# SAFETY DATA SHEET

## SECTION 1  
**PRODUCT AND COMPANY IDENTIFICATION**

<table>
<thead>
<tr>
<th>Trade Name:</th>
<th>Aspire® with Boron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name:</td>
<td>Potassium Chloride + Boron,</td>
</tr>
<tr>
<td>CAS Number:</td>
<td>7447-40-7 + 1318-33-8 + 1330-43-4</td>
</tr>
<tr>
<td>Chemical Family:</td>
<td>Inorganic Salt</td>
</tr>
<tr>
<td>Synonyms:</td>
<td>Potassium Chloride + Calcium Hexaborate Pentahydrate + Sodium Tetraborate Anhydrous Potash, Potassium Muriate, Muriate of Potash (MOP)</td>
</tr>
<tr>
<td>Primary Use:</td>
<td>Crop nutrient</td>
</tr>
</tbody>
</table>
| Company Information: | THE MOSAIC COMPANY  
3033 Campus Drive  
Plymouth, MN 55441  
www.mosaico.com  
800-918-8270 or 763-577-2700 8 AM to 5 PM Central Time US |
| Emergency Telephone: | EMERGENCY OVERVIEW  
24 Hour Emergency Telephone Number:  
For Chemical Emergencies:  
Call CHEMTREC  
North America: (800) 424-9300 (reference CCN201871)  
Others: (703) 527-3887 (collect) |

## SECTION 2  
**HAZARD IDENTIFICATION**

<table>
<thead>
<tr>
<th>GHS Classification:</th>
<th>Reproductive Toxicity Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Word:</td>
<td>Warning</td>
</tr>
<tr>
<td>Hazard Statement(s):</td>
<td>H361: Suspected of damaging fertility or the unborn child</td>
</tr>
</tbody>
</table>

### Label Elements:

**Prevention:**

- P201: Obtain special instructions before use. See section 7 Handling and Storage.
- P280: Wear protective gloves/protective/clothing/eye protection/face protection. See Section 8 for suggested Personal Protective Equipment.

**Response:**

- P308+ P313: IF exposed or concerned: Get medical advice/attention.

**Storage:**

- Not applicable

**Disposal:**

- P501: Disposal of content/containers to be in accordance with local/regional/national regulations.

**Other Hazards which do not require classification:**

- Handling and/or processing of this material may generate dust which can cause mechanical irritation of the eyes, skin, nose and throat.
## SECTION 3
### COMPOSITION INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Formula:</th>
<th>KCl + 0.5% Boron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition:</td>
<td><strong>Potassium Chloride</strong> CAS 7447-40-7 95-99.5%</td>
</tr>
<tr>
<td></td>
<td><strong>Sodium Chloride</strong> CAS 7647-14-5 0.3-3.7%</td>
</tr>
<tr>
<td></td>
<td><strong>Calcium Hexaborate Pentahydrate</strong> CAS 1318-33-8 1-5% Reproductive Toxicity Category 2</td>
</tr>
<tr>
<td></td>
<td><strong>Sodium Tetraborate Anhydrous</strong> CAS 1330-43-4 1-5% Reproductive Toxicity Category 2</td>
</tr>
</tbody>
</table>

## SECTION 4
### FIRST AID MEASURES

**First Aid Procedures:**

**Eyes:** Move victim away from exposure and into fresh air. Flush eyes with plenty of clean water for at least 15 minutes. If symptoms persist, seek medical attention.

**Skin:** Wash contaminated area thoroughly with mild soap and water. If chemical or solution soaks through clothing, remove clothing and wash contaminated skin. If irritation develops and persists after washing, seek medical attention.

**Inhaled:** If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.

**Ingestion:** If large amounts are swallowed, seek emergency medical attention. If possible, do not leave victim unattended and observe closely for adequacy of breathing.

**Note to Physician:** None Known

## SECTION 5
### FIRE FIGHTING MEASURES

**Extinguishing Media:** Use extinguishing agent suitable for type of surrounding fire.

**Protection of Firefighters:** No unusual fire or explosion hazards are expected. When this material is subjected to high temperatures, it may release small amounts of chloride gas.

Positive pressure, self-contained breathing apparatus is required for all firefighting activities involving hazardous materials. Full structural firefighting (bunker) gear is the minimum acceptable attire. The need for proximity, entry, flashover and/or special chemical protective clothing (see Section 8) needs to be determined for each incident by a competent firefighting safety professional.

Water used for fire suppression and cooling may become contaminated. Discharge to sewer system(s) or the environment may be restricted, requiring containment and proper disposal of water (see Section 6).

## SECTION 6
### ACCIDENTAL RELEASE MEASURES

**Response Techniques:** Stay upwind and away from spill (dust hazard). Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Notify appropriate federal, state, and local agencies as may be required (see Section 15). Minimize dust generation. Sweep up and package appropriately for disposal. Large spills can harm or kill vegetation.
SECTION 7

HANDLING AND STORAGE

Handling: The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 8). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Wash contaminated clothing or shoes. Use good personal hygiene practices.

Storage: Use and store this material in dry, well-ventilated areas. Store only in approved containers. Keep container(s) tightly closed. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Material may absorb moisture from the air.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use process enclosure, general dilution ventilation or local exhaust systems where necessary to maintain airborne dust concentration below the OSHA standards or in accordance with applicable regulations.

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended.

Personal Protective Equipment (PPE):

Skin: The use of cloth or leather work gloves is advised to prevent skin contact, possible irritation and absorption.

Respiratory: A NIOSH approved air purifying respirator with a type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed if workplace conditions warrant a respirator.

Other: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

General Hygiene Considerations: Wash thoroughly after handling
Use adequate ventilation

Exposure Guidelines:

OSHA Permissible Exposure Limits (PEL):

Particulates Not Otherwise Regulated:

5 mg/m³ TWA (respirable);
15 mg/m³ TWA (dust)

ACGIH Threshold Limit Value (TLV):

Particulates Not Otherwise Specified:

2 mg/m³ TWA (8-hour);
6 mg/m³ TWA (STEL-inhalable)

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values in this section are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance: White to reddish-brown, crystalline or granular
Vapor Pressure (mm Hg): Not applicable

Odor: None/Strong Saline
Vapor Density (air=1): Not applicable
Odor Threshold: No data available
Physical state: Solid
pH: 5.4 – 10.0 in a 5% solution
Melting Point/Freezing Point: 772 to 776°C (1423 to 1428°F)
Boiling Point: Sublimes at 1500°C (2732°F)
Flash Point: Not applicable
Evaporation Rate: No data available
Flammability: Not applicable
Upper/lower Flammability or explosive limits: Not applicable

SECTION 10  STABILITY AND REACTIVITY
Chemical Stability: Stable under normal conditions of storage and handling. Material is hygroscopic (May absorb moisture from air when relative humidity >72%).
Conditions to Avoid: None known
Incompatible Materials: Strong oxidizing agents, strong acids
Hazardous Decomposition Products: None known
Corrosiveness: Similar to salt. Mildly corrosive to metals in the presence of moisture.
Hazardous Polymerization: Will not occur

SECTION 11  TOXICOLOGICAL INFORMATION
Substance: Potassium Chloride
Acute Oral Toxicity: LD₅₀ (rat, oral) > 2600 mg/kg
LD₅₀ (mouse, oral) > 1500 mg/kg
Acute Inhalation Toxicity: No data available
Acute Dermal Toxicity: No data available

Substance: Sodium Chloride
Acute Oral Toxicity: LD₅₀ (rat, oral) > 3000 mg/kg
LD₅₀ (mouse, oral) > 4000 mg/kg
Acute Inhalation Toxicity: LC₅₀ (rat) > 42 g/m³/1 hour
Acute Dermal Toxicity: No data available

Substance: Calcium Hexaborate Pentahydrate
Acute Oral Toxicity: No data available
Acute Inhalation Toxicity: No data available
Acute Dermal Toxicity: No data available

Substance: Sodium Tetraborate Anhydrous
Acute Oral Toxicity: LD₅₀ (rat, oral) > 6000 mg/kg
Acute Inhalation Toxicity: \( LC_{50} \) (rat) > 2.0 mg/l

Acute Dermal Toxicity: No data available

Mutagenesis: No data available

Target Organ: No data available

Developmental Toxicity: No data available

Carcinogenicity: No data available

<table>
<thead>
<tr>
<th>Acute Inhalation Toxicity:</th>
<th>LC(_{50}) (rat) &gt; 2.0 mg/l</th>
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<tbody>
<tr>
<td>Acute Dermal Toxicity:</td>
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<td>Mutagenesis:</td>
<td>No data available</td>
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<tr>
<td>Target Organ:</td>
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<tr>
<td>Developmental Toxicity:</td>
<td>No data available</td>
</tr>
<tr>
<td>Carcinogenicity:</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### SECTION 12

**ECOLOGICAL INFORMATION**

Dissolution of large quantities of Potassium Chloride and Sodium Chloride in water may create an elevated level of salinity that may be harmful to fresh water aquatic species and to plants that are not salt-tolerant.

**Potassium Chloride:**
- Lepomis macrochirus \( LC_{50} \) 2010 mg/L
- Physa heterostrapha \( LC_{50} \) 940 mg/L
- Scenedesmus subspicatus \( EC_{50} \) 2500 mg/L

**Sodium Chloride:**
- Ceriodaphania dubia \( LC_{50} \) 280,000 - 3,540,000 ug/L
- Daphnia magna \( LC_{50} \) 3,144,000 - 10,000,000 ug/L
- Daphnia pulex \( EC_{50} \) 56.40 mM
- Pimephales promelas \( LD_{50} \) 6,020,000 - 10,000,000 ug/L

**Sodium Tetraborate Anhydrous:**
- Daphnia magna \( LC_{50} \) 242 mg/L, 24 hours
- Embryonic rainbow trout \( LC_{50} \) 88 mg/L, 21 days

### SECTION 13

**DISPOSAL CONSIDERATIONS**

This material, if discarded as produced, is not an RCRA "listed" or "characteristic" hazardous waste. Contamination may subject it to hazardous waste regulations. It is the generator's responsibility to properly characterize all waste materials. Consult federal, state/provincial and local regulations regarding the proper disposal of this material.

### SECTION 14

**TRANSPORT INFO**

<table>
<thead>
<tr>
<th>Regulatory Status:</th>
<th>Not regulated</th>
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<tr>
<td>Identification Number:</td>
<td>HTS 3104.20.00</td>
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<tr>
<td>Hazard Class:</td>
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<tr>
<td>Proper Shipping Name</td>
<td>Not applicable</td>
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<tr>
<td>Packing Group</td>
<td>Not applicable</td>
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<tr>
<td>DOT Emergency Response Guide Number:</td>
<td>Not applicable</td>
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<tr>
<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:</td>
<td>Not applicable</td>
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<tr>
<td>MARPOL Annex V:</td>
<td>Non-HME</td>
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<td>IMO/IMDG:</td>
<td>Not applicable</td>
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### SECTION 15  REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>CERCLA:</th>
<th>Not listed</th>
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<tbody>
<tr>
<td>RCRA 261.33:</td>
<td>Not listed</td>
</tr>
</tbody>
</table>
| SARA TITLE III: | Section 302/304: Not listed  
(Exemptions at 40 CFR, Part 370 may apply for agricultural use, or for quantities of less than 10,000 pounds on-site.)  
Section 311/312:  
Acute: No  
Chronic: No  
Fire: No  
Pressure: No  
Reactivity: No  
Section 313: Not listed  |
| NTP, IARC, OSHA: | This material has not been identified as a carcinogen by NTP, IARC, or OSHA. |
| Canada DSL and NDSL: | DSL: Yes  
NDSL: Not listed  |
| TSCA:         | Listed on the TSCA Inventory |
| CA Proposition 65:  | This material has not been identified as a carcinogen by NTP, IARC, or OSHA.  
(Health & Safety Code Section 25249.5)  
WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov  |
| WHMIS 2015:   | This SDS has been prepared according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR. |

### SECTION 16  OTHER INFORMATION

| Disclaimer: | The information in this document is believed to be correct as of the date issued. HOWEVER, MOSAIC MAKES NO GUARANTEE, REPRESENTATION, OR WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO THE USE OF THIS PRODUCT. User is responsible for determining whether this product is fit for a particular purpose and suitable for user's method of use or application and assumes the risk of use thereof. The conditions and use of this product are beyond the control of Mosaic, and Mosaic disclaims any liability for loss or damage incurred in connection with the use or misuse of this product. Each user should review the recommended industrial hygiene and safe handling procedures in the specific context of the intended use and determine whether they are appropriate. |
| Preparation: | The preparation of this SDS was in accordance with ANSI Z400.1-2010. |
| Revision Date: | January 7, 2019 |
| Sections Revised: | 2, 3, 10, 15, 16 |
| SDS Number: | MOS 114753 |
MARPOL Annex V; The Fertilizer Institute (TFI), 2003; TOXNET |
Other Hazard Classifications:

<table>
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<tr>
<th>NFPA HAZARD CLASS</th>
<th>HMIS HAZARD CLASS</th>
</tr>
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<tbody>
<tr>
<td>Health: 1</td>
<td>Health: 1</td>
</tr>
<tr>
<td>Flammability: 0</td>
<td>Flammability: 0</td>
</tr>
<tr>
<td>Instability: 0</td>
<td>Physical Hazard: 0</td>
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<tr>
<td>Special Hazard: None</td>
<td>PPE: Section 8</td>
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WHMIS 2015 (HPR) HAZARD CLASS

<table>
<thead>
<tr>
<th>Signal Word</th>
<th>Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbol</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>Classification</td>
<td>Reproductive Toxicity Category 2</td>
</tr>
<tr>
<td>Hazard Statements</td>
<td>H361: Suspected of damaging fertility or the unborn child</td>
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