

SAFETY DATA SHEET

| SECTION 1 | IDENTIFICATION |
|-----------|----------------|
|-----------|----------------|

Product

Name: LadlePro-M (all sizes)

Other Names: Dolomitic Lime and Carbon Blend

Recommended Uses: Steel

Company Identification:

US Operations:

Lhoist North America, Inc.
5600 Clearfork Main St, Ste. 300
Fort Worth, TX 76109
817-732-8164

Canadian Operations:

Lhoist North America of Canada, Inc.
20303-102B Ave.
Langley, BC V1M 3H1
604-888-4333

Emergency Phone Number:

Chemtrec 1-800-424-9300

| SECTION 2 | HAZARDS(S) IDENTIFICATION |
|-----------|---------------------------|
|-----------|---------------------------|

Classification

Eye Damage – Category 1

Carcinogen – Category 1

Skin Irritation – Category 2

Specific Target Organ Toxicity Single Exposure – Category 3
(Respiratory System)Specific Target Organ Toxicity Repeat Exposure – Category 1
(Respiratory System)

Labeling:

Pictograms:



Signal Word(s): Danger

Hazard Statements: Causes serious eye damage.

Causes skin irritation.

May cause respiratory irritation.

Causes damage to lungs through prolonged or repeated exposure when inhaled.

May cause cancer through inhalation.

Reacts vigorously with water and releases heat, which can ignite combustible material.

Precautionary Statements:

Wear protective gloves and eye protection. Wash exposed skin thoroughly after handling. Do not breathe dust. Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.

If on skin: wash exposed skin with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately. If inhaled: Remove person to fresh air and keep comfortable for breathing. Seek medical attention if you feel unwell.

If exposed or concerned: Get medical advice

Dispose of contents or containers in accordance with applicable regulations. Do not use water on material spills.

Other Hazards: LadlePro-M reacts vigorously with water, releasing heat that may ignite combustible materials in certain instances.

| | |
|------------------|--|
| SECTION 3 | COMPOSITION/ INFORMATION ON INGREDIENTS |
|------------------|--|

Chemical Name: Calcium Magnesium Oxide plus Carbon

Common names and synonyms: Dolomitic Lime and Carbon Blend

| Chemical Identity | CAS # | Concentration, % Wt. |
|--------------------|------------|----------------------|
| Calcium Oxide | 1305-78-8 | 30 – 50 |
| Calcium Carbonate | 1317-65-3 | 0 - 30 |
| Magnesium Oxide | 1309-48-4 | 20 - 40 |
| Carbon | n/a | < 15 |
| Crystalline Silica | 14808-60-7 | < 3 |

| | |
|------------------|---------------------------|
| SECTION 4 | FIRST AID MEASURES |
|------------------|---------------------------|

Eye Contact: Contact can cause severe irritation or burning of eyes, including permanent damage. Immediately flush eyes with generous amounts of water for several minutes. Pull back the eyelid to ensure that all lime dust has been washed out. Seek medical attention immediately. Do not rub eyes.

Inhalation: This product can cause severe irritation of the respiratory system. Move victim to fresh air. Seek medical attention if necessary. If breathing has stopped, give artificial respiration.

Skin Contact: Contact can cause severe irritation or burning of skin, especially in the presence of moisture. Wash exposed area with large amounts of water. Seek medical attention immediately.

Ingestion: This product can cause severe irritation or burning of gastrointestinal tract if swallowed. Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Irritation of skin, eyes, gastrointestinal tract or respiratory tract. Long-term exposure by inhalation may cause permanent damage. This product contains crystalline silica, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

Note to Physician: Provide general supportive measures and treat symptomatically.

SECTION 5**FIREFIGHTING MEASURES****Extinguishing Media**

Appropriate Extinguishing Media: Use dry chemical fire extinguisher

Inappropriate Extinguishing Media: Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of LadlePro-M.

Firefighting

Fire Hazards: LadlePro-M is not combustible or flammable. However, LadlePro-M reacts vigorously with water and can release sufficient energy to ignite combustible products. LadlePro-M is not considered to be an explosive hazard, although reaction with water or other incompatible materials may rupture containers.

Hazardous Combustion Products: None

Special Protective Equipment and Fire Fighting Instructions: Keep personnel away from and upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

SECTION 6**ACCIDENTAL RELEASE MEASURES**

Personal Precautions: Do NOT use water on bulk material spills. Lime reacts vigorously with water, releasing heat. Use proper protective equipment.

Environmental Precautions: For large spills, as much as possible, avoid the generation of dusts. Prevent release to sewers or waterways.

Methods and Materials for Containment and Cleaning Up:

Small Spills: Use dry methods to collect spilled materials. Avoid generating dust. Do not clean up with compressed air. Store collected materials in dry, sealed plastic or metal containers. Residue on surfaces may be washed with water or dilute vinegar.

Large Spills: Use dry methods to collect spilled materials. Evacuate area downwind of clean-up operations to minimize dust exposure. Store spilled materials in dry, sealed plastic or metal containers.

SECTION 7**HANDLING AND STORAGE**

Precautions for Safe Handling: Keep in tightly closed containers. Protect containers from physical damage. Avoid direct skin contact with the material.

Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, dry, and well-ventilated location. Do not store near incompatible materials (see Section 10 below). Keep away from moisture. Do not store or ship in aluminum containers.



| | |
|-----------|--|
| SECTION 8 | EXPOSURE CONTROLS/ PERSONAL PROTECTION |
|-----------|--|

Control Parameters:

| Component | CAS # | Exposure Limits |
|--------------------|------------|---|
| Calcium Oxide | 1305-78-8 | OSHA PEL: 5 mg/m ³ ACGIH TLV: 2 mg/m ³ |
| Calcium Carbonate | 1317-65-3 | OSHA PEL: 15 mg/m ³ (total) 5 mg/m ³ (respirable) ACGIH TLV: 10 mg/m ³ |
| Magnesium Oxide | 1309-48-4 | OSHA PEL: 15 mg/m ³ ACGIH TLV: 10 mg/m ³ |
| Carbon | N/A | OSHA PEL: 15 mg/m ³ (total) 5 mg/m ³ (respirable) ACGIH TLV: 10 mg/m ³ |
| Crystalline Silica | 14808-60-7 | OSHA PEL: 0.050 mg/m ³ as an 8 hr. TWA (respirable) ACGIH TLV: 0.025 mg/m ³ (respirable) |

Appropriate Engineering Controls: Provide ventilation adequate to maintain PELs.

Personal Protection

Respiratory Protection: Use NIOSH approved respirators if airborne concentration exceeds PEL.

Eye Protection: Use safety glasses with side shields or safety goggles. Contact lenses should not be worn when working with lime products.

Skin Protection: Use appropriate gloves to prevent skin contact. Clothing should fully cover arms and legs.

Other: Eye wash fountain and emergency showers are recommended.

| | |
|-----------|----------------------------------|
| SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES |
|-----------|----------------------------------|

Appearance

| | |
|-----------------|------------------------|
| Physical State: | Solid |
| Color: | White or grayish-white |
| Odor: | Odorless |
| Odor Threshold: | N/ A |
| pH: | 12.44 @ 25° C |



Melting Point: 4658° F, 2570° C
Initial Boiling Point: 5162° F, 2850° C
Freezing Point: N/ A
Flash Point: N/ A
Evaporation Rate: N/ A
Flammability (solid, gas): Non-flammable
Explosion Limits: N/ A
Vapor Pressure: N/ A
Vapor Density: N/ A
Relative Density: 1.6 – 2.8 g/ cm³ (apparent)
Solubility(ies): Reacts with water to produce Ca(OH)₂ with large amounts of heat.
Solubility is 1.1 g/L at 25° C
Partition coefficient: Relatively insoluble
Auto-ignition Temperature: N/ A
Decomposition Temperature: N/ A
Viscosity: N/A

| | |
|-------------------|---------------------------------|
| SECTION 10 | STABILITY AND REACTIVITY |
|-------------------|---------------------------------|

Reactivity: LadlePro-M reacts vigorously with water to form calcium hydroxide, generating heat. See also Incompatibility below.

Chemical Stability: LadlePro-M is chemically stable.

Possibility of Hazardous Reactions: See reactivity above

Conditions to Avoid: Do not allow LadlePro-M to come into contact with incompatible materials.



LadlePro-M – February 2, 2018

Incompatible Materials: LadlePro-M should not be mixed or stored with the following materials, due to the potential for violent reaction and release of heat:

- Water and acids (unless in a controlled process)
- Reactive Fluoridated Compounds
- Reactive Brominated Compounds
- Reactive Powdered Metals
- Organic Acid Anhydrides
- Nitro-Organic Compounds
- Reactive Phosphorous Compounds
- Interhalogenated Compounds

Hazardous Decomposition Products: None

| | |
|-------------------|----------------------------------|
| SECTION 11 | TOXICOLOGICAL INFORMATION |
|-------------------|----------------------------------|

Health Effects: see First Aid discussion in Section 4

Routes of Exposure: see First Aid discussion in Section 4

Symptoms Related to Exposure: see First Aid discussion in Section 4

Carcinogen Listing: LadlePro-M is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product contains crystalline silica, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled.

| | |
|-------------------|-------------------------------|
| SECTION 12 | ECOLOGICAL INFORMATION |
|-------------------|-------------------------------|

Ecotoxicity: Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems in high concentrations.

Persistence and Degradability: Reacts with atmospheric CO₂ over time to form calcium carbonate

Bioaccumulation Potential: This material shows no bioaccumulation effect or food chain concentration toxicity.

Mobility in Soil: Minimal mobility in soil. Reacts with clay portion of soil to form calcium silicates and calcium aluminates

Other Adverse Effects: This material is alkaline and if released into water or moist soil will cause an increase in pH



| | |
|------------|-------------------------|
| SECTION 13 | DISPOSAL CONSIDERATIONS |
|------------|-------------------------|

Disposal Recommendations: Dispose of in accordance with all applicable federal, state, and local environmental regulations.

Regulatory Disposal Information: If this product as supplied, and unmixed, becomes a waste, it will not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act.

| | |
|------------|-----------------------|
| SECTION 14 | TRANSPORT INFORMATION |
|------------|-----------------------|

UN Number: UN1910

UN Proper Shipping Name: Calcium Oxide Mixture

Transport Hazard Class(es): When transported by air only: Hazard Class 8 - Corrosive

Packing Group: When transported by air only: Packing Group III

Marine Pollutant (y/n): This material is alkaline and if released into water or moist soil will cause an increase in pH.

Special Precautions: When being transported by air, LadlePro-M is classified in the Department of Transportation (DOT) regulations as a hazardous material (49 CFR 172.101). For aircraft transport only, the Calcium Oxide component is classified as Hazard Class 8-Corrosive, UN1910, Packing Group III. For passenger aircraft, the maximum net quantity allowed per container is 25 kg. For cargo aircraft, the maximum net quantity allowed per container is 100 kg. For quantities greater than 25 kg up to and including 100 kg, the container shall be labeled with CARGO AIRCRAFT ONLY.) Because express carriers (i.e., Federal Express, Airborne Express, and United Parcel Service) ship by air, LadlePro-M presented to these carriers for shipment must be packaged, marked, and labeled in accordance with IATA requirements, and must be accompanied by the appropriate shipping documentation. Only personnel trained and certified under applicable DOT Hazardous Materials Regulations (contained in Title 49 of the Code of Federal Regulations) may prepare any LadlePro-M product for air transport. LadlePro-M is not classified as a hazardous material by DOT when transported by means other than by air.

| | |
|------------|------------------------|
| SECTION 15 | REGULATORY INFORMATION |
|------------|------------------------|

National Chemical Inventory Listings:

All chemical ingredients are listed on the USEPA TSCA Inventory List.

US Regulations:

RCRA Hazardous Waste Number: not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261): not classified

CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001;

CWA, Sec. 311 (b) (4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ) not listed.

SARA 311/312 Codes: not listed.



LadlePro-M – February 2, 2018

SARA Toxic Chemical (40 CFR 372.65): not listed.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ): not listed

Specific State Regulations: ⚠ WARNING: This product can expose you to chemicals, including crystalline silica, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov

These naturally occurring impurities may also be regulated by other States.

Canadian DSL: Listed

Canadian NPRI: None of the components are listed

CEPA Toxic Substances: None of the components are listed

| SECTION 16 | OTHER INFORMATION |
|------------|-------------------|
|------------|-------------------|

Prepared By: Lhoist North America Technical Services

Date Prepared: February 6, 2018

Revision: 2018-1

Abbreviations:

| | |
|-------|---|
| N/A | Not Available or Not Applicable |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| | ACGIH American Conference of Governmental |
| ACGIH | Industrial Hygienists |
| TWA | Time Weighted Average |
| PEL | Permissible Exposure Limit |
| TLV | Threshold Limit Value |
| REL | Recommended Exposure Limit |

Lhoist North America provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person. Individuals receiving this information must consult their own technical and legal advisors and/or exercise their own judgment in determining its appropriateness for a particular purpose. Lhoist North America makes no representations or warranties, either express or implied, including without limitation and warranties of merchantability or fitness for a particular purpose with respect to the Information set forth herein or the product(s) to which the information refers. Accordingly, Lhoist North America will not be responsible or liable for any claims, losses or damages resulting from the use of or reliance upon or failure to use this information.