SAFETY DATA SHEET



1. Identification

Product Identification

Product Identifier: CSS-CM

Recommended Use: Shotcrete with a reactive component.

Use Restrictions: For industrial use only. To ensure proper installation use according to package directions.

Complete application instructions can be found in Simpson Strong-Tie catalogs or online at

stronatie.com.

Company Identification

Company: Simpson Strong-Tie Company Inc. **Address:** 5956 W. Las Positas Blvd.

Pleasanton, CA 94588

Phone: 1-800-999-5099
Website: www.strongtie.com

Emergency: 1-800-535-5053 (US/Canada)

1-352-323-3500 (International)

For most current SDS, please visit our website at www.strongtie.com/sds

2. Hazard Identification

General Information

CSS-CM Cementitious Matrix is shotcrete with a reactive component. It is a single component, solid product. CSS-CM has been assessed according to the Globally Harmonized System (GHS). It can be assumed to carry its hazards until fully set. The final hardened product can be considered non-hazardous. This Safety Data Sheet covers hazards and responses for the safe use and handling of this product.

GHS Classification

Classification according to HazCom2012 (GHS)

Physical Hazards: Not Classified.

Health Hazards:Skin Corrosion/IrritationCategory 1H314: Causes sever skin burnsSerious Eye Damage/IrritationCategory 2H318: Causes serious eye damage

Sensitization, Skin

Category 1

H317: May cause an allergic skin reaction

Carcinogenicity Category 1A H350: May cause cancer STOT, Single Exposure Category 3 H335: May cause respiratory irritation

Environmental Hazards: Not classified.

Main Symptoms: Damage to the eyes and skin. Symptoms include burns, redness, itching, tearing, swelling, and blurred

vision. May cause rash/allergic reaction to the skin. May cause shortness of breath, discomfort in chest, or

coughing. Long term exposure may cause chronic effects.

GHS Label Elements



>



Exclamation Point

Chronic Health

Corrosive

Contains: Portland Cement, Ground Limestone, Silicon Dioxide

Signal Word: DANGER!

Hazard Statements: H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage. H317: May cause an allergic skin reaction.

H350: May cause cancer.

H335: May cause respiratory irritation.

Precautionary Statements:

Prevention: P102: Keep out of reach of children.

P103: Read label before use.

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P260: Do not breathe dust, fumes or vapors. P264: Wash thoroughly after handling.

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P270: Do not eat, drink, or smoke when using this product. P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P312: Call a POISON CENTER/doctor if you feel unwell.

Response: P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse

skin with water/shower.

P333+P313: If skin irritation or rash occurs: Get medical advice/attention. P362+P364: Take off contaminated clothing and wash before re-use.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention. P308+P313: If exposed or concerned: Call a poison center/doctor.

Storage: P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

Disposal: P501: Dispose of contents/container in accordance with local/regional regulations.

Supplemental Label Information: None known.

Hazards Not Otherwise Classified (HNOC)

OSHA Hazard: Combustible Dust

Hazard Statement: Can form explosive air-dust mixtures, avoid

creating dust.

Precautionary Statement:Do not allow dust to build up on surfaces.

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients are listed below. May include other nonhazardous ingredients. May include other trace ingredients, See Section 15.

List of abbreviations and symbols:

Classification: Global Harmonized System Classifications

The full text for H-phrases is displayed in section 16. All concentrations are in percent by weight unless otherwise noted.

Composition- All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	Weight %	CAS Number	EC Number
Portland Cements	25-50	65997-15-1	238-878-4
Classifications: Skin Irrit. 1: H314, Eye Corr. 1: H318, Skin Sens. 1	: H317, Carc. 1A: H35	50, STOT SE 3: H335	
Ground Limestone	25-50	1317-65-3	215-279-6
Classifications: Skin Irrit. 2: H315, Eye Corr. 1: H318			
Silicon Dioxide	25-50	60676-86-0	262-373-8
Classifications: None.			

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes

open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or

swelling persists, consult a physician immediately.

Skin Contact: Remove contaminated clothing and product; immediately wash affected area with soap and water.

Do not apply greases or ointments. If rash or irritation persists, consult a physician.

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Ingestion: Rinse mouth immediately. Do not induce vomiting unless told to do so by a poison control center or

doctor. Never give anything by mouth to an unconscious person. **Consult a physician.**

Inhalation: Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to

experience difficulty breathing, consult a physician.

Most Important Symptoms

Damage to eyes and skin. Symptoms include burns, redness, itching, tearing, swelling, and blurred vision; shortness of breath, discomfort in chest, or coughing. Rash/dermatitis. Permanent eye damage, including blindness could result.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). **Additional Information:** Can form explosive air-dust mixtures, avoid creating dust.

Hazards during Fire-Fighting: During a fire, gases hazardous to health may be formed. Do not allow run-off from fire-fighting to

enter drains or water courses.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case

of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control

or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Non-emergency personnel: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Emergency personnel: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protection.

Clean-Up Methods

Small spills: Avoid dry sweeping. Do not use compressed air to clean spilled silica sand. Use damp towel to

wipe up small spills. Dispose of in close containers.

Large spills: Avoid dry sweeping. Do not use compressed air to clean spilled silica sand. Use water

spraying/flushing or ventilated or HEPA filtered vacuum cleaning system. Dispose of in close

containers.

Set Material: Chip or grind off surface. If you are grinding or cutting cured product, ensure good work practice

and use of personal protective equipment as needed to control exposure to respirable dust. Take

precautionary measures; do not allow dust to build up.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Handling

Avoid generating dust. Mechanical ventilation or local exhaust ventilation is recommended. Use all available work practices to control dust exposure, such as water sprays. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Do not inhale dust, mist, or vapor. Use only in well-ventilated places. Avoid contact with eyes, skin, and clothing. Wear a respirator if dust concentrations exceed permissible exposure limits. Wash thoroughly after handling. Wash contaminated clothing before reuse. Do not permit dust to collect and build up on work surfaces, use good housekeeping. Avoid contact with unhardened cement products. Observe good industrial hygiene practices. To obtain optimal performance from Simpson Strong-Tie products and to achieve maximum allowable design load, the products must be properly installed and used in accordance with the installation instructions and design limits provided by Simpson Strong-Tie.

Storage

Use dust collection to trap dust produced during loading and unloading. Store in a closed container away from incompatible materials. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Protect against physical damage.

8. Exposure Controls / Personal Protection

Personal Protective Equipment



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Protective Measure: Wear appropriate personal protective equipment.

Eye Protection: Wear chemical splash goggles or safety glasses with side shield **Hand Protection:** Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.

Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact. In case of

dust production, wear dust-proof clothing. Avoid contact with unhardened cement products, if

contact occurs wash immediately with soap and water.

Respirator Protection: Use a NIOSH-approved air-purifying or supplied air respirator where airborne concentrations of

dust are expected to exceed exposure limits.

General Hygiene: Always observe good personal hygiene measures, such as washing after handling the material and

before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to

remove contaminants.

Engineering Controls

Mechanical ventilation or local exhaust ventilation is recommended. Good general ventilation should be used. Ventilation rates should be matched to conditions to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and emergency shower.

Exposure Limits

Component	OSHA	ACGIH	NIOSH
	(PEL)	(TLV)	Pocket Guide
Portland Cements	5 mg/m³ (respirable)	1 mg/m³ (respirable)	5 mg/m³ (respirable)
(CAS 65997-15-1)	15 mg/m³ (total dust)		15 mg/m³ (total dust)
Ground Limestone (CAS 1317-65-3)	15 mg/m ³	2 mg/m³	N/E
Silicon Dioxide (CAS 60676-86-0)	80 mg/m³ (TWA)	N/E	6 mg/m³ (TWA)

9. Physical and Chemical Properties

Freezing/Melting Point: Solid **Physical State:** N/A Form: **Boiling Point:** Powder N/A Color: Flash Point: N/A Gray Odor: None **Evaporation Rate:** N/A

Odor Threshold: N/A Bulk Density: 1400-1600 kg/m³

VOC: N/A 0 g/L pH: **U/L Flammability: Flammability** N/A N/A Vapor Pressure: Vapor Density: N/A N/A Solubility: Slight Kow: N/A **Decomposition:** N/A Viscosity: N/A

10. Stability and Reactivity

Reactivity: Strong bases are formed with the addition of water.

Chemical Stability:Stable and non-reactive under normal conditions of use and storage.Condition to Avoid:Conditions which generate dust. Avoid unintentional contact with water.Substances to Avoid:Strong oxidizers. Strong acids and bases. Ammonium salts. Aluminum metal.

Hazardous Reactions: The product is stable if stored and handled as prescribed/indicated. Strong bases are formed with

the addition of water.

Decomposition Products:Carbon dioxide, carbon monoxide, oxides of nitrogen, other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion:Expected to be a low ingestion hazard.Inhalation:Irritation to the respiratory tract.

Skin contact:Causes skin burns. May cause sensitization by skin contact.
Eye contact:
Causes serious eye damage. Particles can cause corneal abrasion.

Symptoms: Burns, redness, itching, tearing, swelling, and blurred vision; shortness of breath, discomfort in

chest, or coughing. Rash/dermatitis.

Information on Toxicological Effects





Acute Effects

Toxicity: Not expected to be acutely toxic.

Product		Estimate
CSS-CM Toxicity Estimate		
	Acute, Oral, LD50	> 1000 mg/kg

Skin corrosion/irritation: Causes skin burns.

Eye damage/eye irritation: Causes serious eye damage. **Respiratory sensitization:** Not a respiratory sensitizer.

Skin sensitization: May cause sensitization by skin contact. **Aspiration hazard:** Not expected to be an aspiration hazard.

Specific target organ toxicity

Single exposure: May cause respiratory irritation.

Chronic Effects

Germ cell mutagenicity: No data available.

Carcinogenicity: May cause cancer. CSS-CM contains chemicals which are considered carcinogenic in their

respirable form. Ensure good work practice and use of personal protective equipment as needed to

control exposure to dust.

Reproductive toxicity: No data available.

Specific target organ toxicity

Repeated exposure: No data available.

Carcinogen / Reproductive Toxin / Mutagen Information					
Component	% In Blend (approx.)	IARC Monographs	NTP	ACGIH	Other
Portland Cement (CAS 65997-15-1)	25-50			A4	
Silicon Dioxide (CAS 60676-86-0)	25-50	3			

IARC: 1- Carcinogenic 2- Possibly carcinogenic 3 - Not classifiable as to carcinogenicity 4 - Probably not carcinogenic

NTP: Known to be human carcinogen or Reasonably anticipated to be a human carcinogen

ACGIH - A1 - Confirmed carcinogen A2 - Suspected carcinogen A3 - Animal carcinogen A4 - Not classified A5 - Not suspected

CA65 - California Prop 65

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. This material is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Supporting Data

Persistence and degradability: No data available.

Bioaccumulative potential: No data available for this product.

Mobility in soil: No data available.

Further Information

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13. Disposal Consideration

Waste Disposal of Substance: Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways

or ditches with chemical or used container. Dispose of contents/container in accordance with

local/regional/national regulations.

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Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after

container is emptied. Empty containers should be taken to an approved waste handling site for

recycling or disposal.

Disposal of Cured Product: Chip or grind off surface. Solid material does not need special disposal consideration.

14. Transportation Information

DOT: CSS-CM is not regulated for transport.

IMDG/IATA: CSS-CM is not regulated for transport.

Additional Information

Special Precautions for Users: Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

CERCLA Hazardous Substance List (40 CFR 302.4):

Not listed.

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA):

Hazard Categ	ories:			
Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance: No SARA 311/312 Hazardous chemical: Yes

SARA 313 (TRI reporting): Not regulated.

California Proposition 65:

WARNING: This product can expose you to chemicals which are known to the State of California to cause cancer, reproductive harm, or other birth defects. For more information, go to www.P65Warnings.ca.gov.

Canada

This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR.

International

The product is classified in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

Australia	All components of this product are included on the Australian Inventory of Chemical Substances (AICS).
Canada	All components of this product are included on the Domestic Substances List (DSL) or Non-Domestic Substances List (NSDL).
China	All components of this product are included on the Inventory of Existing Chemical Substances in China (IECSC).
Europe	All components of this product are included on the European Inventory of Existing Commercial Chemical Substances (EINECS) or are not exempt from listing.
Japan	One or more components of this product are not listed on the Inventory of Existing and New Chemical Substances (ENCS).





Korea	All components of this product are included on the Existing Chemicals List (ECL).
New Zealand	All components of this product are listed on the New Zealand Inventory.
Philippines	One or more components in this product are not listed in the Philippine Inventory of Chemicals and Chemical Substances (PICCS).
United States & Puerto Rico	All components of this product are listed on the Toxic Substances Control Act (TSCA) Inventory or are not required to be listed.

16. Other Information

Date Prepared or Revised: June 2020 **Supersedes:** August 2016

Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists

CAS No.: Chemical Abstract Service Registry Number

CERCLA: Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)

HPR: Hazardous Product Regulations (Canada)
DOT: Department of Transportation (U.S.)

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

HMIS: Hazardous Materials Identification System
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods code

NIOSH: National Institute of Occupational Safety and Health (U.S.)

NFPA: National Fire Protection Association (US)
NTP: National Toxicology Program (US)

OSHA: Occupational Safety and Health Administration (U.S.)

PEL: Permissible Exposure Limit

SARA: Superfund Amendments and Reauthorization Act (U.S. EPA)
STEL: Short Term Exposure Limit (15 minute Time Weighted Average)

STOT: Specific Target Organ Toxicity (GHS Classification)

TLV: Threshold Limit Value

TSCA: Toxic Substances Control Act (U.S.)

TWA: Time Weighted Average (exposure for 8-hour workday)

VOC: Volatile Organic Compounds

WHMIS: Canadian Workplace Hazardous Materials Information System

Full Text of H – Phrases Under Section 3
H315: Causes skin irritation.

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Company Inc. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safety and to comply with all applicable laws and regulations.

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Internal

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