SAFETY DATA SHEET

PRODUCT NAME: SPEEDFOL COTTON SP 12-0-42

Product Code: SPFOLCOT.25_108_01_US
Date of issue: May 2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier: Speedfol Cotton SP 12-0-42
Recommended uses:
- Fertilizer end-use, preparation of fertilizers mixtures.
- Dry fertilizer for mixing with water for foliar and soil applications.

Restrictions on uses: None

Manufacturer: SQM North America
2727 Paces Ferry Rd, Building Two, Suite 1425
Atlanta, GA 30339

Company Telephone/Fax: (770) 916 9400 / (770) 916 9404
Emergency Telephone Number: (800) 424 9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

Classification of the mixture:

Classification of the chemical in accordance with 29CFR §1910.1200
- Hazard classes and Hazard categories:
  - Oxidizing solid, Cat. 3
  - Toxic to reproduction cat. 1B
- Hazard statements:
  - May intensify fire; oxidizer
  - May damage fertility or the unborn child.

Label elements:
- Hazard pictograms
- Signal word: DANGER
- Hazard Statements:
  - May intensify fire; oxidizer
  - May damage fertility or the unborn child.

Precautionary Statements:
- Keep away from heat. Keep away from flammable / combustible / reducing materials.
- Take any precaution to avoid mixing with flammable / combustible / reducing materials.
- Wear protective gloves / protective clothing / eye protection.
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- In case of fire: use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.
- IF exposed or concerned: Get medical advice/attention.
- Store locked up
- Dispose of contents/container according to local/state/federal regulations.

Other hazards:
- None

Classification of the relevant ingredients of the mixture in accordance with 29CFR §1910.1200
- Substance name:
  - Potassium nitrate
  - Boric acid
- Hazard classes and Hazard categories:
  - Oxidizing solid, Cat. 3
  - Toxic to reproduction, Cat. 1B

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a mixture/preparation

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS No</th>
<th>EC No</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td>7757-79-1</td>
<td>231-818-8</td>
<td>50% - 99%</td>
</tr>
<tr>
<td>Boric acid</td>
<td>10043-35-3</td>
<td>233-139-2</td>
<td>≤ 6%</td>
</tr>
<tr>
<td>Perchlorate (ClO₄²⁻)</td>
<td></td>
<td></td>
<td>&lt; 0.01%</td>
</tr>
<tr>
<td>Iodate (IO₃⁻)</td>
<td></td>
<td></td>
<td>&lt; 50 ppm</td>
</tr>
</tbody>
</table>

1 of 8
4. **FIRST AID MEASURES**

   **Description of first aid measures**

   **General information**
   - IF exposed or concerned: Get medical advice/attention.
   - Never give anything by mouth to an unconscious person or a person with cramps.

   **In case of inhalation**
   - Remove to fresh air and keep at rest in a position comfortable for breathing.
   - Get medical attention for any breathing difficulty.

   **In case of skin contact**
   - Wash with plenty of soap and water.
   - If skin irritation occurs: Get medical advice/attention.

   **In case of eye contact**
   - Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
   - If eye irritation persists: Get medical advice/attention.

   **In case of ingestion**
   - Rinse mouth and drink plenty of water. Call a POISON CENTER or doctor/physician if you feel unwell.

   **Most important symptoms and effects, both acute and delayed**
   - The following symptoms may occur:
     - **In case of inhalation** Irritation to respiratory tract
     - Delayed lung effects after short term exposure to thermal degradation products
     - **In case of skin contact** May cause redness or irritation
     - **In case of eye contact** May cause redness or irritation
     - **In case of ingestion** Ingestion of large amounts may cause: gastrointestinal disturbances

   **Indication of any immediate medical attention and special treatment needed**
   - Treat symptomatically.

5. **FIRE FIGHTING MEASURES**

   **Extinguishing media**
   - Suitable extinguishing media: Use any suitable mean for extinguishing surrounding fire. Spray water for small fires.
   - For large fires flood with abundant water.

   **Unsuitable material:** None, but attention should be paid to compatibility with chemicals surrounding.

   **Specific hazards arising from the chemical**
   - Oxidizer. Contact with combustible materials will not cause spontaneous ignition, however, this product will enhance an existing fire.
   - Thermal decomposition can lead to the escape of toxic/corrosive gases and vapours.
   - Thermal decomposition products: Nitrous oxides (NOx), nitrites, phosphorus oxides, ammonia and metallic oxides.

   **Protective equipment and precautions for firefighters**
   - Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (self contained breathing apparatus (SCBA)).

6. **ACCIDENTAL RELEASE MEASURES**

   **Personal precautions**
   - Provide adequate ventilation. Wear personal protection equipment (Section 8).

   **Environmental precautions**
   - Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

   **Methods and material for containment and cleaning up**
   - Take up mechanically, placing in appropriate containers for disposal or recovery.
   - **Unsuitable material for containment/taking up:** Do not absorb in saw-dust or other combustible absorbents.

   **Other information**
   - None
7. HANDLING AND STORAGE

Precautions for Safe Handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid generation of dust. Provide adequate ventilation. Wear personal protective equipment. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from flammable, combustible, strong acids, strong alkalis and reducing substances.

Conditions for safe storage, including any incompatibilities
Keep/store only in original container. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Do not store together with: Flammable substance, reducing agents, strong acids, strong alkalis, empty wood pallets.

Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and Section 15 for more information regarding California State regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Occupational exposure limits

<table>
<thead>
<tr>
<th></th>
<th>Potassium nitrate</th>
<th>Boric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>STEL/ceiling</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>ACGIH (2012 TLVs® and BEIs®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>Not Established</td>
<td>2 mg/m³ (inhal. fraction)</td>
</tr>
<tr>
<td>STEL/ceiling</td>
<td>Not Established</td>
<td>6 mg/m³ (inhal. fraction)</td>
</tr>
</tbody>
</table>

Derived No-Effect Level (DNEL) suggested by the manufacturer

| Workers (industrial/professional): | |
| DNEL Human, dermal, long term (repeated): | 20 mg/kg/day (systemic) |
| DNEL Human, inhalation, long term (repeated): | 30 mg/m³ (systemic) |

Derived No-Effect Level (DNEL) is the level of exposure to the substance above which humans should not be exposed.

Engineering controls
Use exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protective Equipment

Eye/face protection Chemical goggles required all the time.
Skin Protection Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time, recommended. Overall.
Respiratory Protection Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits

General Hygiene Considerations
Avoid contact with eyes and skin. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<p>|          | Solid, crystalline powder |
| Appearance |               |
| Colour    | White           |
| Odour     | Odourless       |
| Odour Threshold | No applicable |
| pH value  | No data available |
| Melting point / freezing range | No data available |</p>
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling temperature / boiling range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapourisation rate / Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammable solids</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Explosion limits (LEL, UEL)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>&gt; 100 g/L at 20°C/68°F (water)</td>
</tr>
<tr>
<td>Partition coefficient n-octanol /water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto Ignition temperature (AIT)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Oxidizer</td>
</tr>
<tr>
<td>Other information</td>
<td>None</td>
</tr>
</tbody>
</table>

10. **STABILITY AND REACTIVITY**

Reactivity

No hazardous reaction when handled and stored according to provisions.

Chemical stability

Stable under normal storage and temperature conditions.

Possibility of hazardous reactions

None identified

Conditions to avoid

Keep away from flammable, combustible, strong acids, strong alkalis and reducing materials.

Incompatible materials

Flammable, combustible, strong acids, strong alkalis and reducing substances under specific conditions. These incompatible materials shall not include approved packaging materials, pallets, or other dunnage (NFPA 430/2004, Code for the Storage of Liquid and Solid Oxidizers, item 4.4.3.1).

Hazardous decomposition products

Thermal decomposition products: Nitrous oxides (NOx), nitrites, phosphorus oxides, ammonia and metallic oxides.

11. **TOXICOLOGICAL INFORMATION**

The following information mostly refers to the major component of the product.

Likely routes of exposure (inhalation, ingestion, skin and eye contact)

Eye contact, skin contact and inhalation. Exposure by ingestion is not expected to occur through normal industrial or agricultural

Symptoms related to the physical, chemical and toxicological characteristics

May be irritant to the respiratory tract. May cause redness or irritation to the skin and eyes. Ingestion of large amounts may cause gastrointestinal disturbances. May cause delayed lung effects after short term exposure to thermal degradation products.

Information on toxicological effects from short and long term exposure

Acute toxicity

Acute oral toxicity

LD50:

Acute Toxicity Estimate for the mixture: > 2000 mg/kg bw (additivity formula)

Acute dermal toxicity

LD50:

Acute Toxicity Estimate for the mixture: > 5000 mg/kg pc (additivity formula)

Acute inhalation toxicity

LC50:

Acute Toxicity Estimate for the mixture: Does not contain acutely toxic ingredients/impurities.

Assessment / classification:

Based on available data for the ingredients of the mixture, the classification criteria are not met.
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Product Code: SPFOLCOT.25_108_01_US
Date of issue: May 2016

Irritant and corrosive effects
There is no data for the mixture itself.

<table>
<thead>
<tr>
<th>Main ingredients</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritation to the skin</td>
<td>non-irritant.</td>
<td>Equivalent/similar to OECD guideline 404</td>
</tr>
</tbody>
</table>

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Main ingredients</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritation to eyes</td>
<td>non-irritant.</td>
<td>OECD Guideline 405</td>
</tr>
</tbody>
</table>

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

Respiratory or skin sensitisation
Skin sensitization
Main ingredients: non-sensitizing.

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

Respiratory sensitisation
No information available.

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

Genetic effects
The product does not contain ingredients classified as germ cell mutagens.

<table>
<thead>
<tr>
<th>Main ingredients</th>
<th>Bacterial (Ames Test)</th>
<th>Chromosomal aberrations</th>
<th>Mutation in mammalian cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>Negative</td>
<td>Negative</td>
<td></td>
</tr>
</tbody>
</table>

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

Reproductive toxicity
Adverse effects on sexual function and fertility/developmental toxicity

<table>
<thead>
<tr>
<th>Main ingredients</th>
<th>OECD guideline 422.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boric acid</td>
<td>No adverse effects on fertility/development.</td>
</tr>
</tbody>
</table>

Boric acid fertility
NOAEL (male rats): 17.5 mg B/kg bw/day (Multigeneration study)
Boron has been shown to adversely affect male reproduction in laboratory animals, however, male reproductive effects attributable to boron have not been demonstrated in studies of highly exposed workers.

Developmental toxicity
Benchmark dose (BMDL05): 10.3 mg B/kg bw/day
Developmental effects have been observed in laboratory animals. The critical effect is considered to be decreased fetal body weight in rats. There is no evidence of developmental effects in humans attributable to boron in studies of populations with high exposures to boron.

Assessment / classification: Based on available data for ingredients of the mixture, this product is classified and labelled as Presumed human reproductive toxicant, Category 1B, in accordance with Appendix A to 29CFR section 1910.1200.

Specific target organ toxicity (single exposure)
The product does not contain relevant ingredients classified as Target Organ Toxicant.

<table>
<thead>
<tr>
<th>Main ingredients</th>
<th>Organs affected</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boric acid</td>
<td>Testes</td>
<td>NOAEL (chronic, rat): 17.5 mg B/kg bw/day</td>
</tr>
</tbody>
</table>
A number of studies on boric acid or disodium tetraborate decahydrate in diet or via drinking water for periods of 30 days to two years in rats, mice and dogs are available. Most studies support that boron can cause adverse haematological effects and that the main target organ of boron toxicity is the testis. Boric acid is classified and labelled as Presumed human reproductive toxicant, Category 1B, in accordance with Appendix A to 29CFR section 1910.1200.

Assessment / classification: Based on available data for ingredients of the mixture, this product is classified and labelled as Presumed human reproductive toxicant, Category 1B, in accordance with Appendix A to 29CFR section 1910.1200.

Aspiration hazard
Physicochemical data and toxicological information does not indicate an aspiration hazard.

Assessment / classification: Based on available data, the classification criteria are not met

Carcinogenicity
International Agency for Research on Cancer (IARC) The product does not contain ingredients classified as carcinogens.
National Toxicology Program (NTP) The product does not contain ingredients classified as carcinogens.
29 CFR part 1910, subpart Z The product does not contain ingredients classified as carcinogens.
California Proposition 65 The product does not contain ingredients classified as carcinogens.
WHO (2003) Nitrate in drinking water No association between nitrate exposure in humans and the risk of cancer

Assessment / classification: Based on available data, the classification criteria is not met

Other Toxicological Information
This product contains trace amounts of naturally-occurring perchlorate and iodate. Like other goitrogenic substances, perchlorate may affect iodine uptake by thyroid under specific conditions.

12. ECOLOGICAL INFORMATION

There is no data for the mixture itself. The following information mostly refers to the major component of the product.

Ecotoxicity
Aquatic Toxicity
Toxicity estimate for the mixture (summation method)

<table>
<thead>
<tr>
<th>96-h LC50</th>
<th>24-h EC50</th>
<th>72-h EC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;100 mg/L</td>
<td>&gt;100 mg/L</td>
<td>&gt; 100 mg/L</td>
</tr>
</tbody>
</table>

Fish
Daphnia magna (fresh water flea).
Algae

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

Persistence and degradability
The product contains mainly inorganic nitrate and phosphate salts. In aqueous solutions, these salts dissociate into their respective ions. Phosphate ions are finally incorporated into the P cycle. Under anoxic conditions, denitrification occurs and nitrate is ultimately converted into molecular nitrogen as part of the Nitrogen cycle.

Bioaccumulative potential
Low potential for bioaccumulation based on physicochemical properties of main components.

Mobility in soil
The components of this mixture have a low potential for adsorption. Portion not taken up by plants, can leach to groundwater.

Other adverse effects
Excess nitrate leaching may enrich waters leading to eutrophication.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with applicable federal and state laws.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations.
Waste containing nitrates that exhibit the characteristic of ignitability has the EPA Hazardous Waste Number of D001 according to the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and Section 15 for more information regarding California State regulations.
### TRANSPORTATION INFORMATION

**US DOT (49CFR part 172)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No.</td>
<td>1486</td>
</tr>
<tr>
<td>UN Proper Shipping Name</td>
<td>POTASSIUM NITRATE MIXTURE</td>
</tr>
<tr>
<td>Hazard class</td>
<td>5.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label(s)</td>
<td>5.1 (oxidizer)</td>
</tr>
<tr>
<td>Special marking</td>
<td>No</td>
</tr>
<tr>
<td>Special Provision</td>
<td>A1; A29; B120; IB8; IP3; T1; TP33; W1</td>
</tr>
</tbody>
</table>

**International Maritime Organization (IMDG Code)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No.</td>
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</tr>
<tr>
<td>Hazard class</td>
<td>5.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Hazard label(s)</td>
<td>5.1 (oxidizer)</td>
</tr>
<tr>
<td>Special marking</td>
<td>No</td>
</tr>
<tr>
<td>Special Provision</td>
<td>964; 967</td>
</tr>
</tbody>
</table>

**Air transport (ICAO-TI / IATA-DGR)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No.</td>
<td>1486</td>
</tr>
<tr>
<td>UN Proper Shipping Name</td>
<td>POTASSIUM NITRATE</td>
</tr>
<tr>
<td>Hazard class</td>
<td>5.1</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label(s)</td>
<td>5.1 (oxidizer)</td>
</tr>
<tr>
<td>Special marking</td>
<td>No</td>
</tr>
</tbody>
</table>

**Special handling procedure**

None

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

Not applicable

**Other special precautions**

None

### REGULATORY INFORMATION

**US Federal**

**SARA Title III Rules**

<table>
<thead>
<tr>
<th>Section 311/312 Hazard Classes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes (Toxic to reproduction)</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes (Oxidizer)</td>
</tr>
<tr>
<td>Release of Pressure</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

**Section 313 Toxic Chemicals**

N511 Nitrate compounds (water dissociable; reportable only when in aqueous solution)

**Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances**

None ingredient is listed.

**DHS - Chemical of Interest (Appendix A to 6CFR Part 27)**

Potassium nitrate is listed (ACG)
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Product Code: SPFOLCOT.25_108_01_US
Date of issue: May 2016

NFPA 704: National Fire Protection Association
Health 1
Fire 0
Reactivity 0
Special OX

US State Regulations
California Proposition 65 None ingredient is listed.
California Code of Regulations Title 22 (Health & Safety) See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/

Canada
This product has been classified according to the hazard criteria of the 2015 Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

Chemical Inventories
United States TSCA All ingredients are listed
Canada DSL All ingredients are listed
European Union (EINECS) All ingredients are listed
Japan (METI) All ingredients are listed

16. OTHER INFORMATION
This SDS complies with 29 CFR part 1910 subpart Z (2012), Hazardous Products Regulations (HPR, 2015) and ANSI Standard Z400.1-2004

Data source REACH Registration Dossiers for major components
Prepared by Regulatory Affairs Department, SQM
E-mail product_safety@sqm.com
spn-northamerica@sqm.com

Date of issue: May 2016 Supersedes -

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall SQM be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if SQM has been advised of the possibility of such damages.

Indication of changes
Version 1 (May 2016) New document