

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product identifier****Product name** CH1 Calcium Hardness**Other means of identification****Product Code(s)** 7042**Recommended use of the chemical and restrictions on use****Recommended Use** Use as a laboratory reagent. Laboratory chemicals. Industrial (not for food or food contact use).**Details of the supplier of the safety data sheet****Manufacturer Address**LaMotte Company, Inc.  
802 Washington Avenue  
P.O. Box 329  
Chestertown, MD 21620 USA  
T 410-778-3100  
F 410-778-9748**Emergency telephone numbers**

(CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

**2. HAZARDS IDENTIFICATION**

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

**EMERGENCY OVERVIEW****DANGER****Hazard statements**

Causes severe skin burns and eye damage. May cause respiratory irritation. May cause drowsiness or dizziness.



**Appearance** Clear Colorless

**Physical state** liquid

**Odor** Slight

**Precautionary Statements - Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Keep out of the reach of children.

**Response:** Immediately call a poison center or physician.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**Storage:**

Keep container tightly closed and in a well-ventilated place.

**Disposal:**

Dispose of contents/container to an approved waste disposal plant.

**Unknown Acute Toxicity**

22.26% of the mixture consists of ingredient(s) of unknown toxicity.

**3. COMPOSITION/INFORMATION ON INGREDIENTS\***

Chemical name	CAS No.	Weight-%
Boric acid	10043-35-3	3
Ethanolamine	141-43-5	10

**4. FIRST AID MEASURES****First Aid Measures****General advice**

Do not get in eyes, on skin, or on clothing.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.

<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. If symptoms persist, call a physician.
<b>Inhalation</b>	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
<b>Ingestion</b>	Drink plenty of water. Consult a physician if necessary.
<b><u>Self-protection of the first aider</u></b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protection recommended in Section 8.

## 5. FIREFIGHTING MEASURES

### **Suitable extinguishing media**

Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), or foam.

### **Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.

### **Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).
<b>Methods for cleaning up</b>	After cleaning, flush away traces with water.

## 7. HANDLING AND STORAGE

### **Precautions for safe handling**

<b>Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.
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### **Conditions for safe storage, including any incompatibilities**

<b>Storage:</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from incompatible materials such as cyanides or sulfides. Store away from strong bases or metals. Do not store near combustible materials. Keep out of the reach of children.
<b>Incompatible Products</b>	Water. Strong bases. Metals. Combustible materials. Cyanides. Sulfides. Formaldehyde.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Control parameters**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric acid	STEL: 6 mg/m <sup>3</sup> inhalable fraction	*	Not Established

10043-35-3	TWA: 2 mg/m <sup>3</sup> inhalable fraction		
Ethanolamine 141-43-5	STEL: 6 ppm TWA: 3 ppm	TWA: 3 ppm TWA: 6 mg/m <sup>3</sup> (vacated) TWA: 3 ppm (vacated) TWA: 8 mg/m <sup>3</sup> (vacated) STEL: 6 ppm (vacated) STEL: 15 mg/m <sup>3</sup>	IDLH: 30 ppm TWA: 3 ppm TWA: 8 mg/m <sup>3</sup> STEL: 6 ppm STEL: 15 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Measures**                      Ensure adequate ventilation, especially in confined areas.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**                      Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Face protection shield. Ensure that eyewash stations and safety showers are close to the workstation location.

**Skin and body protection**                      Protective gloves.

**Respiratory protection**                      None required under normal usage. Maintain adequate ventilation.

**Hygiene Measures**                              Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state**                                      liquid  
**Appearance**                                      Clear Colorless                                      **Odor**                                      Slight

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	9.6	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

**Softening point**                                      No information available  
**Molecular weight**                                      No information available  
**VOC Content (%)**                                      No information available  
**Density**    No information available  
**Bulk density**    No information available

**10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable under recommended storage conditions.
<b>Hazardous Reactions</b>	Reacts violently with water. Contact with metals may evolve flammable hydrogen gas.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Excessive heat. Moisture. Incompatible Products.
<b>Incompatible materials</b>	Water. Strong bases. Metals. Combustible materials. Cyanides. Sulfides. Formaldehyde.
<b>Hazardous decomposition products</b>	Hydrogen gas. Sulfur oxides (SOx).

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Component identification**

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Boric acid 10043-35-3	= 2660 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 0.16 mg/L ( Rat ) 4 h
Ethanolamine 141-43-5	= 1720 mg/kg ( Rat )	= 1000 mg/kg ( Rabbit ) = 1 mL/kg ( Rabbit )	Not Established

**Information on toxicological effects**

Chemical name	ACGIH	IARC	NTP	OSHA
Boric acid 10043-35-3	Not Established	Not Established	Not Established	Not Established
Ethanolamine 141-43-5	Not Established	Not Established	Not Established	Not Established

<b>ATEmix (oral)</b>	10,499.00 mg/kg
<b>ATEmix (dermal)</b>	9,442.00 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	13.16 mg/l

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Harmful to aquatic life with long lasting effects

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Boric acid 10043-35-3	Not Established	1020: 72 h Carassius auratus mg/L LC50 flow-through	115 - 153: 48 h Daphnia magna mg/L EC50
Ethanolamine 141-43-5	15: 72 h Desmodesmus subspicatus mg/L EC50	114 - 196: 96 h Oncorhynchus mykiss mg/L LC50 static 300 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 227: 96 h Pimephales promelas mg/L LC50 flow-through 3684: 96 h Brachydanio rerio mg/L LC50 static 200: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	65: 48 h Daphnia magna mg/L EC50

**Persistence and degradability**

No information available.

**Bioaccumulation/Accumulation**

When released into the soil, this material may leach into ground water. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet or dry deposition.

Chemical name	Log Pow
Boric acid	-0.757

10043-35-3	
Ethanolamine 141-43-5	-1.91

### 13. DISPOSAL CONSIDERATIONS

**Disposal Methods** This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Dispose of waste product or used containers according to local regulations. Should not be released into the environment.

**Contaminated packaging** Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Boric acid 10043-35-3	Not Established	-	Not Established	Not Established
Ethanolamine 141-43-5	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Boric acid 10043-35-3	Not Established	Not Established	Not Established	Not Established
Ethanolamine 141-43-5	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Boric acid 10043-35-3	*-
Ethanolamine 141-43-5	*-

### 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**MEX** Not regulated

**ICAO** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

### 15. REGULATORY INFORMATION

#### International Inventories

TSCA	Complies
DSL/NDL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Boric acid 10043-35-3	Not Established
Ethanolamine 141-43-5	Not Established

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Boric acid 10043-35-3	Not Established	Not Established	Not Established	Not Established
Ethanolamine 141-43-5	Not Established	Not Established	Not Established	Not Established

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Boric acid 10043-35-3	*-	Not Established	-
Ethanolamine 141-43-5	*-	Not Established	-

**US State Regulations**

Chemical name	California Proposition 65
Boric acid 10043-35-3	Not Established
Ethanolamine 141-43-5	Not Established

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Boric acid 10043-35-3	X	Not Established	Not Established
Ethanolamine 141-43-5	X	X	X

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances**16. OTHER INFORMATION**

**NFPA** Health hazard 1 Flammability 0 Instability 1 Physical and Chemical Hazards N/A

Health hazard 2 Flammability 0 Stability 1



Health Hazard	<b>2</b>
Fire Hazard	<b>0</b>
Reactivity	<b>1</b>

**Prepared by**

Regulatory Affairs Department

**Issuing Date**

Jan-24-2017

**Revision Date**

Jan-07-2016

**Revision note** Boric acid classification differs between the US and EU. It is not classified in the US but it is in the EU. Boric acid is listed on the "List of Substances of Very High Concern (SVHC)" according to Regulation (EC) No. 1907/2006 (REACH) Repr. 1B; H360FD: C >5.5%

**Disclaimer**

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

**End of Safety Data Sheet**