LithTec™
Lithified Technologies
Safety Data Sheet

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1. Product and Company Identification

1.1 Product identifiers

Product Name	LithTec™
Producer	Lithified Technologies
Product Number	n/a
CAS-No.	

1.2 Identified uses of the product and uses advised against

Identified Uses	Accelerated Lithification

1.3 Details of the chemical supplier

Company	Lithified Technologies
Address	218 Camino La Tierra Santa Fe, NM 87506 United States
Telephone:	505-699-2930

1.4 Emergency phone number

Emergency phone number	(505)-982-7444

2. Hazards Identification

2.1 Classification of the substance or mixture

GHS Class
- Skin corrosion/irritation, Category 1
- Skin sensitization, Category 1
- Serious eye damage/Eye Irritation, Category 1
- Carcinogenicity/Inhalation, Category 1A
- Specific Target Organ Toxicity (Single Exposure), Category 3

Classification according to Regulation (EC) No 1272/2008

Based on present data no classification and labeling is required according to Directive 1272/2008/EC and its amendments (CLP Regulation, GHS).

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

According to present data no classification and labeling is required according to Directives 67/548/EEC or 1999/45/EC.

2.2 GHS Label elements, including precautionary statements

GHS Pictograms

Signal word	Danger
Hazard statements	H314 – Causes severe skin burns and eye damage H317 – May cause and allergic skin reaction H335 – May cause respiratory irritation H350 – May cause cancer
Precautionary statements	P261 – Avoid breathing dust, fume, misty, spray, vapors. P264 – Wash exposed body parts thoroughly after handling. P271 – Use only outdoors or in a well ventilated area

NFPA Ratings

LithTec™/LithTec4Roads™

P272 – Contaminated work clothing must not be allowed out of the workplace.

P280 – Wear eye protection, protective clothing, protective gloves

P301 + P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical attention if you feel unwell.

P303 + P361 + P353 + P314 – IF ON SKIN: Take off immediately all contaminate clothing. Rinse skin with water/shower. Get medical attention if you feel unwell.

P305 + P351 + P338 + P314 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Get medical attention if you feel unwell.

P403 – Store in a well-ventilated place.

P405 – Store locked up.

P501 – Dispose of contents/container in accordance with local/regional/national regulations.

Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as silo, bulk truck, or other storage container or veseel that stores or contains cement without an effective procedure for assuring safety.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - None

3. Composition/Information on Ingredients

3.1 Product mixture

Synonyms	Cementous Material
Formula	n/a
Molecular wt	n/a
CAS-No.	n/a
EC-No.	n/a

Chemical Name	CAS-No.	Ingredient Percent
Cementous Material	65997-15-1	50-70%
Proprietary Mixture	None	30-50%

Remarks: There are no additional hazardous ingredients greater than or equal to 1.0 wt% concentration or carcinogenic ingredients greater than or equal to 0.1 wt% concentration.

4. First Aid Measures

4.1 Description of first aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Skin contact	Remove/Take off immediately all contaminated clothing. Wash with plenty of non-abrasive pH natural soap and gently flowing water. Take victim immediately to hospital. Consult a physician. Product causes skin burns with little warning. Discomfort and pain cannot be relied upon to alert a person to a serious injury.
Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the lower and upper eyelids. Check for and remove any contact lenses. Continue rinsing for at least 20 minutes. Get medial attention immediately. Chemical burns must be treated promptly by a physician.
Inhalation	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of product requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Ingestion	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects: Causes serious eye damage.

May cause respiratory irritation

Causes severe burns. May cause an allergic skin reaction.

May cause burns to mouth, throat and stomach

4.3 Indication of any immediate medical attention and special treatment needed

Other first aid: Seek immediate medical attention for inhalation of large quantities of dust. Seek immediate attention if material comes into contact with eyes and cannot be immediately removed.

5. Fire Fighting Measures

5.1 Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Special hazards: Violent reactions with maleic anhydride, nitro ethane, nitro methane, nitroparaffins, nitro propane and phosphorus.

5.3 Advice for firefighters

Protective equipment: Wear full protective clothing and self-contained breathing apparatus with full facepiece operated in the pressure-demand or other positive pressure mode.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment, and emergency procedures

Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Wear respirator when ventilation is inadequate. Evacuate personnel to safe areas. For personal protection, see section 8.

6.2 Environmental precautions

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with waterways, drains and sewers. Inform the relevant authorities if reportable thresholds have entered the environment, including waterways or air. Materials can enter waterways through drainage systems.

6.3 Methods and materials for containment and cleaning up

Methods for cleanup: Small Spill: Move container from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with HEPA filter and place in a closed, labeled waste container. Dispose of material by using a licensed waste disposal contractor. Wear appropriate personal protective equipment.

Large Spill: Move container from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements and confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with HEPA filter and place in a closed, labeled waste container. Dispose of material by using a licensed waste disposal contractor. Large spills to waterways may be hazardous due to alkalinity of the product. Wear appropriate personal protective equipment

6.4 References to other sections

Other references: For disposal see section 13.

7. Handling and Storage

7.1 General hygiene considerations

General hygiene: Wash hands after use. Avoid contact with skin and eyes. Avoid inhalation of vapor or dust. In case of large quantities of vapor or mist, use local exhaust or general dilution ventilation to control exposure and dust within applicable limits. Launder/clean clothing and shoes before reuse. For precautions see section 2.2.

7.2 Precautions for safe handling

Safe handling precautions: Put on appropriate PPE (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not allow wet, saturated clothing to remain against skin as product can react with water to produce calcium hydroxide which can cause severe burns. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material and keep the container tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.3 Conditions for safe storage, including any incompatibilities

Other storage conditions	Do not enter a confined space that stores or contains product unless appropriate procedures and protection are available. Product can build up or adhere to the walls of a confined space and then release or fall suddenly causing engulfment. Store in well-ventilated areas away from incompatible materials. If stored in containers, keep containers closed when not in use.

8. Exposure Controls/Personal Protection

8.1 Control and exposure limits recommended by the chemical manufacturer

Calcium Oxide (CaO)	Cal/OSHA PEL (United States, 2018) 2 mg/m3 8 hour TWA (total)
	ACGIH TLV (United States, 2018) 2 mg/m3 8 hour TWA (total)
	NIOSH REL (United States, 2016) 2 mg/m3 10 hour TWA (total)
Quartz (Crystalline Silica)	Cal/OSHA PEL (United States, 2018) 0.05 mg/m3 8 hour TWA (total dust)
	ACGIH TLV (United States, 2018) 0.025 mg/m3 8 hour TWA (respirable fraction)
	NIOSH REL (United States, 2016) 0.05 mg/m3 10 hour TWA (total dust)
Portland Cement	Cal/OSHA PEL (United States, 2018) 5 mg/m3 8 hour TWA (Respirable)
	15 mg/m3 8 hour TWA (Total)
	ACGIH TLV (United States, 2018) 1 mg/m3 8 hour TWA (total)
	NIOSH REL (United States, 2016) 5 mg/m3 8 hour TWA (Respirable)
	10 mg/m3 8 hour TWA (Total)

8.2 Appropriate engineering controls

Engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of day. Use adequate ventilation where dust forms to keep concentration under exposure control limits. Keep away from high temperatures and sources of ignition.

8.3 Individual protection measures, such as personal protective equipment

Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Eye/face protection	Safety glasses with side-shields conforming to EN166 are recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Hand protection	Handle with chemical resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body protection	Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Cement like material
b)	Odor	No data available
c)	Odor threshold	No data available
d)	pH	No data available
e)	Melting/freezing point	No data available
f)	Boiling point	Not applicable
g)	Flash point	Not applicable
h)	Evaporation rate	Not applicable
i)	Flammability (solid, gas)	Not flammable
j)	Upper/lower flammability or explosive limits	Upper (UEL): No data available Lower (LEL): No data available
k)	Vapor pressure	0.00
l)	Vapor density	Not applicable
m)	Relative density	No data available
n)	Water solubility	Not soluble
o)	Partition coefficient octanol/water	No data available
p)	Auto-ignition temp	No data available

q)	Decomposition temp	No data available
r)	Viscosity	No data available

10. Stability and Reactivity

10.1 Reactivity

Reactivity	Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.

10.2 Chemical stability

Chemical stability	Stable under ordinary conditions of use and storage.

10.3 Possibility of hazardous reactions

Hazardous reactions	Hazardous reactions will not occur under ordinary conditions of use and storage

10.4 Conditions to avoid

Conditions to avoid	No data available

10.5 Incompatible materials

Incompatible materials	Oxidizers, acids, aluminum and ammonium salt.

10.6 Hazardous decomposition products

Hazardous products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products formed under fire conditions. – Carbon oxides, calcium oxide, silicon oxides. In the event of fire, see section 5.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	No data available
Acute intravenous toxicity	No data available
Acute dermal toxicity	No data available
Acute inhalation toxicity	No data available

Skin corrosion/irritation

Skin corrosion irritation	May cause skin irritation. May cause serious burns in the presence of moisture.

Serious eye damage/eye irritation

Eye damage/eye irritation	Causes serious eye damage. May cause burns in the presence of moisture.

Respiratory or skin sensitization

Respiratory sensitizer	May cause respiratory tract irritation.
Skin sensitizer	May cause sensitization.

Germ cell mutagenicity

Mutagenicity	No data available

Carcinogenicity

Carcinogenicity	Known to be a human carcinogen.

Suspected cancer agent

ACGIH	Causes damage to organs (lungs, respiratory system) through prolonged or repeated exposure (inhalation)
NTP	Causes damage to organs (lungs, respiratory system) through prolonged or repeated exposure (inhalation)
OSHA	Causes damage to organs (lungs, respiratory system) through prolonged or repeated exposure (inhalation)
IARC	Causes damage to organs (lungs, respiratory system) through prolonged or repeated exposure (inhalation)

Reproductive toxicity

Reproductive toxicity	No data available

Aspiration hazard

Aspiration hazard	No data available

12. Ecological Information

12.1 Ecotoxicity (aquatic and terrestrial)

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

12.2 Persistence and degradability

Degradability	No data available

12.3 Bioaccumulation potential

Bioaccumulation	Not expected to bioaccumulate.

12.4 Mobility in soil

Mobility in soil	No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment	Not available as chemical safety assessment not required/not conducted.

13. Disposal Considerations

13.1 Waste treatment methods

Waste treatment disposal	Disposal must be in accordance with appropriate Federal, State, and local regulations.

14. Transport Information

DOT

Not dangerous goods.

IMDG

Not dangerous goods.

IATA

Not dangerous goods.

15. Regulatory Information

15.1 Safety, health, and environmental regulations specific to the product or mixture

SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	Chromium, ion (Cr6+) CAS 8540-29-9.
SARA 311/312 Hazards	Immediate health hazard and delayed health hazard.
TSCA	Cements are considered to be statutory mixtures under TSCA. CAS 659987-15-1 is included on the TSCA inventory.
Canada DSL	All components of this product are on the Canada Domestic Substance List or are exempt from DSL requirements.
CA Prop. 65 components	Respirable crystalline silica is classified as a substance known to the state of California to be a carcinogen. Cr(VI) is classified as substances known to the state of California to cause cancer and cause reproductive toxicity.
State Regulatory Lists:	Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list or all state regulations. Therefore, the user should review the components listed in Section 2 and consult state or local authorities for specific regulations that apply.

16. Other Information

Revision Date	11 December 2019

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Lithified Technologies assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Lithified Technologies assumes no responsibility for injury to vendee or third persons proximately caused by use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

Abbreviations and acronyms	IMDG - International Maritime Code for Dangerous Goods

IATA - International Air Transport Association
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
PBT - Persistent, bioaccumulative and toxic assessment
vPvB - Very persistent and very bioaccumulative assessment
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
TLV - Threshold Limit Values
CAS - Chemical Abstracts Service (division of the American Chemical Society)
NFPA - National Fire Protection Association
HMIS - Hazardous Materials Identification System
CFR - Code of Federal Regulations
SARA - Superfund Amendments and Reauthorization Act
DOT - US Department of Transportation
EC50 - Half maximal effective concentration
LD50 - Median lethal dose
LC50 - Median lethal concentration
SDS - Safety Data Sheet
PEL - Permissible Exposure Limit
TSCA - Toxic Substances Control Act