



Safety Data Sheet

Calexin®

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03
Canadian Workplace Hazardous Material Information System (WHMIS) 2015
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015
GHS (Globally Harmonized System)

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Calexin®
Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Micro-nutrient.
Uses advised against None known

1.3. Details of the supplier of the safety data sheet

Manufacturer Miller Chemical and Fertilizer, LLC
120 Radio Rd
Hanover, PA 17331
Tel.: 717-632-8921
Fax.: 717-646-1104

Internet <http://www.millerchemical.com>

E-mail info@millerchemical.com

1.4. Emergency telephone number CHEMTREC: +1 800 424 9300 or International 1+703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS Classification Considered a hazardous substance or mixture according to the Globally Harmonized System (GHS)

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Physical Hazards Not classified.

Health Hazards Repr. Tox. Cat. 1B; H360

Environmental Hazard Not classified.

2.2. Label elements**Symbols/Pictograms**

Signal Word Danger

Hazard Statements H360 - May damage fertility or the unborn child

Precautionary Statements

Prevention Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection

Response IF exposed or concerned: Get medical advice/attention

Storage Store locked up

Disposal Dispose of contents/containers in accordance with local regulations

Additional information Not applicable

Hazards not otherwise classified (HNOC) None known

SECTION 3: Composition/information on ingredients**Pure substance/mixture** Mixture

Chemical Name	CAS NUMBER:	Weight-%
Calcium hypophosphite	7789-79-9	5 - < 10
Boric acid	10043-35-3	<1

Additional information *The exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures**

General Advice When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

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Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Get medical attention.
Ingestion	DO NOT INDUCE VOMITING. If vomiting occurs naturally, reduce the risk of aspiration by leaning their body forward. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation	Remove to fresh air. If breathing has stopped, apply artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed None known.

4.3. Indication of any immediate medical attention and special treatment needed Treatment should be symptomatic and supportive. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray (fog).

Unsuitable Extinguishing Media

None known.

5.2. Special hazards arising from the substance or mixture Oxides of nitrogen may be generated.
None known.

5.3. Advice for firefighters

Special protective equipment for firefighters

None known.

Fire-fighting measures

Water mist may be used to cool closed containers. No special fire protection measures are necessary. Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep unauthorized personnel away. In case of fire: Stop leak if safe to do so.

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For non-emergency personnel Keep unauthorized personnel away.

For emergency responders Keep unauthorized personnel away. Use personal protection recommended in Section 8.

6.2. Environmental precautions Avoid runoff to waterways and sewers.

6.3. Methods and material for containment and cleaning up To clean up residue, flush sparingly with water or use an absorbent. It may be necessary to remove contaminated soil. If acidity (low pH) is a problem, neutralize with hydrated lime, soda ash, or sodium bicarbonate. If alkalinity (high pH) is a problem neutralize with dilute acetic acid or dilute hydrochloric (muriatic) acid.

6.4. Reference to other sections See Section 8 for exposure controls and personal protection. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Ensure adequate ventilation. Wear appropriate personal protective clothing to prevent skin contact.

7.2. Conditions for safe storage, including any incompatibilities Keep container tightly closed and dry. Store away from incompatible materials. Keep out of reach of children.

7.3. Specific end use(s) See Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Boric acid - 10043-35-3

OSHA	Not established
ACGIH	6 mg/m ³
Canada - British Columbia - OEL- STELs	6 mg/m ³
Canada - Ontario - OEL - STEVs	6 mg/m ³ STEL
Canada - Ontario - OEL - TWA EVs	2 mg/m ³

Biological Limit Values No information available

8.2. Exposure controls

Engineering Measures Provide a good standard of controlled ventilation (5 to 10 air changes per hour). Use exhaust ventilation to keep airborne concentrations below exposure limits. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles). Always wear eye protection when working with chemicals.

Skin and Body Protection Wear suitable protective clothing.

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Hand Protection	For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.
Respiratory Protection	In case of inadequate ventilation wear respiratory protection.
Thermal hazards	Wear appropriate thermal clothing, when necessary.
Hygiene Measures	General industrial hygiene practice.
Environmental Exposure Controls	Dispose of in accordance with local regulations.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:

Physical State	Liquid
Color	Clear to Yellow and hazy
Odor	Moderate
pH	2.4 - 4.0
Melting point / Freezing point	Not applicable
Boiling Point / Boiling Range	≥ 212 °F (100 °C)
Freezing Point	< 32 °F (0 °C)
Flash Point	Not determined
Evaporation Rate	Not determined
Flammability (solid, gas)	Not determined
Vapor Pressure	< 1 mm Hg
Vapor Density	> 1 (Air = 1)
Density	No data available
Water Solubility	Soluble
Partition coefficient	No information available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No information available.
Kinematic viscosity	No data available
Oxidizing Properties	Not applicable
Particle Size	No information available
Specific Gravity	1.06 - 1.08 g/mL @ 68 °F (20 °C)
Percent Volatile	Not determined
VOC Content (%)	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No data available

9.2.2. Other safety characteristics

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity	Stable under normal conditions
10.2. Chemical stability	Stable under normal conditions

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10.3. Possibility of hazardous reactions No specific hazard known

10.4. Conditions to avoid Strong oxidizing agents

10.5. Incompatible materials None known

10.6. Hazardous decomposition products Carbon oxides

SECTION 11: Toxicological information

General Information Users are advised to consider national Occupational Exposure Limits or other equivalent values.

Information on Likely Routes of Exposure

Inhalation	Avoid inhalation of the product
Skin	Avoid contact with skin and clothing
Eyes	Avoid contact with eyes
Ingestion	Avoid ingestion

11.1. Information on toxicological effects

Calcium hypophosphite

Acute Toxicity

Eye contact may cause irritation and redness.

Chronic Effects

Prolonged contact with skin may cause irritation or dermatitis in sensitive individuals.

Boric acid

LD50s and LC50s

2120 mg/m³ Inhalation LC50 Rat 4 h

2.12 mg/L Inhalation LC50 Rat 4 h

Oral LD50

LD50 - Route: Oral - Species: Rat (Male) > 2000 mg/kg bw - Notes: OECD 401 (UE B.1 Method)

Dermal LD50

LD50 - Route: Dermal - Species: Rabbit > 2000 mg/kg bw - Notes: FIFRA (40 CFR 163)

Group 2A - Probably
Carcinogenic to Humans
NTP (National Toxicology
Program)

Monograph 53 [1991]

Serious eye damage/eye
irritation

Male Rat - Not Tested; Female Rat - Not Tested; Male Mice - No Evidence; Female Mice - No Evidence
Not classified.

Skin Sensitization

Not classified.

Reproductive Toxicity

Presumed human reproductive toxicant, Category 1B

Calexin®

Acute Toxicity No data available

Respiratory Sensitization No data available

Serious eye damage/eye No data available

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irritation

Skin Corrosion/Irritation	No data available
Skin Sensitization	No data available
Mutagenicity	No data available
Reproductive Toxicity	Boric acid May damage fertility or the unborn child
Carcinogenicity	No data available
Specific target organ toxicity - Single exposure	No data available
Specific target organ toxicity - Repeated exposure	No data available

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties	No endocrine disruptors present in concentrations $\geq 0.1\%$
11.2.2. Other information	Not applicable

SECTION 12: Ecological information

12.1. Toxicity	Not considered to be harmful to aquatic life
<u>Boric acid</u>	
WGK Classification (AwSV)	315 WGK: 1

12.2. Persistence and degradability	No data available
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12.3. Bioaccumulative potential	No data available
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12.4. Mobility in soil	No data available
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12.5. Results of PBT and vPvB assessment	No data available
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12.6. Endocrine disrupting properties	No endocrine disruptors present in concentrations $\geq 0.1\%$
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12.7. Other Adverse Effects	None known
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Methods	If uncontaminated, recover and reuse as product. If contaminated with other
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materials, the nature and extend of contamination may require use of specialized disposal methods. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Product residue may remain in empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information**Mode of Transportation (Road, Water, Air, Rail)**

TDG -Canada	Not listed
DOT	Not regulated
ADR	Not regulated
RID	Not regulated
ADN	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

14.1. UN number or ID number	None
14.2. UN proper shipping name	None
14.3. Transport hazard class(es)	None
14.4. Packing group	None
14.5. Environmental hazards	No
14.6. Special precautions for user	Not applicable

14.7. Maritime transport in bulk according to IMO instruments
Not applicable

SECTION 15: Regulatory information**Global Inventories**

Pure substance/mixture Mixture

Chemical Name	CAS Number	Canada (DSL)	Mexico	TSCA: United States
Calcium hypophosphite	7789-79-9	Y	Y	A
Boric acid	10043-35-3	Y	Y	A

Y: Complies ; A: Active ; - / N: Exempt / Not Listed

EPA**Boric acid****SARA 302****SARA 313**

This material does not contain any components with a section 302 EHS TPQ.

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

CWA (Clean Water Act)

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Not regulated

CAA (Clean Air Act)

Not regulated

U.S. State Right-to-Know Regulations

Chemical Name	CAS Number	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Calcium hypophosphite	7789-79-9	N	N	N	N	N
Boric acid	10043-35-3	N	N	N	N	N

Y: Listed ; N: Not Listed

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any Proposition 65 chemicals

CANADA**WHMIS**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

Boric acid

H360

SECTION 16: Other information**Prepared by**

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Reason for Version

OSHA (Occupational Safety and Health Administration of the US Department of Labor).

Abbreviations and acronyms

OSHA (Occupational Safety and Health Administration of the US Department of Labor)
WHMIS (Workplace Hazardous Materials Information System)
GHS (Globally Harmonized System)
IARC (International Agency for Research on Cancer)
PPE (Personal Protection Equipment)
TWA (Time-Weighted Average)
TLV® (Threshold Limit Value)
STEL (Short Term Exposure Limit)
RQ (Reportable Quantity) (RQ/% in mixture)
DOT (Department of Transportation)
TDG (Transport of Dangerous Goods) Canada
IATA (International Air Transport Association)
IMDG (International Maritime Dangerous Goods)
ICAO (International Civil Aviation Organization)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

MILLER CHEMICAL

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