Safety Data Sheet

Section 01 - Identification

Product Identifier	Calcium Formate
Other Means of Identification	Calcium diformate
Product Use and Restrictions on Use	Not Available
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

Serious Eye Damage/Irritation Category 1

Physical Hazards

None known

Danger

Hazard Statements
H318 – Causes serious eye damage.

Pictograms

Precautionary Statements

P280 – Wear protective gloves, protective clothing, eye protection, and face protection.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 – Immediately call a POISON CENTER or doctor/physician.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Calcium diformate	544-17-2	>98%	

Section 04 - First Aid Measures

Inhalation
If symptoms are experienced, remove source of contamination or move victim to fresh air. Seek immediate medical attention.

Skin Contact / Absorption
Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists.

Eye Contact
Flush immediately with water for at least 60 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.

Ingestion
NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Seek immediate medical attention.

Additional Information
Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media
Use an extinguishing media suitable for surrounding fire.

Unsuitable Extinguishing Media
Water with full jet, as it may form a dust cloud

Specific Hazards Arising From the Chemical
Thermal decomposition can lead to release of irritation and toxic gases and vapours: carbon monoxide, carbon dioxide, and calcium oxide

Special Protective Equipment for Fire-Fighters
Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Further Information
Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures
Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.

Environmental Precautions
Do not allow entry into sewers or waterways.

Methods and Materials for Containment and Cleaning Up
Contain spill or leak Shovel or sweep up dry sodium hydroxide for recycling or disposal.
Neutralize the final traces and flush area with water.
Solutions should be contained by diking with inert material, such as sand or earth.
Solutions can be recovered or carefully diluted with water.
Large spills: contact fire and emergency services and supplier for advice.

Section 07 - Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Avoid generating dust and mist. Prevent the release of dust and mist into the workplace air.
Conditions for Safe Storage	Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials (especially acids).
Incompatibilities	None known

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Not Available			

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	If there is a large amount of particulate in the air, provide suction extractors or ensure that each worker's air supply is safe, using a tight fitting dust mask or equivalent device.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Crystalline powder
Colour	White
Odour	Odourless

Odour Threshold	Not Applicable

Property

pH	Not Available
Melting Point/Freezing Point	>300°C
Initial Boiling Point and Boiling Range	Not Available
Flash Point	Not Applicable
Evaporation Rate	Not Applicable
Flammability	Non-Flammable
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20ºC)	~0
Vapour Density (Air=1)	Not Applicable
Relative Density	2.0 g/cm^3
Solubility(ies)	172 g/L in water
Partition Coefficient: n-octanol/water	-2.6
Auto-ignition Temperature	292°C
Decomposition Temperature	408°C
Viscosity	Not Applicable
Explosive Properties	Contact with some metals (particularly magnesium, aluminum, zinc, and galvanized steel) can rapidly generate hydrogen gas which is explosive.
Bulk Density	1200 kg/m^3
% Volatiles by Volume	Not Available
Formula	$Ca(HCOO)_2$
Molecular Weight	130.113

Section 10 - Stability and Reactivity

Reactivity	Not Available
Stability	Stable under normal conditions
Possibility of Hazardous Reactions	Polymerization will not occur.
Conditions to Avoid	Generation of dust.

Incompatible Materials	None known
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritation and toxic gases and vapours

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	LC_{50}
Calcium Formate	3050 mg/kg (rat)	>2000 mg/kg (rat)	>0.67 mg/l (rat)

Chronic Toxicity – Carcinogenicity

Component	IARC
Calcium Formate	Not considered to be carcinogenic by NTP, IARC, and O and ACGIH.

Skin Corrosion/Irritation	Mild irritation has been experienced in some cases of dermal exposure
Ingestion	Sodium formate is low in toxicity. Diuresis, methemoglobinemia, albuminuria, hematuria and cardiac depression have been reported, but are not well documented. Ingestion may cause gastric irritation or ulcer.
Inhalation	Can result in irritation.
Serious Eye Damage/Irritation	Corrosive to the eyes, with long lasting effects.
Respiratory or Skin Sensitization	Calcium formate is not known to be a skin sensitizer
Germ Cell Mutagenicity	Calcium formate is not knonw to cause mutagenicity
Reproductive Toxicity	Calcium formate is not known to cause reproductive toxicity.
STOT-Single Exposure	Breathing may result in respiratory irritation.
STOT-Repeated Exposure	Calcium formate is not known to have additional effects with repeated exposure
Aspiration Hazard	Calcium formate is not known to have any aspiration effects beyond irritation
Synergistic Materials	None known

Section 12 - Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Calcium formate	Not Available	LC_{50}(Brachydanio rerio, 48hr): >1000 mg/L	EC_{50}(Daphnia magna, 48hr): >1000 mg/L

Biodegradability	Readily biodegradable
Bioaccumulation	No bioaccumulation potential
Mobility	The product is not expected to adsorb, and is expected to have a moderate to high mobility in soil.
Other Adverse Effects	None known

Section 13 - Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 - Transport Information

UN Number	Not regulated
UN Proper Shipping Name	Not applicable
Transport Hazard Class(es)	Not applicable
Packaging Group	Not applicable
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions	Not Available.
Transport in Bulk	Not Available.
Additional Information	Not Available

TDG

Other	Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 - Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 - Other Information

Preparation Date	2017 September 25

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References

1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) ECHA
7) PAN

ClearTech Industries Inc. - Locations

Corporate Head Office: 1500 Quebec Avenue, Saskatoon, SK, S7K 1V7
Phone: 1(306) 664 – 2522
Fax: 1(888) 281-8109
www.cleartech.ca

24 Hour Emergency Number - All Locations – 1(306) 664-2522