

# Material Safety Data Sheet

## CRYSTAL NAILS ANTI FUNGUS

MSDS#: KIA020200-AFS

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### Section 1 – Identification of the Substance/Preparation and of the Company/Undertaking

Material/Product Name:

Anti Fungus

MSDS Approval Date	10/27/2004
MSDS Prepared by:	BSQ

Chemical Name: N/A

Family: N/A

Manufacturer/Distributor:

Litrox Factory Investments LLC (443960-91)

US 8130 SW Portland, Oregon,

Beaverton-Hillsdale Highway 97225.

Product Use: To inhibit fungal growth

Product #: 1000952

### Section 2- Composition/Information on Ingredients

Chemical Identity	CAS Numbers	EINECS#	INCI Name	Exposure OSHA TWA/STEL	Limits ACGIH TWA/STEL	Carcinogen IARC/NTP/OSHA	%
n-Heptane	142-82-5	205-563-8	Heptane	500 ppm	400 ppm	no/no/no	≥40
Ethyl Acetate	141 - 78 - 6	205-500-4	Ethyl Acetate	400 ppm	400 ppm	Not Listed	≤40
Isopropyl Alcohol	67-63-0	200-661-7	Isopropyl Alcohol	400 ppm	400 ppm	3/no/no	<20
Tolnaftate	2398-96-1	219-266-6	Tolnaftate	N/DA	N/DA	Not Listed	<1
N/E - None Established	N/DA - No Data Available						
N/R - Not Reviewed	N/A - Not Applicable						

Hazard Symbols: Xi, F, N Risk Phrases: R11, R36/38, R51/53, R65, R67 Safety Phrases: S7/9, S16, S33, S36/37, S46

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

This information is based on findings from related or similar materials.

- Flammable liquid and vapor!
- Aspiration hazard if swallowed.
- Can enter lungs and cause damage.
- May cause eye and skin irritation.
- May cause respiratory tract irritation.
- Dangerous for the environment.



#### Potential Health Effects, Signs and Symptoms of Exposure:

Primary Route of Entry Inhalation, skin contact, eye contact

Eye	Exposure causes eye irritation. Symptoms include stinging, tearing, redness and swelling.
Skin	Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking, and skin burns.
Ingestion	Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. May cause agitation, delirium, convulsions, and muscle spasms. Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation.
Inhalation	
Sub-Chronic Effects	Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed. Chronic exposure may cause thyroid damage with thyroid enlargement, a decrease in metabolic rate, the symptoms of hypothyroidism, and reduction in the protein-bound fraction of the serum iodine and in the thyroxine content of the thyroid gland. May cause skin rashes, occasionally an exfoliative dermatitis occurs and may prove fatal.

NOTE: Refer to Section 11, Toxicological Information for Details

### Section 4 - First Aid Measures

First Aid for Eye	If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.
First Aid for Skin	Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention.
First Aid for Inhalation	Remove to fresh air. If breathing is difficult, administer oxygen. If symptoms persist, seek medical attention.
First Aid for Ingestion	Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Possible aspiration hazard. Get medical aid immediately.

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### Section 5 - Fire Fighting Measures

Flash Point (°F/°C)	Flammable Limit (vol%)	Auto-ignition Temperature (vol%)
TAG CLOSED 40°F/4.44°C	400 ppm	n/da

#### Method:

Extinguishing Media: Foam, dry chemical, cold water spray.

Fire Fighting Instructions: Cool fire exposed containers with water, remove away from building. Use self-contained breathing apparatus to fight fire.

Unusual Hazards: When exposed to heat and flame, material is a fire explosion hazard. It may produce toxic products CO, Carbon dioxide and oxides of nitrogen.

### Section 6 - Accidental Release Measures

Spill or Release Procedures Eliminate all sources of heat and ignition. Use absorbent material for spills and dike it, wash spill material into retaining containers. Place containers in a well ventilated area. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as sawdust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802. EU Regulations require the consultation of Directive 98/24/EC. If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

### Section 7 - Handling and Storage

Handling Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use only with adequate ventilation. Avoid breathing vapor.

Storage Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in well ventilated area. Store @ 70°F +/- 15°F, allow some air space above liquid level. Keep containers closed while not in use.

Explosion Hazard Vapors are heavier than air and may travel along the ground or may be move by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

### Section 8 - Exposure Controls / Personal Protective Equipment

Engineering Controls Facilities storing or utilizing this material should be equipped with an eye facility and safety shower. Use process enclosures local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. IDLH for: CAS# 142-82-5: 750 ppm (NIOSH)  
CAS# 141-78-6: 10% lower explosive limit  
CAS#: 67-63-0: 10% lower explosive limit

#### Personal Protective Equipment

General To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132), or European Standard EN166 be conducted before using this product. Provide eye wash stations and safety showers. Wear impervious clothing to prevent ANY contact with this product, such as gloves, apron, boots, or whole body suit. Nitrile rubber is better than PVC.

Eye/ Face Protection Use impermeable clothing to prevent ANY contact with this product, such as gloves, apron, boots, or whole body suit. Nitrile rubber is better than PVC.

Skin Protection Wear resistant gloves. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protection A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain limited circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by nuisance level organic vapor dust masks can be used, however the use of the respirator is limited. Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

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## Section 9 - Physical and Chemical Properties

Appearance	Odor & Odor Threshold	pH	Specific Gravity	Viscosity	% Volatile	
Clear liquid	fruity ester odor	NA	(H2O=1):0.98	N/A	W/W % : 99+	
Boiling Point/ Freezing Point	Decomposition Temperature	Octanol/Water Partitioning Coefficient Log Po/w		Vapor Pressure:	Vapor Density	Evaporation Rate
170°F(77°C)	N/A	N/A		N/A	(Air=1):1	N/A

Flash Point (°F/°C)----- Flammable Limit (vol%)----- Auto-ignition Temperature (vol%)  
TAG CLOSED 40°F/4.44°C 400 ppm n/da

## Section 10 - Stability and Reactivity

### Stability:

Stable

### Hazardous Decomposition Products:

Heated material produce NO<sub>2</sub> , CO<sub>2</sub> , CO

### Conditions to Avoid:

Heat, flame, ignition sources.

### Incompatibility (Materials to Avoid):

Avoid oxidizing agents, acids & bases (heat)

### Hazardous Polymerization:

Will not occur

## Section 11 - Toxicological Information

### Acute Oral Toxicity

Oral, rat: LD50

CAS#141-78-6 = 5620 mg/kg

CAS#67-63-0 = 5045 mg/kg

### Acute Dermal Toxicity

Skin, rabbit: LD50

CAS#141-78-6 = >20 mL/kg

CAS#67-63-0 = 12800 mg/kg

### Acute Inhalation Toxicity

Inhalation, rat: LC50

CAS#142-82-5 = 103 gm/m<sup>3</sup>/4H

CAS#141-78-6 = 200 gm/m<sup>3</sup>

### Irritation - skin

Mild

### Irritation – Eye

Mild

Since this product contains a very low concentration of active components, the primary toxicological information is derived from the aliphatic hydrocarbons.

Further hazardous properties cannot be excluded. The product should be handled with care when dealing with chemicals.

Sensitization	Mutagenicity	Sub-chronic Toxicity
N/DA	CAS#: 141-78-6= Hamster fibroblast 9g/L sex chromosome Loss/Non-disjunction: S. cerevisiae 24400 ppm	N/DA

RETECS#: CAS#142-82-5, MI7700000

CAS#141-78-6, AH5425000

CAS#67-63-0, unlisted

## Section 12 - Ecological Information

### Ecotoxicological Information

Acute Toxicity to Fish	Acute Toxicity to Invertebrates	Acute Toxicity to Algae	Bioconcentration	Toxicity to Sewage Bacteria
CAS#142-82-5= Goldfish: LC50 = 4.0 mg/L/24H CAS#141-78-6= Flathead minnow: LC50= 230mg/L/96H CAS#67-63-0= Flathead minnow: LC50= 1000 mg/L/96H	N/DA	N/DA	N/DA	N/DA

### Biodegradability

The substance is toxic to aquatic organisms. In the food chain important to humans, bioaccumulation takes place, specifically in fish. No other information available.

### Chemical Oxygen Demand

N/DA

### Chemical Fate Information

To the best of our knowledge, the ecotoxicological and chemical fate properties have not been thoroughly investigated. Do not allow to enter drinking water supplies, wastewater, or soil.

## Section 13 - Disposable Considerations

Dispose of diking materials and absorbent in compliance with State, Local, and Federal regulations. Residual vapors may explode on ignition; do not cut, drill, or weld on or near the container. Mix with compatible chemical which is less flammable and incinerate.

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements. For EU Member States, please refer to any relevant Community provisions relating to waste. In their absence, it is useful to remind the user that national or regional provisions may be in force.

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## Section 14 - Transport Information

<b>DOT (49 CFR 172)</b>	
Proper Shipping Name:	Flammable liquids, n.o.s., (heptane, ethyl acetate), 3, UN1993, PGII
Identification Number:	UN1993
Marine Pollutant:	No
Special Provisions:	T8, T31
<b>Emergency Response Guidebook (ERG) #:</b>	<b>128</b>
<b>IATA (DGR):</b>	
Proper Shipping Name:	Flammable liquids, n.o.s., (heptane, ethyl acetate), 3, UN1993, PGII
Class or Division:	3
UN or ID Number:	UN1993
Packaging Instructions:	
<b>Emergency Response Guidance (ICAO)#:</b>	
<b>IMO (IMDG):</b>	
Proper Shipping Name:	Flammable liquids, n.o.s., (heptane, ethyl acetate), 3, UN1993, PGII
Class or Division:	3.2
UN or ID Number:	UN1993
Special Provisions & Stowage/Segregation:	None
<b>Emergency Schedule (EmS)#:</b>	
<b>Other Information:</b>	<b>Flash point = 4.44°C</b>

## Section 15 - Regulatory Information

### US Federal Regulations:

Clean Air Act: HAP/ODS

This product contains the following hazardous air pollutants (HAPs):

- NONE

Clean Water Act: Priority Pollutant

There are no ODS's (ozone depleting substances) as defined by the U. S. Clean Air Act.

This product contains the following chemicals listed under the U. S. Clean Water Act Priority Pollutant and Hazardous Substance List:

- NONE

FDA: Food Packaging Status

This product has not been cleared by the FDA for use in food packaging and/ or other applications as an indirect food-packaging additive.

Occupational Safety and Health Act

This product is considered to be hazardous under the OSHA Hazard Communication Standard. Its hazard are:

- Immediate (acute) health hazard
- Chronic (delayed) health hazard
- Fire hazard

RCRA

This product contains chemicals considered to be hazardous waste under RCRA ( 40 CFR 261):

- Ethyl Acetate CAS #141 - 78 - 6 RCRA Code: U112

SARA Title III: Section 302 (RQ)

This product contains no chemicals regulated under Sec. 302 as extremely hazardous substances.

SARA Title III: Section 302 (TPQ)

This product contains the following chemicals regulated under Section 304 as extremely hazardous chemicals for emergency release notification ("CERCLA" List):

- Ethyl Acetate CAS #141-78-6 RQ (Lbs) 5000

SARA Title III: Section 311-312:

This product is considered to be hazardous under the OSHA Hazard Communication Standard and is regulated under Section 311-312 (40 CFR 370). Its hazards are:

- Immediate (acute) health hazard
- Chronic (delayed) health hazard
- Fire hazard

SARA Title III: Section 313:

This product contains the following chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- Isopropyl alcohol CAS #67-63-0.

TSCA Section 8(b): Inventory:

This product contains chemicals listed on the TSCA inventory or otherwise complies with

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TSCA Significant New Use Rule:	TSCA premanufacture notification requirements. None of the chemicals in this material have a SNUR under TSCA.
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## State Regulations:

CA Right-to-Know Law: California No Significant Risk Level:	Ethyl Acetate CAS 141 - 78 - 6 ; Heptane CAS #142-82-5, Isopropyl Alcohol CAS 67-63-0. NONE
MA Right-to-Know Law:	Ethyl Acetate CAS 141 - 78 - 6 ; Heptane CAS #142-82-5, Isopropyl Alcohol CAS 67-63-0.
NJ Right-to-Know Law:	Ethyl Acetate CAS 141 - 78 - 6 ; Heptane CAS #142-82-5, Isopropyl Alcohol CAS 67-63-0.
PA Right-to-Know Law:	Ethyl Acetate CAS 141 - 78 - 6 ; Heptane CAS #142-82-5, Isopropyl Alcohol CAS 67-63-0.
FL Right-to-Know Law:	Ethyl Acetate CAS 141 - 78 - 6 ; Heptane CAS #142-82-5, Isopropyl Alcohol CAS 67-63-0.
MN Right-to-Know Law:	Ethyl Acetate CAS 141 - 78 - 6 ; Heptane CAS #142-82-5, Isopropyl Alcohol CAS 67-63-0.

## International Regulations:

CDSL: Canadian Inventory (on Canadian Transitional List)

EINECS: European Inventory:



Heptane CAS# 142-82-5 is on the DSL List. WHMIS = B2, D2B. Ethyl acetate CAS #141-78-6 is on the DSL list. WHMIS = B2, D2B. Isopropyl alcohol CAS #67-63-0 is on the DSL list. WHMIS = B2, D2B. Tolnaftate CAS# 2398-96-1 is on the DSL List. WHMIS = n/da

### Antifungal Solution:

- HAZARD SYMBOLS: **Xi: Irritant**, **F: Highly Flammable**, **N: Dangerous for Environment**
- RISK PHRASES: **R11: highly flammable**, **R36/38: Irritating to eyes and skin**, **R51/53: toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment**, **R65: Harmful, may cause lung damage if swallowed**, **R67: Vapours may cause drowsiness and dizziness.**
- SAFETY PHRASES: **S7/9: keep container tightly closed and in a well-ventilated place**, **S16: keep away from sources of ignition- no smoking**, **S33: Take precautionary measures against static discharges**, **S36/37: Wear suitable protective clothing and gloves**, **S46: If swallowed seek medical advice immediately and show this container or label.**

## Section 16 - Other Information

### Hazard Rating System (Pictograms)

<p>NFPA:</p>	<p>HMIS:</p>
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Revised Sections since Last Version:

Changed/updated Section 1, 2, 3, 4, 5, 6, 7, 8, 9, 11,12,13, 15,16 & Format Revision

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