment of data, indicates that sodium nitrate is not genotoxic in vitro and in vivo.

Carcinogenicity

International Agency for Research on Cancer (IARC)
 National Toxicology Program (NTP)
 29 CFR part 1910, subpart Z
 California Proposition 65
 WHO (2003) Nitrate in drinking water

Inadequate animals and humans evidence
 Not listed
 Not listed
 Not listed
 No association between nitrate exposure in humans and the risk of cancer

Reproductive toxicity

No reliable data available for sodium nitrate. Data obtained from chemically related substance.

Adverse effects on sexual function and fertility

OECD guideline 422. NOAEL(C): 1500 mg/kg/d Rat.

Adverse effects on developmental toxicity

OECD guideline 422. NOAEL(C): 1500 mg/kg/d Rat.

At the highest dose tested, no effects on fertility or development were observed in this repeated dose toxicity study. Data from other nitrate substances are in line with this study.

Specific target organ toxicity (single exposure)

Practical experience / human evidence

No relevant effect have been observed after single exposure to sodium nitrate.

Specific target organ toxicity (repeated exposure)

Several oral repeated dose studies with sodium nitrate are available, however, most of them lack of reliability.

A reliable study with potassium nitrate did not show effects at highest dose tested.

OECD guideline 422. Effect dose: Organs affected:

NOAEL(C): 1500 mg/kg bw/day None

Aspiration hazard

Physicochemical data and toxicological information does not indicate an aspiration hazard.

Other Toxicological Information

This product contains trace amounts of naturally-occurring perchlorate and iodate. Like other goitrogenic substances, perchlorate may affect iodine uptake by thyroid under specific conditions.

SECTION 12 — ECOLOGICAL INFORMATION

The following information mostly refers to the major component of the product.

Toxicity

Aquatic toxicity

96-h LC50	6000 mg/L	freshwater fish	(literature information)
96-h LC50	4400 mg/L	marine water fish	(literature information)
24-h EC50	8600 mg/L	Daphnia magna (fresh water flea).	(literature information)
10 d EC50	> 1700 mg/L	Several algae species	(literature information)
		Data obtained by analogy conclusion	

Persistence and degradability

In aqueous compartments, the substance will dissociate into sodium and nitrate ions. Other minor compounds are also expected to be dissociated in their corresponding ions. Sodium ions are not subject to further degradation. Under anoxic conditions, nitrate is subjected to denitrification and is ultimately converted into molecular nitrogen as part of the nitrogen cycle. Nitrate and other oxyanions impurities are likely to be found in oxic compartments.

Bioaccumulative potential

Sodium nitrate has a low potential for bioaccumulation based on physicochemical properties (high water solubility).

Mobility in soil

Nitrate has a low potential for adsorption. Portion not taken up by plants, can leach to groundwater. Sodium can participate in ion exchange processes.

Other Environmental Effects

Excess nitrate leaching may enrich waters leading to eutrophication.

SECTION 13 — DISPOSAL CONSIDERATIONS

Disposal should be in accordance with applicable regional, national and local laws and regulations. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations (eg Resource eg. Conservation and Recovery Act (RCRC) 40 CFR 261).

SECTION 14 — TRANSPORT INFORMATION

US DOT (ground)

UN-No. 1498
 Proper Shipping Name SODIUM NITRATE
 Class(es) 5.1
 Packing group III
 Hazard label(s) 5.1 (oxidizer)
 Special marking No

Sea transport (IMDG)

UN-No. 1498
 Proper Shipping Name SODIUM NITRATE
 Class(es) 5.1
 Packing group III
 Marine pollutant No
 Hazard label(s) 5.1 (oxidizer)
 Special marking No
 Special Provision 964

Air transport (ICAO-TI / IATA-DGR)

UN-No. 1498
 Proper Shipping Name SODIUM NITRATE
 Class(es) 5.1
 Packing group III
 Hazard label(s) 5.1 (oxidizer)
 Special marking No

Special precautions for user

None

SECTION 15 — REGULATORY INFORMATION

US Federal

SARA Title III Rules

Section 311/312 Hazard Classes

Acute Health Hazard Yes (Irritant)
 Chronic Health Hazard No
 Fire Hazard Yes (Oxidizer)
 Release of Pressure No
 Reactive Hazard No

Section 313 Toxic Chemicals

N511 Nitrate compounds (water dissociable; reportable only when in aqueous solution)

Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

Sodium nitrate is not listed

US State Regulations

California Proposition 65 Sodium nitrate is not listed
 California Code of Regulations Title 22 (Health & Safety Code), Chapter 33 See <http://www.dtsc.ca.gov/hazardouswaste/perchlorate>

Canada

Ingredient Disclosure List: Sodium nitrate is listed
 WHMIS Classification: Class C, D2B (Eye irritation)
 This product has been classified according to the hazard criteria of the 2010 Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

European Union

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Hazard classes and Hazard categories	Hazard statements
Ox. Sol. 3	H272
Eye Irrit. 2	H319

Chemical Inventories

United States TSCA	Sodium nitrate is listed	China (IECS)	Sodium nitrate is listed
Canada DSL	Sodium nitrate is listed	Japan (METI)	Sodium nitrate is listed
European Union (EINECS)	Sodium nitrate is listed	Korea (KECI)	Sodium nitrate is listed

SECTION 16 — OTHER INFORMATION

This MSDS complies with 29 CFR part 1910 subpart Z, 2010 Canada Controlled Products Regulations (CPR) and ANSI Standard Z400.1-2004

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Indication of changes

All sections were reviewed, contents were updated and format was changed.