1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 20-10-20
Date of issue: March 2015

Product identifier: 20-10-20 Soluble Fertilizer
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: Southern Agricultural Insecticides, Inc.
P.O. Box 218
Palmetto, FL 34220
Company Telephone/Fax: (941) 722-3285/(941) 723-2974
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
Category 1B May intensify fire; Contains Potassium Nitrate, an oxidizer
Eye irritant Cat. 2 Causes serious eye irritation

Label elements

Hazard pictograms

Signal word Warning
Hazard Statements May intensify fire; Contains Potassium Nitrate, an oxidizer
Causes serious eye irritation
Suspected of damaging fertility or the unborn child

Precautionary Statements

Keep away from flammable / combustible / reducing materials.
Wear protective gloves / protective clothing / eye protection. Wash hands and face thoroughly after handling.
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 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 advice/attention.
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
Potassium nitrate Oxidizing solid, Cat. 3
Ammonium nitrate Oxidizing solid, cat. 3; Eye irrit. cat. 2
Sodium borate Category 1B May disrupt hormones and harm the male reproductive system.
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>30 - 60%</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>6484-52-2</td>
<td>229-347-8</td>
<td>20 - 50%</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>12280-03-4</td>
<td></td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES
Description of first aid measures
General information
In case of persisting adverse effects consult a physician. 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. Do not induce vomiting. 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  
- Causes serious eye 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 surrounding chemicals

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 and face thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from flammable, combustible 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: Combustible substance, reducing agents
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>Ammonium nitrate</th>
<th>Sodium Borate</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA PEL</td>
<td>Not Established</td>
<td>Not Established</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>STEL/ceiling</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>ACGIH (2012 TLVs® and BEIs®)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>2 rng/m³ (inhal. fraction)</td>
</tr>
<tr>
<td>TWA</td>
<td>Not Established</td>
<td>Not Established</td>
<td>2 rng/m³ (inhal. fraction)</td>
</tr>
<tr>
<td>STEL/ceiling</td>
<td>Not Established</td>
<td>Not Established</td>
<td>6 mg/m³ (inhal. fraction)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Potassium nitrate</th>
<th>Ammonium nitrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL Human, dermal, long term (repeated):</td>
<td>20.8 mg/kg/day (systemic)</td>
<td></td>
</tr>
<tr>
<td>DNEL Human, inhalation, long term (repeated):</td>
<td>36.7 mg/m³ (inhal. fraction)</td>
<td></td>
</tr>
</tbody>
</table>

Sodium Borate

|                  | 4800 mg B/day (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.
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 and face thoroughly after handling. Have eye-wash facilities immediately available. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES
Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th></th>
<th>Solid, granular or crystalline powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>White to pale blue</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH value</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point / freezing range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling temperature / boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapourisation rate / Evaporation rate</td>
<td>No data available</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Nitrous oxides (NOx), nitrites, phosphorus oxides, ammonia and metallic oxides.

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 and reducing substances.

Incompatible materials
Flammable, combustible and reducing substances under specific conditions.

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 use.

Symptoms related to the physical, chemical and toxicological characteristics
May be irritant to the respiratory tract. Causes serious eye irritation. May cause redness or irritation to the skin. 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
There is no data for the mixture itself.

Acute toxicity

<table>
<thead>
<tr>
<th>Acute oral toxicity</th>
<th>LD50:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity Estimate for the mixture</td>
<td>&gt; 2000 mg/kg bw (additivity formula)</td>
</tr>
<tr>
<td>Potassium nitrate</td>
<td>&gt;2000 mg/kg bw</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>2950 mg/kg bw</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>Not available</td>
</tr>
</tbody>
</table>

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

Irritant and corrosive effects

<table>
<thead>
<tr>
<th>Irritation to the skin</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td>non-irritant.</td>
<td>Equivalent/similar to OECD guideline 404</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>non-irritant.</td>
<td>Equivalent/similar to OECD guideline 404</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>non-irritant.</td>
<td>Equivalent/similar to OECD guideline 404</td>
</tr>
</tbody>
</table>

Assessment / classification: Based on available data, the classification criteria are not met.
Irritation to eyes

<table>
<thead>
<tr>
<th>Substance</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td>Not-irritating</td>
<td>OECD Guideline 405</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>Irritating (cat. 2)</td>
<td>OECD Guideline 405</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>Not-irritating</td>
<td>Equivalent/similar to OECD Guideline 405</td>
</tr>
</tbody>
</table>

Assessment / classification: Based on available data for ingredients of the mixture, this product is classified and labelled as Eye irritant, cat. 2.

Respiratory or skin sensitisation

Skin sensitization

<table>
<thead>
<tr>
<th>Substance</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td>Not sensitizing.</td>
<td>OECD Guideline 429</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>Not sensitizing.</td>
<td>OECD Guideline 429</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>Not sensitizing.</td>
<td>OECD Guideline 429</td>
</tr>
</tbody>
</table>

Respiratory sensitisation: No information available.

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

Genetic effects

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bacterial (Ames Test)</th>
<th>Chromosomal aberrations</th>
<th>Mutation in mammalian cell:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td>negative</td>
<td>negative</td>
<td>negative</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>negative</td>
<td>negative</td>
<td>negative</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>negative</td>
<td>negative</td>
<td>negative</td>
</tr>
</tbody>
</table>

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

Reproductive toxicity

Adverse effects on sexual function and fertility/developmental toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effects</th>
<th>Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td>No adverse effects on fertility/development (NOAEL &gt;1500 mg/kg bw).</td>
<td>OECD guideline 422</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>No adverse effects on fertility/development (NOAEL &gt;1500 mg/kg bw).</td>
<td>OECD guideline 422</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>NOAEL (male rats): 17.5 mg B/kg bw/day (Multigeneration study) fertility</td>
<td>Benchmark dose (BMDLOS): 10.3 mg B/kg bw/day</td>
</tr>
</tbody>
</table>

Developmental toxicity: 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 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 soluble boron in studies of populations with high exposures to soluble boron.

Assessment / classification: Based on available data, 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 after single exposure.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Practical experience / human evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td></td>
</tr>
<tr>
<td>Potassium nitrate</td>
<td>No relevant effect have been observed after single exposure to potassium nitrate.</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>Not available</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>No relevant effect have been observed after single exposure to the substance.</td>
</tr>
</tbody>
</table>

No reliable study supports the designation of boric acid as a respiratory irritant.

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

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Organs affected:</th>
<th>Effects</th>
<th>Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium nitrate</td>
<td>None</td>
<td>No effects (NOAEL &gt;1500 mg/kg bw)</td>
<td>OECD 422</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>None</td>
<td>No effects (NOAEL &gt;1500 mg/kg bw)</td>
<td>OECD 422</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>Testes</td>
<td>NOAEL(chronic rat): 17.5 mg B/kg bw/day</td>
<td></td>
</tr>
</tbody>
</table>

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)  
No component of this product present at levels ≥0.1 is identified as probable, possible or confirmed human carcinogen by IARC.

National Toxicology Program (NTP)  
No component of this product present at levels ≥0.1 is identified as known or anticipated carcinogen by NTP.

29 CFR part 1910, subpart Z  
No component of this product present at levels ≥0.1 is identified as carcinogen or potential carcinogen by OSHA.

California Proposition 65  
No component of this product present at levels ≥0.1 is identified as carcinogen by California Prop.65.

WHO (2003) Nitrate in drinking water  
No association between nitrate exposure in humans and the risk of cancer.

**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**

Potassium nitrate
- 96-h LC50: 1378 mg/L  
  Poecilia reticulata (freshwater fish)
- 24-h EC50: 490 mg/L  
  Daphnia magna (fresh water flea)
- 10 d EC50: > 1700 mg/L  
  Several algae species

Ammonium nitrate
- 48-h LC50: 447 mg/L  
  Fish (Cyprinus carpio)
- 24-h EC50: 490 mg/L  
  Daphnia magna (fresh water flea) (read across potassium nitrate)
- 10 d EC50: > 1700 mg/L  
  Several algae species (read across potassium nitrate)

Sodium Borate
- 96-h LC50: Not available
- 48-h EC50: Not available
- 72-h EC50: Not available

Assessment / classification: Based on available data, the classification criteria is 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 Phosphorus 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. Product should, if possible, be used for an appropriate application.

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.
14. TRANSPORTATION INFORMATION
US DOT (49CFR part 172)

<table>
<thead>
<tr>
<th>UN-No.</th>
<th>1479</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Proper Shipping Name</td>
<td>(Potassium Nitrate/Ammonium Nitrate) NOS</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>IB8; IP3; T1; TP33</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

US Federal
SARA Title III Rules

Section 311/312 Hazard Classes
- Acute Health Hazard: Yes (Eye irritation)
- Chronic Health Hazard: Yes (Toxic to reproduction)
- Fire Hazard: Yes (Oxidizer)
- Release of Pressure: No
- Reactive Hazard: No

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.

NFPA 704/2012: National Fire Protection Association
- Health: 1
- Fire: 0
- Reactivity: 0
- Special: OX

US State Regulations
California Proposition 65
- No ingredient is listed.
California Code of Regulations Title 22 (Health & Safety Code) See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/Chapter 33

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) and ANSI Standard Z400.1-2004

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 Southern Agricultural Insecticides, Inc. 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 Southern Agricultural Insecticides, Inc. has been advised of the possibility of such damages.