

### SECTION 1 - PRODUCT IDENTIFICATION

<b>Product Identifier/Trade Name:</b>	<b>NHL 5</b>
<b>Product Code/Internal Identification:</b>	St. Astier Natural Hydraulic Lime
<b>Product Use/Description:</b>	Natural Hydraulic Lime
<b>Product Chemical Name:</b>	Mixture
<b>Chemical Family:</b>	N/A
<b>MSDS Preparation/Review Date:</b>	March 24, 2015
<b>Supplier Identifier:</b>	TransMineral USA, Inc. 201 Purrington Road, Petaluma, CA 94952, Telephone: (707) 769-0661
<b>Technical Assistance Identifier:</b>	TransMineral USA, Inc. 201 Purrington Road, Petaluma, CA 94952, Telephone: (707) 769-0661
<b>Manufacturer Identifier:</b>	Chaux et Enduits de Saint-Astier; La Jarthe; 24110 Saint-Astier; France
<b>Emergency Phone Number:</b>	Chemtrec 1-800-424-9300

### SECTION 2 - HAZARDS IDENTIFICATION

<b>Primary Entry Route(s):</b>	Skin contact, skin absorption, eye contact, ingestion and inhalation.
<b>Effects of Short-Term (Acute) Exposure:</b>	
<b>Inhalation:</b>	May cause irritation or burn to the nose, throat and respiratory tract. Symptoms may include burning sensation, sore throat, runny nose, coughing, wheezing, shortness of breath and difficulty breathing.
<b>Skin:</b>	Direct skin contact may cause moderate to severe irritation or burn.
<b>Eye:</b>	Direct eye contact may cause moderate eye irritation or burn. Symptoms may include redness, stinging, tearing and pain.
<b>Ingestion:</b>	Ingestion may cause irritation or burn to the mouth, throat and stomach. Symptoms may include dizziness, drowsiness, nausea, headache and other central nervous system effects.
<b>Effects of Long-Term (Chronic) Exposure:</b>	Refer to Section 11, Toxicological Information, for further information.
<b>Other Important Hazards:</b>	Refer to Section 11, Toxicological Information, for further information.

### SECTION 3 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS

Hazardous Ingredients	CAS #	% (weight)	LD <sub>50</sub> (route, species)	LC <sub>50</sub> (species)
Calcium Oxide	1305-78-8	30-60	N/A	N/A
Calcium Hydroxide	1305-62-0	10-30	7340 mg/kg (oral, rat)	N/A
Calcium Carbonate	1317-65-3	10-30	N/A	N/A
Aluminum Oxide	1344-28-1	0.5-1.5*	N/A	N/A
Silica, Crystalline (Quartz)	14808-60-7	5-10	N/A	N/A

May also contain ~ 1 or less of Magnesium oxide, Potassium oxide, Sodium oxide, Ferric oxide, ... \* May exceed the limit ...

### SECTION 4 – FIRST AID MEASURES

<b>Inhalation:</b>	Remove source of contamination or have person move to fresh air. If not breathing, give artificial respiration. Obtain medical attention immediately.
<b>Skin Contact:</b>	Wash contaminated area with running water for at least 15-20 minutes, while removing contaminated clothing. Obtain medical attention. Launder contaminated clothing before re-use.
<b>Eye Contact:</b>	Immediately flush the contaminated eye(s) with gently flowing water for at least 15-20 minutes. Obtain medical attention.
<b>Ingestion:</b>	NEVER give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

### SECTION 5 - FIRE FIGHTING MEASURES

**Fire Hazards/Conditions of Flammability:** This product is not flammable or combustible

**Flash Point (Method):** N/A

**Lower Flammable Limit (% by volume):** N/A

**Upper Flammable Limit (% by volume):** N/A

**Sensitivity to Mechanical Impact:** Probably not sensitive.

**Sensitivity to Static Discharge:** Probably not sensitive.

**Auto-Ignition Temperature:** N/A

**Suitable Extinguishing Media:** Carbon dioxide, dry chemical powder and appropriate foam for surrounding products.

**Special Fire-Fighting Procedures/Equipment:**  
 During a fire, irritating/toxic smoke and fumes may be generated by surrounding products. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece.

**Hazardous Combustion Products:** Carbon oxides and other irritating fumes and smoke generated by surrounding products.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**  
 Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Remove all ignition sources. Remove or isolate flammable and combustible materials. All persons dealing with clean-up should wear the appropriate protective equipment (See Section 8).

**Spill Response/Cleanup:**  
 Ventilate area of release. Stop the leak if it can be done safely. Contain and absorb any spilled liquid concentrate with inert absorbent material, then place material into a container for later disposal (see Section 13). Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.

**Environmental Precautions:**  
 Confine spill, preventing it from entering sewer lines or waterways. Dispose of as per local, state and federal regulations.

### SECTION 7 - HANDLING AND STORAGE

**Safe Handling Procedures:**  
 Before handling, it is very important that engineering controls are operating, and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Handling equipment should be properly grounded. Inspect containers for leaks before handling. Label containers appropriately. Ensure proper ventilation. Avoid breathing dusts. Avoid contact with eyes, skin and clothing. Avoid generating high concentrations of dusts. Keep away from incompatible materials such as strong oxidizing materials. Keep containers closed when not in use.

**Storage Requirements:**  
 Store in a cool, dry, well-ventilated area out of direct sunlight. Store away from incompatible materials. Inspect all incoming containers to make sure they are properly labeled and not damaged. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks.

**Incompatible Materials:**  
 STRONG OXIDIZING MATERIALS, strong acids, some metals.

### SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Exposure Limits:** There is no available data for the product. See below for individual ingredient exposure limits.

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Calcium Oxide	5 mg/m <sup>3</sup>	N/A	2 mg/m <sup>3</sup>	N/A
Calcium Hydroxide	5 mg/m <sup>3</sup>	N/A	5 mg/m <sup>3</sup>	N/A
Calcium Carbonate	5 mg/m <sup>3</sup>	N/A	N/Av	N/A
Aluminum Oxide	5 mg/m <sup>3</sup>	N/A	10 mg/m <sup>3</sup>	N/A
Silica, Crystalline (Quartz)	0.1 mg/m <sup>3</sup>	N/A	0.025 mg/m <sup>3</sup>	N/A

**Engineering Controls:**

Use under well-ventilated conditions. Local exhaust ventilation system is recommended to maintain concentrations of contaminants below exposure limits.

**Respiratory Protection:**

Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirator if the exposure limits are unknown.

**Protective Clothing/Equipment:**

Chemically protective gloves (impervious), and other protective clothing to prevent prolonged or repeated skin contact, must be worn during all handling operations. Wear protective chemical splash goggles to prevent mist and dust from entering the eyes. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

**General Hygiene Considerations:**

Avoid generating high concentrations of dusts. Avoid contact with skin and eyes. Avoid breathing dusts or mists. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material. Remove and wash contaminated work clothing before re-use.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State, Color and Odor:</b>	White to gray powder; Odorless.		
<b>Odor Threshold:</b>	N/A		
<b>pH :</b>	~ 12.3	<b>Boiling Point:</b>	N/A
<b>Melting/Freezing Point:</b>	N/A	<b>Vapor Pressure:</b>	N/A
<b>Coefficient of Oil/Water Distribution:</b>	N/A	<b>Solubility in Water:</b>	Slightly
<b>Specific Gravity or Density (water = 1):</b>	N/A	<b>Vapor Density (Air = 1):</b>	N/A
<b>Evaporation Rate (n-Butyl acetate = 1):</b>	N/A	<b>% Volatile by Volume:</b>	N/A

**SECTION 10 - REACTIVITY AND STABILITY DATA**

<b>Stability and Reactivity:</b>	Stable under the recommended storage and handling conditions prescribed.
<b>Polymerization:</b>	Hazardous polymerization will not occur.
<b>Conditions to Avoid:</b>	Incompatible materials (see Section 7).
<b>Materials to Avoid:</b>	Incompatible materials (see Section 7).
<b>Hazardous Decomposition Products:</b>	None known. Refer to 'Hazardous combustion products', Section 5.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

<b>Toxicological Data:</b>	There is no available data for the product itself, only for the ingredients. <b>For more details, refer to Section 3.</b>		
<b>Carcinogenicity:</b>	Silica, crystalline (Quartz) is listed by IARC, ACGIH, NTP or OSHA as a carcinogen.		
<b>Teratogenicity, Mutagenicity, Other Reproductive Effects:</b>	N/A		
<b>Skin Sensitization:</b>	N/A		
<b>Respiratory Tract Sensitization:</b>	N/A		
<b>Conditions Aggravated by Exposure:</b>	N/A		
<b>Synergistic Materials:</b>	N/A		

**SECTION 12 - ECOLOGICAL INFORMATION**

<b>Environmental Effects:</b>	There is no available data on the product itself.
<b>Important Environmental Characteristics:</b>	N/A
<b>Aquatic Toxicity:</b>	N/A

**SECTION 13 - WASTE DISPOSAL**

<b>Handling and Storage Conditions for Disposal:</b>	Store material for disposal as indicated in Handling and Storage (Section 7).
<b>Methods of Disposal:</b>	Review federal, state, provincial and local government requirements prior to disposal.

**SECTION 14 - TRANSPORTATION INFORMATION**

**Department of Transport (49 CFR) :**  
 DOT Classification: Not regulated for marine or ground transport.  
 Special Case: Regulated for air transport only: UN 1910; Calcium oxide; Class 8; PG III.

**SECTION 15 - REGULATORY INFORMATION**

**OSHA Information:**  
 This product is regulated according to OSHA. This MSDS contains all the information required by OSHA.  
**TSCA Information:** The ingredients in this product are listed on the TSCA.  
**National Fire Protection Association (NFPA):**  
 HEALTH: 3      FLAMMABILITY: 0      INSTABILITY: 0      SPECIAL HAZARDS: Refer to Section 1 & 3.  
 HAZARD SCALE: 0 = Minimal    1 = Slight    2 = Moderate    3 = Serious    4 = Severe  
**New Jersey Labeling Requirements:** Ingredients to be disclosed on product labeling: Refer to Section 3.  
**California Proposition 65:** This product contains chemicals that are known to the State of California to cause cancer or other reproductive harm.

**SECTION 16 - OTHER INFORMATION**

**Prepared by:** NSS ENTREPRISE INC. for TransMineral USA, Inc.  
**Telephone number:** Tel. (514) 239-8785 or (707) 769-0661  
**References:**  
 1. Material Safety Data Sheets from manufacturer/supplier.  
**Abbreviations:**  
 ACGIH      American Conference of Governmental Industrial Hygienists  
 AIHA      American Industrial Hygiene Association  
 CAS      Chemical Abstract Service  
 DSL      Domestic Substance List  
 IARC      International Agency for Research on Cancer  
 LC      Lethal concentration  
 LD      Lethal Dosage  
 N/A      Not applicable/ Not available  
 NIOSH      National Institute for Occupational Safety and Health  
 NTP      National Toxicology Program (U.S.A.)  
 OSHA      Occupational Safety and Health Administration (U.S.A.)  
 PEL      Permissible Exposure Limit  
 STEL      Short-term Exposure Limit  
 TLV      Threshold Limit Value  
 TSCA      Toxic Substances Control Act  
 TWA      Time Weighted Average  
 WHMIS      Workplace Hazardous Materials Information System

**To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. End of the MSDS**