Foliar Nutrition For Cotton

**GENERAL INFORMATION:**
BollBuilder™ is recommended as a foliar applied fertilizer for use on any food or fiber crop where the additions of calcium, boron, manganese, or zinc would be beneficial. BollBuilder™ is specifically designed for use on cotton to encourage production and retention of bolls as well as increasing both boll size and fiber strength. BollBuilder™ may be used in combination with mapi-quat chloride, mepiquat pentaborate and other growth regulator products. A number of variables influence the rate of application necessary to control or correct a specific deficiency. For best results, follow good agronomic practices, soil test and, if necessary use tissue analysis.

**DIRECTIONS FOR USE:**
Apply 1.5 to 3 pints/acre depending on severity of deficiency. Begin applications at match-head square and repeat every 14-21 days through full bloom for a maximum of 3 applications. Spray carrier volumes of 10 to 20 gallons per acre (ground) or 5 gallons per acre (air) are recommended for best results.

**Foliar Application (Ground or Air):**

<table>
<thead>
<tr>
<th>Mild Deficiency</th>
<th>1.5 pints/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate Deficiency</td>
<td>2.25 pints/acre</td>
</tr>
<tr>
<td>Severe Deficiency</td>
<td>3.0 pints/acre</td>
</tr>
</tbody>
</table>

For use of this product on crops other than cotton, apply according to the directions of your regional West Central Distribution, LLC agronomist or local agricultural professional to crops where the addition of micronutrients would be beneficial.

**Mixing Instructions:**
1. Water
2. Wettable Powders or Dispersible Granules
3. Water Conditioners
4. Soluble Fertilizers
5. BollBuilder™
6. Other Pesticides

Mixing instructions when tank mixing with Glyphosate:
1. Start with clean spray tank.
2. Fill the spray tank 1/3 to ½ full of water agitate.
3. While continuing to fill with water, add water conditioning product such as Jackhammer™ or AMS at recommended rates.
4. Add BollBuilder™
5. Fill tank to ¾ full and continue agitation.
6. Add glyphosate herbicide.
7. Fill remainder of tank and agitate.

DO NOT mix BollBuilder™ and glyphosate together in the cone inducer. If using a cone induction system rinse it out thoroughly with water between the addition of BollBuilder™ and glyphosate. At the end of the day rinse out spray booms.

**WARNING:**
This fertilizer contains Boron, which may be injurious to certain crops. Contact your local county agent or field consultant for specific information.

**STORE ABOVE 40° F**

**WARNING KEEP OUT OF REACH OF CHILDREN, PETS AND LIVESTOCK**

**Guaranteed Analysis**

<table>
<thead>
<tr>
<th>Component</th>
<th>Guaranteed Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium (Ca)</td>
<td>1.33%</td>
</tr>
<tr>
<td>1.33% water soluble Calcium (Ca)</td>
<td>1.33%</td>
</tr>
<tr>
<td>Boron (B)</td>
<td>0.66%</td>
</tr>
<tr>
<td>0.66% water soluble Boron (B)</td>
<td>0.66%</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>2.00%</td>
</tr>
<tr>
<td>2.00% water soluble Manganese (Mn)</td>
<td>2.00%</td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>1.33%</td>
</tr>
<tr>
<td>1.33% water soluble Zinc (Zn)</td>
<td>1.33%</td>
</tr>
</tbody>
</table>

**Derived from:** Calcium Chloride, Boric Acid, Manganese Nitrate, and Zinc Chloride Chelated with Sodium Glucoheptonate

**WARNING:**
Harmful if swallowed. Harmful in contact with skin. Causes eye irritation.

**FIRST AID:**
Refer To Safety Data Sheet (SDS) For Important, Environmental, Safety, and Health Information

**CAUTION:**
This material should only be used as recommended.

**CONDITIONS OF USE:**
Normal use of this product is being applied.

**CAUTION:**
Check Compatibility with orthophosphates, high potash suspensions, and chemical mixtures. Not intended for use with phosphate fertilizers. May cause serious crop damage if misused.

**PRECAUTIONARY STATEMENTS:**
BollBuilder™ is considered to be a low health hazard and a non-inhalation hazard. Always follow good industrial hygiene practices. Avoid breathing dust/plume/gas or mist/vapours/spray. Wash skin thoroughly after handling. Do not eat drink or smoke when using this product. Use only outdoors or in a well ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Call POISON CENTER or doctor/physician IF you feel unwell. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

**STORAGE:**
BollBuilder™ should be stored above 20° F. BollBuilder™ should be stored in polyethylene or stainless steel tanks with polyethylene or stainless steel fittings.

**DISPOSAL:**
Do not reuse empty container. Triple rinse (or equivalent) after mixing and loading product. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler, visit the ACRC web page at www.acrcycling.org. Decontaminated containers and materials must be disposed of in a manner allowed by local, state, and federal laws and regulations.

**ENVIRONMENTAL HAZARD:**
In the case of a spill, contain spill and maximize recovery.

**CONDITIONS OF SALE AND WARRANTIES:**
Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with label directions under normal conditions of use. Seller makes no other express or implied warranties either of merchantability or fitness for a particular use. In no case will seller be held liable for consequential, special or indirect damages resulting from the handling, storage, or incorrect use of this product.

**BollBuilder™ and Jackhammer™ are trademarks of West Central Distribution, LLC.**

**NET CONTENTS: 250 Gallons**

**NET WEIGHT: 2.463 lbs**

**DENSITY: 9.85 lbs/gal at 68° F**
1. Identification

Product identifier: Bollbuilder™
Other means of identification: Not available.
Synonyms: Not available.
Recommended use: Fertilizer.
Recommended restrictions: None known.

Manufacturer / Importer / Supplier / Distributor Information

Company name: West Central Distribution LLC.
Address: P.O. Box 897
Wilmar, MN 56201 US
Telephone: 1.800.242.4277
Website: www.wcdsl.com
Contact person: EH&S/Regulatory Department
Emergency phone number: CHEMTREC (24 hours): 1-800-424-9300

2. Hazard(s) identification

Physical hazards: Not classified.

<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Acute Toxicity</th>
<th>Category 4</th>
<th>Oral, Dermal, Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irritation</td>
<td>Category 3</td>
<td>Mild Skin Irritant</td>
<td></td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>Category 2B</td>
<td>Mild Eye Irritant</td>
<td></td>
</tr>
</tbody>
</table>

OSHA defined hazards: Not classified.

Label elements

Hazard symbol: !

Signal word: Warning.

Hazard statement: Mildly irritating to skin and eyes.

Precautionary statement

Prevention: Wash thoroughly after handling. Use skin and eye protection while using this product.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: Store away from incompatible material.

Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): Not classified.

Supplemental information

Not applicable.
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>40-50</td>
<td></td>
</tr>
<tr>
<td>Hydroxy carboxylic acid salt</td>
<td>*Proprietary</td>
<td>10-15</td>
<td></td>
</tr>
<tr>
<td>Zinc chloride</td>
<td>7646-85-7</td>
<td>1-5</td>
<td></td>
</tr>
<tr>
<td>Manganese nitrate</td>
<td>10377-66-9</td>
<td>1-5</td>
<td></td>
</tr>
<tr>
<td>Amine borate</td>
<td>Mixture</td>
<td>1-5</td>
<td></td>
</tr>
</tbody>
</table>

*Proprietary indicates that the chemical identity of this component is claimed as a trade secret per the HCS 29CFR 1910.1200

Composition comments

All concentrations are in weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Eye contact

Check for and remove contact lenses. Flush immediately with copious amounts of water or normal saline (minimum of 15 minutes), holding eyelids apart to ensure complete irritation of the eye and eyelid tissue. Take exposed individual to a health care professional, preferably an ophthalmologist, for further evaluation.

Skin contact

Remove contaminated clothing, shoes and equipment. Wash exposed area with plenty of soap and water. Repeat washing. If redness or irritation occurs, seek medical attention. Wash contaminated clothing before reuse.

Inhalation

No adverse effects anticipated. If necessary, remove victim to fresh air and loosen clothing. Get medical attention.

Ingestion

Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms include itching, burning, redness, and tearing of eyes.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

Slight fire hazard. When water evaporates from this product residues may contain ammonium nitrate, and solid ammonium nitrate when sensitized during decomposition may become unstable and explosive.
6. Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear suitable protective clothing. For personal protection see Section 8 of the SDS.

- **Methods and materials for containment and cleaning up**: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.

  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

  Never return spills to original containers for re-use.

7. Handling and storage

- **Precautions for safe handling**: Avoid inhalation of vapors/spray and contact with skin and eyes. Use only with adequate ventilation. Observe good industrial hygiene practices.

- **Conditions for safe storage, including any incompatibilities**: Keep container tightly closed. Store in a cool, dry well-ventilated place. Store away from incompatible materials.

- **Transfer Equipment**: Transfer product using chemical-resistant plastic or stainless steel tanks, pumps, valves, etc.

8. Exposure controls/personal protection

- **Occupational exposure limits**

  US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc chloride (CAS 7646-85-7)</td>
<td>PEL</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Manganese nitrate (CAS 10377-66-9)</td>
<td>PEL</td>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>

- **Biological limit values**: No biological exposure limits noted for the ingredient(s).

- **Exposure guidelines**: Follow standard monitoring procedures.

- **Appropriate engineering controls**: Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and mists.

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

  - **Eye/face protection**: Wear approved safety glasses or goggles.

  - **Skin Protection**: Chemical resistant gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Safety Data Sheet

Other

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.

In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134 and ANSI Z88.2.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene consideration

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. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

| Physical State | Liquid. |
| Form | Liquid. |
| Color | Brown. |
| Odor | Bland |
| Odor threshold | Not available. |
| pH | 4.7 – 5.5 |
| Melting point/freezing point | <15°F (-10°C) |
| Initial boiling point and boiling range | 225°F (107.22°C) |
| Flash point | Not available. |
| Evaporation Rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Vapor pressure | Not available. |
| Vapor Density (Air=1) | Not available. |
| Relative density | 1.18 @ 15°C |
| Solubility | 100% |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Viscosity | Not available. |
| Other information | Not available. |
| Percent volatile | Not available. |

10. Stability and reactivity

Reactivity

Reacts violently with strong acids.

Chemical stability

Stable under normal temperature conditions and recommended use.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

Conditions to avoid

Contact with incompatible materials. Heat, sparks, flames, elevated temperatures.

Incompatible materials

Reacts with strong acids.

Hazardous decomposition products

Carbon oxides. Metal oxide fumes and water vapor.

11. Toxicological information

Information on likely routes of exposure

Ingestion

Ingestion may cause irritation and malaise.
Safety Data Sheet

Inhalation
Vapors and spray mist may irritate throat and respiratory system and cause coughing.
Prolonged or repeated skin contact may cause irritation.
May cause eye irritation on direct contact.

Skin contact
Symptoms can include irritation, redness, scratching of the cornea, and tearing.

Eye contact
Symptoms can include irritation, redness, scratching of the cornea, and tearing.

Information on toxicological characteristics

Acute toxicity
May cause discomfort if swallowed.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc chloride (CAS 7646-85-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>1,692 mg/kg calculated</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
<td>&gt; 2,000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Prolonged exposure may cause skin irritation.

Serious eye damage/eye irritation
May cause eye irritation on direct contact.

Respiratory sensitization
No data available.

Skin sensitization
Not a skin sensitizer.

Germ cell mutagenicity
No data available.

Carcinogenicity
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity
No data available.

Specific target organ toxicity-
single exposure
No data available.

Specific target organ toxicity-
repeated exposure
No data available.

Aspiration hazard
Not classified.

Chronic effects
Prolonged exposure may cause chronic effects.

Further information
No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity
The product 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.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese nitrate (CAS 10377-66-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia 1</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Oncorhynchus mykiss</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.8 mg/L, 48 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.5 mg/L, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
No data available.

Bioaccumulative potential
No data available.
Mobility in soil

This product is water soluble and may disperse in soil.

Other adverse effects

No data available.

13. Disposal considerations

Disposal instructions

Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as a dangerous goods.

IMDG

Not regulated as a dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not established.

15. Regulatory information

US federal regulations

This product is not known to be 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)

Not regulated.


Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard – No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US Massachusetts RTK – Substance List
Zinc chloride (CAS 7646-85-7)

US New Jersey Worker and Community Right-to-Know Act
Zinc chloride (CAS 7646-85-7)
Manganese nitrate (CAS 10377-66-9)

US Pennsylvania RTK – Hazardous Substances
Zinc chloride (CAS 7646-85-7)

US Minnesota RTK
Zinc chloride (CAS 7646-85-7)

US California Proposition 65
US – California Proposition 65 – Carcinogens & Reproductive Toxicity (CRT): Listed substances Not listed.

International Inventories

Country(s) or region Inventory name On inventory (yes/no)*
United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Yes

*A “Yes” indicates this product complies with the inventory requirements administered by the governing country(s).
A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 18-December-2015
Revision date --
Version # v1.0 SDS

NFPA Ratings

List of abbreviations
EC50: Effective concentration, 50%.
LC50: Lethal concentration, 50%.

References
EPA: Acquire database
HSDB® – Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Value and Biological Exposure Indices

Preparation The preparation of this MSDS was in accordance with ANSI Z400.1-2010.

Disclaimer NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a
license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.