

MATERIAL SAFETY DATA SHEET

CHEMSTRONG® CF

GET urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS. While the information and recommendations set forth herein are believed to be accurate, as of the date hereon, Great Eastern Technologies, L.L.C., makes no warranty with respect thereto and disclaims all liability from reliance thereon. The information contained herein represents our current data and best opinion as to the proper use and handling of this product under normal conditions. Any use of this product which is not in conformance with this data sheet or which involves using the product in combination with any other product or any process is the responsibility of the user. The MSDS should not be construed as the sum total of all protective measures that may be taken. It is the responsibility of the employer to evaluate the information and to determine the extent of the hazard and what personal protective measures should be taken. 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.



SECTION 01

CHEMICAL PRODUCT AND COMPANY

Product Identification

Product Trade Name : Chemstrong® CF
Chemical Name : Mixture - Not Applicable
CAS # : Mixture - Not Applicable
Chemical Family : Chemical Dispersing Agent
Product Synonyms : None
Product Use : Non-Chloride, Accelerating Water Reducing Admixture for Concrete
DOT Hazard Class : Not Regulated

Company Identification

Great Eastern Technologies, L.L.C. (609) 581-1587 Factory Phone Number
 4407 S. Broad Street (609) 581-0735 Fax Number
 Yardville, New Jersey 08620

Emergency Number

Great Eastern Technologies, L.L.C. work hours are generally 8:00 a.m. to 5:00 p.m. Monday through Friday.
 The Emergency Number is the Factory Phone Number (609) 581-1587.
 The Emergency Number for 24 Hour Contact is (800) 424-9300 (CHEMTREC)

MSDS Number : GSM FM-150-08 **Cancels MSDS Number** : GSM FM-150-07
Publication Date : January, 2006

SECTION 02

HAZARDOUS INGREDIENTS

(See Section 11 for Complete Chemical Names)

NA = Not Available

Ingredient	Maximum by Weight	Exposure Limits in Air					
		OSHA-PEL		ACGIH-TLV		IDLH	Other
		PEL	STEL	TLV	STEL		
Calcium Nitrate Tetrahydrate CAS Number 13477-18.5	25-50%	NA	NA	NA	NA	NA	NA
Calcium Nitrite CAS Number 13780-06-8	2-15%	NA	NA	NA	NA	NA	NA
Triethanolamine CAS Number 000102-71-6	0-10%	3 ppm	NA	5 mg/m ³	NA	NA	NA
Sodium Thiocyanate	0-10%	NA	NA	NA	NA	NA	NA

CAS Number 540-72-7

SECTION 03

EMERGENCY HAZARDS IDENTIFICATION

Emergency Overview : This product is a slightly transparent brown color solution with an odorless to a mild/bland slight ammoniacal odor. The primary health hazard associated with this product is the potential for moderate irritation of eyes, skin, and other contaminated tissue. This product is not flammable or reactive. Emergency responders must wear the personal protective equipment suitable for the situation to which they are responding. The primary routes of overexposure for the solution are via inhalation and contact with skin and eyes. The following paragraphs describe the symptoms of overexposure to this material.

Potential Health Effects

- Skin** : Skin absorption is not a significant route of overexposure for the components of this product. However, prolonged exposure of skin contact will cause reddening, discomfort, moderate irritation, and tissue damage. Dermatitis may result from prolonged or repeated skin contact. Prolonged or repeated skin contact may tend to remove skin oils possible leading to irritation.
- Eyes** : Depending on the duration of overexposure, contact with the eyes will cause irritation, pain, blurred vision and reddening. Severe eye exposure can cause serious irritation, conjunctivitis and possible corneal damage. Severe, prolonged exposures may cause tissue damage which could lead to blindness.
- Inhalation** : If vapors, mist, or sprays of this product are inhaled, they may irritate the nose, throat, and lungs. Symptoms may include the following: sneezing, coughing, and difficulty in breathing. Severe over exposures can result in damage to respiratory systems tissues. Most symptoms generally are alleviated when the overexposure ends.
- Ingestion** : If this product is swallowed, irritation and burns of the mouth, throat, esophagus, and other tissues of the digestive system will occur immediately upon contact. Symptoms of such over-exposure can include nausea, abdominal pain, vomiting, and diarrhea. Severe ingestion over exposures can result in convulsions, collapse, coma and damage to the liver and kidney. The nitrate component of Calcium Nitrate, Tetrahydrate (a component of this product) may damage the oxygen transportation systems of the blood. Severe ingestion exposures can be fatal. Repeated ingestion of small amounts of this product (as may occur in the event of poor hygiene practices) may cause weakness, depression, headaches, and mental impairment.
- Injection** : Accidental injection of this product, via laceration or puncture by a contaminated object may cause pain and irritation in addition to the wound.

ACUTE : The primary hazard associated with this product is the potential for moderate irritation of skin, eyes, and other contaminated tissue. Prolonged contact can result in tissue damage. Ingestion of this product can be harmful or fatal.

CHRONIC : Dermatitis (inflammation and redness of the skin) may result from prolonged or repeated skin contact. Repeated ingestion of small amounts of this product may cause weakness, depression, headaches, neurological effects, and mental impairment. See Section 11 (*Toxicology Information*) for additional data.

TARGET ORGANS : ACUTE: Skin, eyes, nervous system. CHRONIC: Skin, neurological system.

CARCINOGENICITY : Identify (see Section 11 *Toxicological Information* for more details)

SECTION 04

FIRST AID MEASURES

Contaminated individuals must be taken for medical attention if any adverse reaction occurs. Rescuers should be taken for medical attention, if necessary. Take a copy of Product Label and MSDS to a health professional with the contaminated individual.

- Skin** : If this product contaminates the skin, begin decontamination with running water. Remove exposed or contaminated clothing, wash contaminated clothing before reuse. Victim must seek immediate medical attention if any adverse effect occurs.
- Eyes** : If this product liquid or vapors enter the eyes, open contaminated individual's eyes under gently running water. Use sufficient force to open eyelids. Have contaminated individual "roll" eyes. Minimum flushing is for 15 minutes. Contaminated individual must seek immediate attention.
- Inhalation** : If vapors, mist, or spray of this product are inhaled, remove contaminated individual to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover contamination to avoid exposure to rescuers.
- Ingestion** : If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting or give diluents (*milk or water*) to someone who is unconscious, having convulsion, or unable to swallow. If conscious and alert, wash out mouth with water.

Medical Conditions Aggravated by Exposure : Pre-existing dermatitis, or other skin disorders, and conditions involving the other Target Organs (see Section 3, *Hazard Identification*) may be aggravated by over-exposure to this product.

Notes to Physicians : Treat symptoms and eliminate over-exposure. Be observant for signs of pulmonary edema in the event of severe inhalation over-exposure.

SECTION 05

FIRE FIGHT MEASURES

Flash Point	:	Not Flammable
Flammable Limits	:	Not Flammable
Explosion Sensitivity to Mechanical Impact	:	Not Sensitive
Explosion Sensitivity to Static Discharge	:	Not Sensitive
Auto Ignition Temperature	:	Not Available

Extinguishing Media	:	Water Fog	Yes	: Water Stream	NO - May cause fire to spread.
	:	Water Spray	Yes	: Carbon Dioxide	Yes
	:	Halon	Yes	: Dry Chemical	Yes
	:	Foam	Yes	: Other	Any "ABC" Class

Special Fire Fighting Procedures

Incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if they have not been exposed to heat and if can be done without risk to personnel. If this product is involved in a fire, fire run-off water should be contained to prevent possible environmental damage. Rinse all contaminated equipment thoroughly with water before returning to service.

Fire and Explosion Hazards

Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion. This product is a moderate irritant and presents a potential contact hazard for firefighters. When involved in a fire, this material may decompose and produce acrid vapors, calcium compounds, oxides of nitrogen, carbon monoxide, carbon dioxide and small amounts of hydrogen sulfide and hydrogen cyanide. Through not anticipated to be a significant hazard associated with this product, due to the fact that this is a solution, it is important to note that in its dry form, Calcium Nitrate is an oxidizer, which can act to initiate and sustain the combustion of flammable materials.

SECTION 06

ACCIDENTAL RELEASE MEASURES

Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a large spill, clear the affected area, and protect people. In the event of a non-incident release (*e.g., 55-gallon release in which excessive splashes or sprays can be generated*), minimum Personal Protective Equipment should be level C: triple-gloves (*rubber gloves and nitrile gloves, over latex gloves*), chemically resistant suit and boots, hard-hat, and an air-purifying respirator with a high-efficiency particulate filter. Level B, which includes Self Contained Breathing Apparatus, must be worn in situations in which excessive sprays or mists can be generated, or the oxygen level is less than 19.5% or unknown. Absorb spilled liquid with lime, polypads or other suitable absorbent materials. Decontaminate the area thoroughly. Place all spill residue in a suitable container and seal. Dispose of in accordance with U.S. Federal, State, and local waste disposal regulations, or the applicable standards (*see Section 13, Disposal Considerations*).

Protect People	:	Clear non-emergency personnel from the area.
Protect the Environment	:	Contain material to prevent contamination of soil, surface water or ground water.
Cleanup	:	Absorb with material such as non-combustible material. Collect material in suitable containers. Avoid materials such as sawdust or cellulose.

SECTION 07

HANDLING AND STORAGE

Work Practices and Hygiene Practices

As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash hands after handling this product. Do not eat, drink, smoke or apply cosmetics while handling this product. All work practices should minimize the generation of splashes and aerosols. Remove contaminated clothing immediately.

Storage and Handling Practices

All employees who handle this material should be trained to handle it safely. Avoid breathing vapors or mist generated by this product. Use in a well-ventilated location. Open containers slowly, on a stable surface. Containers of this product must be properly labeled. Empty containers may contain residual liquid or vapors therefore; empty containers should be handled with care. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (*see Section 10, Stability and Reactivity*). Material should be stored in secondary containers, or in a diked area, as appropriate. Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

Protective Practices During Maintenance on Contaminated Equipment

Follow practices indicated in Section 6 (*Accidental Release Measures*). Make certain that application equipment is locked and tagged-out safely, if necessary.

Storage

Do not store in aluminum, copper and copper alloys. Heating above 140EF in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas. Avoid contact with halogenated hydrocarbons, strong acids. Avoid contact with materials such as sawdust and cellulose.

SECTION 08

EXPOSURE CONTROLS, PERSONAL PROTECTION

- Respiratory Protection** : Maintain airborne contaminant concentrations below exposure limits listed in Section 2 (*Hazardous Ingredients and Major Components*). If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134) or applicable U.S. State regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use a full-face pressure/demand SCBA or a full-face piece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998)
- Ventilation Requirements** : Exhaust directly to the outside. Use local exhaust ventilation, and process enclosures if necessary, to control mist formation. Supply sufficient replacement air to make up for air removed by system. Ensure eyewash/safety shower stations are available near areas where this product is used.
- Skin Protection** : Wear Neoprene or Rubber gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (*Accidental Release Measures*) of this MSDS.
- Eye Protection** : Splash goggles or safety glasses are required. Face shield recommended when using quantities of this product in excess of 1 gallon.
- Body Protection** : Use body protection appropriate for task. An apron, or other impermeable body protection is suggested. Full-body chemical protective clothing is recommended for emergency response procedures.
- Work, Hygienic Practices** : As required to protect skin and eyes from liquid, safety showers and/or eye wash should be available. Do not leave food or smoke in work area. Wash thoroughly and remove or clean any contaminated clothing. Wash hands and any area that can come into contact with the materials after each use.
- Exposure Limits** : None Established.

SECTION 09

PHYSICAL AND CHEMICAL PROPERTIES

- | | | | |
|-------------------------------|------------------|----------------------------|-------------------------------------|
| Specific Gravity | : 1.385 | Odor | : Mild/bland slight ammonia odor |
| pH Level approximate | : 8.5 | Appearance | : Slightly Transparent Brown Liquid |
| Viscosity (cps) | : Not Available | Percent Volatile | : Not Available |
| Flash Point @ EF | : Not Applicable | Ignition Point @ EF | : Not Applicable |
| Freezing Point @ EF | : < 20EF | Boiling Point @ EF | : > 230EF |
| Explosion Hazard | : Not Applicable | Melting Point @ EF | : Not Applicable |
| Vapor Pressure (MM Hg) | : Not Applicable | Vapor Density | : Not Applicable |
| Evaporation Rate | : Not Applicable | Solubility in Water | : Compete |

SECTION 10

STABILITY AND REACTION

- Chemical Stability** : Stable under normal temperatures.
- Keep Away From** : Extreme heat and contact with incompatible chemicals.
- Hazardous Polymerization** : Will not occur under normal conditions.
- Decomposition Products** : Acrid vapors, calcium compounds, oxides of nitrogen, carbon monoxide, carbon dioxide and small amounts of hydrogen sulfide and hydrogen cyanide
- Incompatible Substances** : Flammable and combustible materials, strong reducing agents, cyanides, finely powdered materials. Do not use sodium nitrite or other nitrosating agents, suspected cancer-causing nitrosamines could be formed. Heating above 140EF in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas. Avoid contact with halogenated hydrocarbons, strong acids.

SECTION 11

TOXICOLOGICAL INFORMATION

Ingredient

(See Section 2 for Exposure Limits)

(Chemical Name, CAS #, Common Name) Toxicity Data

Calcium Nitrate Tetrahydrate CAS Number 13477-18.5

Standard Draize Test (Skin-Rabbit, adult) 500 mg/24 hour, Mild irritation effects LD50 (Oral-Rat) 3,900 mg/kg

Standard Draize Test (Eye-Rabbit, adult) 500 mg/24 hour, Mild LD50 (Oral-Rat) 302 mg/kg

Suspected Cancer Agent : The components of this product are not found on the following list: U.S. Federal OSHA Z List, NTP, IARC and CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer causing agents by these agencies.

Irritancy of Product : Calcium Nitrate is moderately irritating to contaminated tissue.

Sensitization of Product : Calcium Nitrate contains no known skin or respiratory sensitizers.

Reproductive Toxicity : This product is not reported to cause mutagenic, embryotoxic, teratogenic effects in humans. This product is not reported to cause reproductive toxicity effects in humans. (see definitions below)

ACGIH Exposure Indices : Currently, there are no ACGIH Biological Indices (BEIs) determined for the components of Calcium Nitrate.

Calcium Nitrite CAS Number 13780-0-8

Standard Draize Test (Skin-Rabbit, adult) - No known test results

Standard Draize Test (Eye-Rabbit, adult) - No known test results

Suspected Cancer Agent : The components of this product does not contain carcinogenic materials as defined by 29 CFR 1910.1200.

Irritancy of Product : No data available.

Sensitization of Product : No data available.

Reproductive Toxicity : No data available.

ACGIH Exposure Indices : No data available.

Triethanolamine CAS Number 000102-71-6 80% Maximum

Highers from reaction of ethylene oxide and ammonia CAS Number 068953-70-8 20% Maximum

Diethanolamine CAS Number 000111-42-2 01% Maximum

Standard Draize Test (Skin-Rabbit, adult) - LD50 is > 2,000 mg/kg LD50 (Oral-Rat) >2,000 mg/kg

Standard Draize Test (Eye-Rabbit, adult) - No known test results

Suspected Cancer Agent : Diethanolamine did not cause cancer in laboratory animals. Findings from a chronic Diethanolamine skin painting study include liver and kidney tumors in but no tumors in rats. A number of factors may have influenced the results and are being considered in their interpretation.

Irritancy of Product : No data available.

Sensitization of Product : Triethanolamine may in rare cases cause allergic skin response.

Reproductive Toxicity : Mutagenicity effects in vitro mutagenicity studies were negative in TEA

ACGIH Exposure Indices : No data available.

Other: A "skin" notation following the exposure guidelines refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

Sodium Thiocyanate Solution CAS Number 540-72-7

Standard Draize Test (Skin-Rabbit, adult) - No known test results

Standard Draize Test (Eye-Rabbit, adult) - No known test results

Suspected Cancer Agent : This material has been listed as "Not Identifiable" as it relates to a cancer causing agent.

Irritancy of Product : No data available.

Sensitization of Product : No data available.

Reproductive Toxicity : No data available.

ACGIH Exposure Indices : No data available.

Notation of Definitions:

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical change which causes damage to a developing "embryo" (i.e within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing "fetus", but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

SECTION 12

ECOLOGICAL INFORMATION

All work practices must be aimed at eliminating environmental contamination.

Environmental Stability

The components of this product are relatively stable under ambient, environmental conditions.

Effects of Material on Plants or Animals

This product may be harmful to terrestrial plant or animal life, especially if released in large quantities.

Effects of Chemical on Aquatic Life

This product may be harmful to aquatic plant or animal life, especially if release in large quantities.

SECTION 13

DISPOSAL CONSIDERATIONS

Consult all Federal, State, Provincial and Local regulations, or a qualified waste disposal firm when characterizing waste for disposal. Dispose of waste in accordance with all applicable regulations.

U.S. EPA (40 CFR 261) : Not Listed

RCRA Waste # : Not Listed

SECTION 14

TRANSPORTATION INFORMATION

Department of Transportation Shipping Name : Not Applicable
Hazard Class : Not Applicable
Identification # : Not Applicable
Label (s) Required : Not Applicable
Surface Freight Classification : Concrete or Masonry Concrete Chemical Additive

SECTION 15

REGULATORY INFORMATION

The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of SARA Title III of the Superfund and Re-Authorization Act, and are listed as follows:

SARA 302 (40 CFR, Appendix A)	NO
SARA 304 (40 CFR Table 302.4)	NO
SARA 313 (40 CFR 372.65)	YES

The **Triethanolamine aka TEA** component of this material has been listed by SARA Title III as, “ *A delayed health hazard.*”

OSHA Status : Not Listed. However, this material contains ingredients that have been listed as a hazardous chemical as defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200.

US TSCA Status Inventory Status : Calcium Nitrate is on the TSCA Inventory.

CERCLA Reportable Requirements : Not Applicable