

**SAFETY DATA SHEET**

SDS NUMBER: 1000648229-15-LPI

SDS REVISIONS: NEW

DATE OF ISSUE: 08/25/15

**NITRAIN™ EXPRESS**

SUPERSEDES: NEW

**FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300****1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER****1.1 PRODUCT IDENTIFIER:****TRADE NAME:** NITRAIN™ EXPRESS**1.2 RECOMMENDED USE:** FERTILIZER COATING**1.3 SUPPLIER DETAILS:**

LOVELAND PRODUCTS, INC.

P.O. Box 1286 • Greeley, CO 80632-1286

**1.4 24-Hour Emergency Phone:** 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565 – **Product Information:** 1-888-574-2878 (LPI-CUST)**U.S. Coast Guard National Response Center:** 1-800-424-8802**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****Classification according to 29 CFR 1910.1200**

Eye Irritation	Category 2A	H319
Skin Corrosion / Irritation	Category 2	H315
Acute Toxicity (Inhalation)	Category 4	H332

**2.2 Label elements**

Signal word: **WARNING**  
 Hazard Statement: H319 – Causes serious eye irritation.  
 H315 – Causes skin irritation.  
 H332 – Harmful if inhaled.  
 H303 – May be harmful if swallowed.

Precautionary Statement: P260 – Do not breathe dust/fume/gas/mist/vapors / spray.  
 P264 - Wash thoroughly after handling.  
 (Prevention): P271 – Use only outdoors or in a well-ventilated area.  
 P273 – Avoid release to the environment.  
 P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement: (Response): P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
 P301+P330+P331 – IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.  
 P303+P361+P353 - IF ON SKIN: Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.  
 P304+P312 – IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.  
 P310 – Immediately call a POISON CENTER or doctor / physician.  
 P340 – Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P363 – Wash contaminated clothing before reuse.  
 P391 – Collect spillage.

Precautionary Statement: (Storage): P403+P233 – Store in a well-ventilated place. Keep container tightly closed.  
 P405 – Store locked up.

**2.3 Other hazards**

None known

**Potential Health effects****Routes of exposure** Eye contact, skin contact, inhalation.**Eyes** Causes eye irritation or eye damage.**Skin** Irritating to skin irritation.**Inhalation** Irritating to respiratory system.**Ingestion** Irritating to mouth, throat, and stomach.**Target organs** Skin. Eyes. Inhalation.**Signs and symptoms** May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system.**Potential environmental effects** This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have harmful or damaging effect on the environment.

# SAFETY DATA SHEET

SDS NUMBER: 1000648229-15-LPI

SDS REVISIONS: NEW

DATE OF ISSUE: 08/25/15

**NITRAIN™ EXPRESS**

SUPERSEDES: NEW

## 3. COMPOSITION, INFORMATION ON INGREDIENTS

### 3.2 Mixtures

Chemical Name:	CAS No.	Classification	Concentration [%]
N-(n-butyl)-thiophosphoric triamide (NBPT)	94317-64-3	Eye irrit. 2A; H319 Skin corr./irrit. 2; H315 Inh. tox. 4; H332	88
Aqueous Fraction distillate/Concentrate			12

Ingredients not precisely identified are proprietary or non-hazardous.

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid Measures

General Advice : Get medical attention if symptoms occur.

<b>Inhalation:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
<b>Skin contact:</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
<b>Eye contact:</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
<b>Ingestion:</b>	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

### 4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms : Risk of serious damage to eyes. Skin irritation. Respiratory tract irritation.

### 4.3 Immediate Medical Attention and Special Treatment

Treatment : Treat symptomatically. Symptoms may be delayed.

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565**

Take container, label or product name with you when seeking medical attention.

**NOTES TO PHYSICIAN:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## 5. FIRE FIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media : Water fog, water spray, carbon dioxide (CO<sub>2</sub>), foam. Do not use water jet as this will spread the fire.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting : During a fire, irritating, corrosive and/or toxic gases may be produced.

### 5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters : Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions : Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions : Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers, or watercourses.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up :  
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.  
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination.  
Never return spills to original containers for re-use.

---

## 7. HANDLING AND STORAGE

---

### 7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling :

Avoid inhalation of vapors / spray and contact with eyes, skin and clothing. Do not breathe mist or vapor. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Do not empty into drains. Handle and open container with care. Use care in handling/storage. Wash before eating, drinking and/or smoking.

### 7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers :

Keep container tightly closed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Long term storage at temperatures above 100°F (37.8°C), and long term storage of opened containers will cause product to degrade. As the product degrades, it can release harmful gases. Store below 100°F (37.8°C) and use opened containers within 30 days. Always use oldest stock first. Do not store near food, foodstuffs, drugs or potable water supplies.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### 8.1 CONTROL PARAMETERS: OCCUPATIONAL EXPOSURE LIMITS

#### U.S. Workplace Exposure Level (WEEL) Guides

Components	Type	Value
N-methyl-2-pyrrolidone (CAS: 872-50-4)	TWA	10 ppm (Skin)
Propylene Glycol (CAS 57-55-6)	TWA	10 mg/m <sup>3</sup> (Vapor and aerosol, inhalable fraction)

#### Biological limit values

#### ACGIH Biological Exposure Indices

Components	Value	Specimen
N-methyl-2-pyrrolidone (CAS: 872-50-4)	100 mg/L	Urine

### 8.2 EXPOSURE CONTROLS:

#### Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

#### Individual Protection Measures:

Eye / Face Protection: Chemical goggles are recommended.

Skin Protection: Chemical resistant clothing is recommended. Routinely wash work clothing and protective equipment to remove contaminants. The use of neoprene gloves is recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment. Wear respiratory protection during operations where spraying or misting occurs. Wear air supplied respiratory protection. In the U.S.A., if respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

# SAFETY DATA SHEET

SDS NUMBER: 1000648229-15-LPI

SDS REVISIONS: NEW

DATE OF ISSUE: 08/25/15

NITRAIN™ EXPRESS

SUPERSEDES: NEW

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

**9.1 APPEARANCE :** Liquid  
**ODOR:** Amine-like.  
**ODOR THRESHOLD:** 0.1 ppm.  
**COLOR :** Red.  
**pH:** 9.4 (neat).  
**MELTING POINT / FREEZING POINT:** No data available  
**BOILING POINT:** No data available  
**FLASH POINT:** >190°F / >87.7°C  
**FLAMMABILITY (solid, gas):** Does not support combustion at 187°F.  
**UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:** Not applicable.  
**VAPOR PRESSURE:** No data available.  
**SOLUBILITY:** Soluble  
**PARTITION CO-EFFICIENT, n-OCTANOL / WATER:** log Kow: N-methyl-2-pyrrolidone = -0.54; Propylene Glycol: -0.92.  
**AUTO-IGNITION TEMPERATURE:** No data available.  
**DECOMPOSITION TEMPERATURE:** Not determined  
**VISCOSITY :** Not determined  
**SPECIFIC GRAVITY (Water = 1):** 1.077 g/ml  
**BULK DENSITY:** 8.99 lbs/gal. / 1.08 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample.  
Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 REACTIVITY

Stable

### 10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No reactions known under normal use conditions. Will not polymerize.

### 10.4 CONDITIONS TO AVOID

Extreme temperatures.

### 10.5 INCOMPATIBLE MATERIALS

Acids. Strong reducing agents. Strong oxidizing agents.

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Oxides of Carbon, oxides of Nitrogen. Oxides of Sulfur.

---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 LIKELY ROUTES OF EXPOSURE

Skin contact, eye contact.

**LC<sub>50</sub> (rat):** > 5.10 mg/l (N-methyl-2-pyrrolidone).

**LD<sub>50</sub> Oral (rat):** >2,823 mg/kg (N-(n-butyl)-thiophosphoric triamide (NBPT)

**LD<sub>50</sub> Dermal (rat):** >2,000 mg/kg (N-(n-butyl)-thiophosphoric triamide (NBPT)

**LD<sub>50</sub> Oral (rat):** 3,914 mg/kg (N-methyl-2-pyrrolidone)

**LD<sub>50</sub> Dermal (rabbit):** 8,000 mg/kg (N-methyl-2-pyrrolidone)

**LD<sub>50</sub> Oral (rat):** 30 g/kg (Propylene Glycol)

**Acute Toxicity Estimates:** No data available

**Skin Irritation (rabbit):** Moderate irritant

**Eye Irritation (rabbit):** Severe irritant

**Specific Target Organ Toxicity:** Single exposure: No data available.

**Aspiration:** No data available

**Skin Sensitization (guinea pig):** Not a sensitizer

**Carcinogenicity:** No data available

**Germ Cell Mutagenicity:** No data available

**Interactive Effects:** No data available

---

## 12. ECOLOGICAL INFORMATION

---

### 12.1 ECOTOXICITY

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### Ecotoxicological Data

Components		Species	Test Results
N-(n-butyl)-thiophosphoric triamide (CAS: 94317-64-3)			
<b>Aquatic</b>			
Crustacea	EC <sub>50</sub>	Daphnia	290 mg/l, 48 hours
	NOEL	Daphnia	150 mg/l
Fish	LC <sub>50</sub>	Fish	1,140 mg/l, 96 hours
N-methyl-2-pyrrolidone (CAS: 872-50-4)			
<b>Aquatic</b>			
Crustacea	EC <sub>50</sub>	Daphnia magna	> 1,000 mg/l, 24 hours
Propylene Glycol (CAS: 57-55-6)			
<b>Aquatic</b>			
Crustacea	EC <sub>50</sub>	Daphnia magna	> 10,000 mg/l, 48 hours
Fish	LC <sub>50</sub>	Fathead minnow (Pimephales promelas)	710 mg/l, 96 hours

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

### 12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: The product is not readily biodegradable

### 12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

### 12.4 MOBILITY IN SOIL

This product is water soluble and may disperse in soil.

### 12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.

---

## 13. DISPOSAL CONSIDERATIONS

---

### 13.1 WASTE TREATMENT METHODS

Do not reuse containers for any purpose. Container is recyclable, and is to be disposed of at a container collection site. Contact your local dealer/distributor for the location of the nearest collection site. Before taking container to the collection site: Triple or pressure-rinse the empty container, adding the rinsate to the spray tank. Make the empty container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Do not contaminate water, food or feed by storage or disposal.

---

## 14. TRANSPORT INFORMATION

---

### 14.1 LAND TRANSPORT

DOT Shipping Description: NOT REGULATED

U.S. Surface Freight Classification: FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI; LIQUID (NMFC 68140, SUB 6; CLASS 70)

**SAFETY DATA SHEET**

SDS NUMBER: 1000648229-15-LPI

SDS REVISIONS: NEW

DATE OF ISSUE: 08/25/15

**NITRAIN™ EXPRESS**

SUPERSEDES: NEW

**15. REGULATORY INFORMATION****15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS**

NFPA & HMIS Hazard Ratings:		NFPA		HMIS
		2 Health	0 Least	2 Health
		1 Flammability	1 Slight	1 Flammability
		0 Instability	2 Moderate	0 Reactivity
			3 High	X PPE
			4 Severe	

**SARA Hazard Notification/Reporting**

**SARA Title III Hazard Category:** Immediate Y Fire N Sudden Release of Pressure N  
 Delayed Y Reactive N

Reportable Quantity (RQ) under U.S. CERCLA: Not listed.

SARA, Title III, Section 313: N-methyl-2-pyrrolidone (CAS: 872-50-4)

RCRA Waste Code: Not listed

CA Proposition 65: **WARNING:** This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.**16. OTHER INFORMATION**

SDS STATUS: New

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

Note: This Safety Data Sheet also applies to product marketed in California and Idaho under state-specific labeling.

**Disclaimer and Limitation of Liability:** This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.