

## SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Product Identification

Product Name: ALL CAST 25# INVESTMNT & BINDER and ALL CAST 50# INVESTMNT & BINDER  
Product Number: 2654998, 2654999  
Chemical Name: Hydrogen Chloride  
Chemical Family: Weak acid solution  
CAS Number: Blend

#### Company Identification

#### Supplier Information

Paul H. Gesswein & Co., Inc.  
201 Hancock Ave., Bridgeport, CT 06605  
Phone: 203-366-5400, FAX: 203-366-3953  
email: info@gesswein.com, [www.gesswein.com](http://www.gesswein.com)

Emergency phone number: CHEMTELL - 800-255-3924

### 2. HAZARDS IDENTIFICATION

#### **EMERGENCY OVERVIEW:**

WARNING: May cause eye, skin and respiratory tract irritation. Harmful if swallowed. May cause abdominal pain, nausea, vomiting and diarrhea.

#### **GHS Classification:**

Serious Eye Damage/Eye Irritation - Category 1  
Skin Corrosion/Irritation - Category 1

#### **GHS Hazard Symbols:**

Corrosive, Irritant



#### **EYE:**

Liquid or vapors may cause severe irritation with redness, burning and tearing. Prolonged exposure may cause conjunctivitis or corneal damage.

#### **SKIN:**

Liquid or mists may cause irritation with redness and burning of the skin.

#### **INHALATION:**



Can cause damage to the nasal and respiratory passage.

**INGESTION:**

Ingestion may cause irritation or burns of the mucous membranes, esophagus and stomach. May cause collapse of the circulatory system.

**CHRONIC EFFECTS:**

Prolonged overexposure may cause dermatitis and erosion of the teeth.

**REPRODUCTIVE HAZARDS:**

None.

**CARCINOGENICITY INFORMATION:**

None of the components are listed as carcinogens by OSHA, IARC, NTP, ACGIH, or the EU Directives.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:**

Individuals with pre-existing eye, skin or respiratory disease may be at increased risk from exposure.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**COMPONENT LISTING:**

Chemical Name	Amount	CAS Number
HYDROCHLORIC ACID	14.0 %	7647-01-0

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

As defined under Sara 311 and 312, this product contains materials that are acute hazards.

### 4. FIRST AID MEASURES

**EYE CONTACT FIRST AID:**

Immediately flush eyes with plenty of water for at least 15 minutes, holding the eyelids apart. Get immediate medical attention.

**SKIN CONTACT FIRST AID:**

Immediately flush skin with plenty of water for at least 15 minutes. Contaminated clothing should be discarded in a manner which limits further exposure. Get medical attention if irritation persists.

**INHALATION FIRST AID:**

Remove to fresh air. If breathing is difficult have qualified personnel give oxygen. If not breathing, give artificial respiration. Get immediate medical attention.

**INGESTION FIRST AID:**

Do not induce vomiting. If conscious, give 8 ounces of water to dilute. Never give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

### 5. FIRE FIGHTING MEASURES



**FLAMMABLE PROPERTIES**

COC Flash Point: N/A  
Autoignition Temperature: N/A

**FLAMMABLE LIMITS IN AIR**

LEL: N/A  
UEL: N/A

**EXTINGUISHING MEDIA:**

Non-flammable.

**FIRE & EXPLOSION HAZARDS:**

Acids react with most metals to release hydrogen gas which can form explosive mixtures with air.

**FIRE FIGHTING INSTRUCTIONS:**

Firefighters should wear full emergency equipment and an approved positive pressure self-contained breathing apparatus in fires involving chemicals.

**COMBUSTION PRODUCTS:**

Hydrogen chloride vapors, chlorine gas, and hydrogen gas.

## 6. ACCIDENTAL RELEASE MEASURES

**LARGE SPILLS PROCEDURE:**

Stop spill at source. Dike to prevent spreading. Pump to salvage tank.

Wear respirator and protective clothing as appropriate. Shut off source of leak. Dike & contain. Allow residue to cool and remove as solid.

**SMALL SPILLS PROCEDURE:**

Neutralize with alkaline material such as soda ash or lime then collect using an inert absorbent material and place in appropriate containers for disposal. Do not use combustible material such as sawdust.

Treat or dispose of waste material in accordance with all local, state/provincial and national requirements.

## 7. HANDLING AND STORAGE

**HANDLING (PERSONNEL):**

Avoid contact with skin and eyes.

**HANDLING (PHYSICAL ASPECTS):**

Keep in a cool place. Never add water to acids. Add acid to water. Addition to water releases heat which can result in violent boiling and spattering. Always add slowly and in small amounts. Never use hot water.

**STORAGE PRECAUTIONS:**

Store in a dry well ventilated area away from heat and incompatible materials. Protect from physical damage.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION



**EYE / FACE PROTECTION REQUIREMENTS:**

Use splash goggles.

**SKIN PROTECTION REQUIREMENTS:**

Wear neoprene, polyvinyl chloride gloves.

**RESPIRATORY PROTECTION REQUIREMENTS:**

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection with acid cartridges. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.

**MISCELLANEOUS:**

Use local/general ventilation.

**EXPOSURE GUIDELINES:****HYDROCHLORIC ACID**

OSHA PEL: 5 ppm, 7 mg/m<sup>3</sup>

OSHA TWA: 5 ppm, 7 mg/m<sup>3</sup>

OSHA Ceiling Limit: 5 ppm, 7 mg/m<sup>3</sup>

Skin Designation: Yes

## 9. PHYSICAL AND CHEMICAL PROPERTIES

FORM:	Solution
COLOR:	Clear
ODOR:	No odor
BOILING POINT:	220 F
VAPOR PRESSURE:	25 mm Hg
VAPOR DENSITY:	1.2 (Air = 1)
SOLUBILITY IN WATER:	Miscible
SPECIFIC GRAVITY:	1.18 (Water = 1)
% VOLATILES:	100 %
EVAPORATION RATE:	1

## 10. STABILITY AND REACTIVITY

**STABILITY:**

Stable.

**POLYMERIZATION:**

Product will not undergo polymerization.

**INCOMPATIBILITY WITH OTHER MATERIALS:**

Avoid contact with alkalis and alkali metals.

**DECOMPOSITION:**

Decomposition will not occur.

## 11. TOXICOLOGICAL INFORMATION



**EYE EFFECTS:**

Liquid or vapors may cause severe irritation with redness, burning and tearing. Prolonged exposure may cause conjunctivitis or corneal damage.

**SKIN EFFECTS:**

Liquid or mists may cause irritation with redness and burning of the skin.

**HYDROCHLORIC ACID**

Test Code: Oral LD50

Species: Rabbits

Results: 900 mg/kg, toxic effects not yet reviewed.

Test Code: TCLO

Description: Inhalation

Species: Rat

Results: 450 mg/m<sup>3</sup>/hr (1 day prior to pregnancy) produced fetotoxicity (except death) and specific developmental abnormalities.

Test Code: Eye

Species: Rabbit

Results: 100 mg rinse caused irritation.

## 12. ECOLOGICAL INFORMATION

**HYDROCHLORIC ACID**

Test Code: LC50

Species: Fathead Minnow

Results: 193 mg/L/96 hr

## 13. DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL:**

Dispose of waste material in accordance with all local, state/provincial, and national requirements.

## 14. TRANSPORT INFORMATION

PRODUCT LABEL:	Good Earth-Solution A
D.O.T. SHIPPING NAME:	Hydrochloric acid less than 51 %
TECHNICAL SHIPPING NAME:	N/A
D.O.T. HAZARD CLASS:	8, PG III
UN NUMBER:	N/A

## 15. REGULATORY INFORMATION

**REGULATORY LISTS SEARCHED:**

01 = SARA 313

03 = SARA 302/304

02 = CA Proposition 65

04 = CERCLA 302.4



05 = ACGIH TWA  
07 = ACGIH CALC TLV  
09 = CANADIAN WHMIS

06 = ACGIH STEL  
08 = OSHA PEL  
10 = OSHA Ceiling

**EEC Symbols and Indications of Danger:**  
Harmful (Xn), Irritant (Xi), Corrosive (C)



**R-Phrases:**

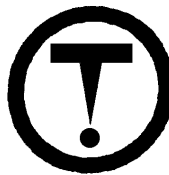
R36/38 - Irritating to eyes and skin.  
R37 - Irritating to respiratory system.  
R20 - Harmful by inhalation.  
R34 - Causes burns.

**S-Phrases:**

S3/9 - Keep in a cool, well-ventilated place.  
S3/7 - Keep container tightly closed in a cool place.

**WHMIS Hazard Symbols:**

Class D2 - Materials Causing Other Toxic Effects



**Canadian Disclosure List**

HYDROCHLORIC ACID (7647-01-0)

**SARA Title III - Section 313**

HYDROCHLORIC ACID (7647-01-0)

**CERCLA Hazardous Substances**

HYDROCHLORIC ACID (7647-01-0) -- RQ 5000 lb

**Clean Air Act - Section 112**

HYDROCHLORIC ACID (7647-01-0)

**Title V**

HYDROCHLORIC ACID (7647-01-0)

**SC Toxic Air Pollutants List**

HYDROCHLORIC ACID (7647-01-0)

**16. OTHER INFORMATION**



REASON FOR ISSUE: Add current date to MSDS

APPROVAL DATE: March 20, 2015  
SUPERCEDES DATE: February 24, 2015

**HMIS Rating:**

Health - 2  
Flammability - 0  
Reactivity - 0

**ABBREVIATIONS USED IN THIS MSDS:**

TLV - THRESHOLD LIMIT VALUE	TWA - Time Weighted Average
STEL - SHORT TERM EXPOSURE LIMIT	TPQ - Threshold Planning Quantity
RQ - REPORTABLE QUANTITY	PEL - Permissible Exposure Limit
C - CEILING LIMIT	CAS - Chemical Abstract Service Number
NDA - NO DATA AVAILABLE	N/A - Not Applicable or Not Available

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**END OF SAFETY DATA SHEET**

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## SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Product Identification

Product Name: Good Earth - Binder  
Product Number: 805003B  
Chemical Name: Ethyl Silicate/Ethyl Alcohol  
Chemical Family: Silica Binder  
CAS Number: Blend

#### Company Identification

Nobilium, Div. of CMP Industries LLC  
413 North Pearl St  
Albany, NY 12207-1311 USA  
(518)-434-3147 (For product information)  
(800)-424-9300 (For emergencies)  
1-800-424-9300 or 1-202-483-7616 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### **EMERGENCY OVERVIEW:**

**WARNING:** Flammable Liquid and Vapor. May cause eye and skin irritation. Harmful if absorbed through the skin. Inhalation of vapors and mist may cause respiratory irritation and central nervous system effects. Prolonged and/or repeated overexposure may cause visual, kidney and liver damage.

#### **GHS Classification:**

Flammable liquids-Category 3  
Skin Corrosion/Irritation - Category 1  
Serious Eye Damage/Eye Irritation - Category 1

#### **GHS Hazard Symbols:**

Flammable, Irritant, Health Hazard



#### **EYE:**

Contact may cause irritation with redness, tearing and stinging. May cause temporary corneal injury.

#### **SKIN:**

Repeated or prolonged contact may cause irritation, drying, defating of the skin and dermatitis. The liquid may be absorbed through the skin causing effects similar to those described under inhalation and ingestion.





**INHALATION:**

Inhalation of vapors may cause mucous membrane and respiratory irritation and central nervous system depression. High vapor concentrations may cause burning sensation of the nose and throat and watering of the eyes. severe overexposure may cause respiration depression, blurred vision, blindness, liver and kidney damage, coma and death.

**INGESTION:**

Ingestion may cause mucous membrane and gastrointestinal irritation, visual disturbances and nervous system depression.

**SIGNS AND SYMPTOMS OF EXPOSURE:**

Headaches, nausea, staggering gait, confusion, drowsiness and unconsciousness.

**CHRONIC EFFECTS:**

Repeated eye contact may cause moderate irritation. Repeated skin contact may cause moderate irritation with redness and swelling. Prolonged overexposure to colloidal silica dust may cause lung damage.

**REPRODUCTIVE HAZARDS:**

None.

**CARCINOGENICITY INFORMATION:**

None of the components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH, or the EU Directives.

**MEDICAL CONDITIONS AGRAVATED BY EXPOSURE:**

Individuals with pre-existing skin, respiratory, liver and kidney disease may be at increased risk from exposure.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**COMPONENT LISTING:**

Chemical Name	Amount	CAS Number
ETHYL ALCOHOL	35.0 - 40.0 %	64-17-5
TETRAETHYL SILICATE	55.0 - 60.0 %	78-10-4
ETHYL POLYSILICATE	< 5.0 %	11099-06-2

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

As defined under Sara 311 and 312, this product contains materials that are acute, chronic, fire hazards.

### 4. FIRST AID MEASURES

**EYE CONTACT FIRST AID:**

Immediately flush eyes with plenty of water for at least 15 minutes, holding the eyelids apart. Get medical attention if irritation persists.

**SKIN CONTACT FIRST AID:**

Remove contaminated clothing. Immediately wash skin thoroughly with soap and water. If rash, irritation or symptoms develop, get medical attention. Launder clothing before re-use. (Discard contaminated shoes).

**INHALATION FIRST AID:**


Remove to fresh air. If breathing is difficult, have qualified personnel give oxygen. If not breathing, give artificial respiration. Get medical attention.

**INGESTION FIRST AID:**

Get immediate medical attention. Immediately call poison control center or go to a hospital emergency room. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious or convulsing person.

## 5. FIRE FIGHTING MEASURES

**FLAMMABLE PROPERTIES**

TCC Flash Point: 16.7 C (62.1 F)

Autoignition Temperature: N/A

**FLAMMABLE LIMITS IN AIR**

LEL: 3.3 %

UEL: 19 %

**EXTINGUISHING MEDIA:**

Use carbon dioxide, alcohol foam or dry chemical. Use water to cool exposed containers and structures and disperse flammable vapors.

**FIRE & EXPLOSION HAZARDS:**

This product is flammable and forms explosive mixtures with air. Vapors are heavier than air and will travel along surfaces to remote ignition sources and flash back.

Closed containers may explode if exposed to extreme heat.

**FIRE FIGHTING INSTRUCTIONS:**

As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH (approved or equivalent) and full protective gear.

Do not allow run-off from fire fighting to enter drains or water courses.

**COMBUSTION PRODUCTS:**

Carbon monoxide and carbon dioxide.

## 6. ACCIDENTAL RELEASE MEASURES

**SAFEGUARDS (PERSONNEL):**

Evacuate spill area and keep unprotected personnel away. Remove all sources of ignition. Ventilate area with explosion proof equipment. Wear appropriate protective clothing as described in Section 8.

**LARGE SPILLS PROCEDURE:**

Dike spill with clay or suitable absorbent material. Place in appropriate approved container. Use non-sparking tools and equipment. If spill has not ignited, use water spray to disperse the vapors and protect personnel attempting to stop leak.

Do not flush to sewer! Report releases as required by local, state and federal authorities.

**SMALL SPILLS PROCEDURE:**



Same as large spill.

## 7. HANDLING AND STORAGE

### **HANDLING (PERSONNEL):**

Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Wear protective clothing and equipment as described in Section 8. Use only with adequate ventilation. Wash thoroughly with soap and water after handling.

### **HANDLING (PHYSICAL ASPECTS):**

Store in accordance with regulations for the storage of flammable liquids. Store in a dry, well ventilated area. Store away from oxidizers and other incompatible materials.

### **STORAGE PRECAUTIONS:**

Store away from heat, flame or other ignition sources. Keep container tightly capped and treat empty containers as if they are full.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### **ENGINEERING CONTROLS:**

Use with adequate local exhaust ventilation to maintain exposure below the occupational exposure limits. Use explosion proof equipment where required.

### **EYE / FACE PROTECTION REQUIREMENTS:**

Chemical safety glasses or chemical splash goggles.

### **SKIN PROTECTION REQUIREMENTS:**

Wear impervious gloves such as neoprene gloves.

### **RESPIRATORY PROTECTION REQUIREMENTS:**

None should be needed for normal use. If the exposure limits are exceeded a NIOSH approved organic vapor respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.

### **MISCELLANEOUS:**

Clothing with long sleeves may be needed when working with large quantities.

### **EXPOSURE GUIDELINES:**

#### **ETHYL ALCOHOL**

OSHA PEL: 1000 ppm

OSHA TWA: 1000 ppm

#### **TETRAETHYL SILICATE**

OSHA PEL: 100 ppm

OSHA TWA: 10 ppm

## 9. PHYSICAL AND CHEMICAL PROPERTIES

FORM:	Liquid
COLOR:	Colorless
ODOR:	Alcohol



BOILING POINT:	252 F @ 760 mm Hg
VAPOR PRESSURE:	2 mm Hg @ 68 F
VAPOR DENSITY:	> .2 (Air = 1)
SOLUBILITY IN WATER:	Decompose
SPECIFIC GRAVITY:	.945 (Water = 1)
EVAPORATION RATE:	B Acetate < 1

## 10. STABILITY AND REACTIVITY

### STABILITY:

Stable.

### POLYMERIZATION:

Product will not undergo polymerization.

### INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with alkalis.

### DECOMPOSITION:

May form carbon dioxide and carbon monoxide.

### CONDITIONS TO AVOID:

Heat, sparks and open flame.

## 11. TOXICOLOGICAL INFORMATION

### ETHYL ALCOHOL

Test Code: LD<sub>50</sub>

Description: Oral

Species: Human

Results: 1400 mg/kg caused sleep, headache, nausea and vomiting.

Test Code: Oral TD<sub>01</sub>

Species: Woman

Results: 256 g/kg/12 week caused hallucinations and distorted perceptions and effected the menstrual cycle.

Test Code: Oral TD<sub>01</sub>

Species: Woman

Results: 41 g/kg (41 weeks pregnant) produced effects on the new born ( Apgar score; other mental effects, drug dependence).

Test Code: Lymphocyte Study

Description: DNA Inhibition

Species: Human

Results: 220 millimoles/L

Test Code: LC<sub>50</sub>

Description: Inhalation

Species: Rat

Results: 20,000 ppm/10 hr, toxic effects not yet reviewed.



Test Code: Eye  
Species: Rabbit  
Results: 100 mg/24 hr caused moderate irritation.

**TETRAETHYL SILICATE**

Test Code: Oral LD50  
Species: Rat  
Results: 6270 mg/kg

**ETHYL SILICATE, CONDENSED**

Test Code: LC50  
Description: Inhalation  
Species: Rat  
Results: 1000 ppm administered for 4 hr.

Test Code: Eye  
Species: Human  
Results: 3000 ppm

**12. ECOLOGICAL INFORMATION**

**ENVIRONMENTAL HAZARDS:**

Do not discharge into sewer or waterways.

**ETHYL ALCOHOL**

Description: 96 hr/LC50  
Species: Fish  
Results: >100 mg/l

**13. DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL:**

Dispose of waste material in accordance with all local, state/provincial, and national requirements.

**14. TRANSPORT INFORMATION**

PRODUCT LABEL:	Good Earth - Binder
D.O.T. SHIPPING NAME:	Ethyl Silicate/Ethyl Alcohol
TECHNICAL SHIPPING NAME:	N/A
D.O.T. HAZARD CLASS:	3, PG II
UN NUMBER:	1170
PACKAGE CLASS:	Packaging Group II

**15. REGULATORY INFORMATION**

**REGULATORY LISTS SEARCHED:**

01 = SARA 313

02 = CA Proposition 65



03 = SARA 302/304  
05 = ACGIH TWA  
07 = ACGIH CALC TLV  
09 = CANADIAN WHMIS

04 = CERCLA 302.4  
06 = ACGIH STEL  
08 = OSHA PEL  
10 = OSHA Ceiling

**EEC Symbols and Indications of Danger:**

Highly Flammable (F), Harmful (Xn), Irritant (Xi)



**R-Phrases:**

R20/21/22 - Harmful by inhalation, in contact with skin, and if swallowed.

R36/37 - Irritating to eyes and respiratory system.

R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

**S-Phrases:**

S9 - Keep container in a well-ventilated place.

S16 - Keep away from sources of ignition. No smoking.

S25 - Avoid contact with eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

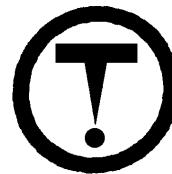
S36/37 - Wear suitable protective clothing and gloves.

S51 - Use only in well-ventilated areas.

S60 - This material and its container must be disposed of as hazardous waste.

**WHMIS Hazard Symbols:**

Class B - Flammable and Combustible Material, Class D2 - Materials Causing Other Toxic Effects



**Canadian Disclosure List**

ETHYL ALCOHOL (64-17-5)

TETRAETHYL SILICATE (78-10-4)

**RCRA Hazardous Substances**

ALL CAST 25#/50# INVESTMNT & BINDER (BLEND) --

## 16. OTHER INFORMATION

APPROVAL DATE: March 23, 2015  
SUPERCEDES DATE: November 1, 2013



**HMIS Rating:**

Health - 2  
Flammability - 3  
Reactivity - 0

**ABBREVIATIONS USED IN THIS MSDS:**

TLV - THRESHOLD LIMIT VALUE	TWA - Time Weighted Average
STEL - SHORT TERM EXPOSURE LIMIT	TPQ - Threshold Planning Quantity
RQ - REPORTABLE QUANTITY	PEL - Permissible Exposure Limit
C - CEILING LIMIT	CAS - Chemical Abstract Service Number
NDA - NO DATA AVAILABLE	N/A - Not Applicable or Not Available

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**END OF SAFETY DATA SHEET**

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