



SAFETY DATA SHEET

SECTION 1	PRODUCT AND COMPANY IDENTIFICATION
Trade Name:	Aspire® with Boron
Chemical Name:	Potassium Chloride + Boron,
CAS Number:	7447-40-7 + 1318-33-8 + 1330-43-4
Chemical Family:	Inorganic Salt
Synonyms:	Potassium Chloride + Calcium Hexaborate Pentahydrate + Sodium Tetraborate Anhydrous Potash, Potassium Muriate, Muriate of Potash (MOP)
Primary Use:	Crop nutrient
Company Information:	THE MOSAIC COMPANY 3033 Campus Drive Plymouth, MN 55441 www.mosaicco.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: Spill, Leak, Fire or Accident Call CHEMTREC North America: (800) 424-9300 (reference CCN201871) Others: (703) 527-3887 (collect)

SECTION 2	HAZARD IDENTIFICATION	
GHS Classification:	Reproductive Toxicity Category 2	Hazard Statement H361
	Signal Word: Warning Hazard Statement(s) H361: Suspected of damaging fertility or the unborn child	
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	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			
Formula:	KCl + 0.5% Boron				
Composition:	Potassium Chloride	CAS 7447-40-7	95-99.5%		
	Sodium Chloride	CAS 7647-14-5	0.3-3.7%		
	Calcium Hexaborate Pentahydrate	CAS 1318-33-8	1-5%	Reproductive Toxicity Category 2	
	Sodium Tetraborate Anhydrous	CAS 1330-43-4	1-5%	Reproductive Toxicity Category 2	

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:	<p>No unusual fire or explosion hazards are expected. When this material is subjected to high temperatures, it may release small amounts of chloride gas.</p> <p>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.</p> <p>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).</p>				

SECTION 6		ACCIDENTAL RELEASE MEASURES			
Response Techniques:	<p>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.</p>				



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.	
Personal Protective Equipment (PPE):	Eye/Face:	Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended.
	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/m ³ TWA (respirable); 15 mg/m ³ TWA (dust)
	ACGIH Threshold Limit Value (TLV):	Particulates Not Otherwise Specified: 2 mg/m ³ TWA (8-hour); 6 mg/m ³ 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	Specific Gravity or Relative Density:	1.986 - 1.990
Physical state:	Solid	Bulk Density:	Loose 64 - 75 lbs/ft ³ (1025 - 1200 kg/m ³);
pH:	5.4 – 10.0 in a 5% solution	Solubility in Water:	99.5 - 99.999%; 34.2 g/100mL at 20°C
Melting Point/ Freezing Point:	772 to 776°C (1423 to 1428°F)	Partition coefficient:	No data available
Boiling Point:	Sublimes at 1500°C (2732°F)	Auto-Ignition Temperature:	Not applicable
Flash Point:	Not applicable	Decomposition Temperature:	No data available
Evaporation Rate:	No data available	Viscosity:	No data available
Flammability:	Not applicable	Volatility:	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:	LD ₅₀ (rat, oral) > 2600 mg/kg LD ₅₀ (mouse, oral) > 1500 mg/kg
Acute Inhalation Toxicity:	No data available
Acute Dermal Toxicity:	No data available
Substance:	Sodium Chloride
Acute Oral Toxicity:	LD ₅₀ (rat, oral) > 3000 mg/kg LD ₅₀ (mouse, oral) > 4000 mg/kg
Acute Inhalation Toxicity:	LC ₅₀ (rat) > 42 g/m ³ / 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:	LD ₅₀ (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

SECTION 12	ECOLOGICAL INFORMATION																											
Ecotoxicology:	<p>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.</p> <p>Potassium Chloride:</p> <table border="0"> <tr> <td>Lepomis macrochirus</td> <td>LC50</td> <td>2010 mg/L</td> </tr> <tr> <td>Physa heterostrapha</td> <td>LC50</td> <td>940 mg/L</td> </tr> <tr> <td>Scenedesmus subspicatus</td> <td>EC50</td> <td>2500 mg/L</td> </tr> </table> <p>Sodium Chloride:</p> <table border="0"> <tr> <td>Ceriodaphnia dubia</td> <td>LC50</td> <td>280,000 - 3,540,000 ug/L</td> </tr> <tr> <td>Daphnia magna</td> <td>LC50</td> <td>3,144,000 - 10,000,000 ug/L</td> </tr> <tr> <td>Daphnia pulex</td> <td>EC50</td> <td>56.40 mM</td> </tr> <tr> <td>Pimephales promelas</td> <td>LD50</td> <td>6,020,000 - 10,000,000 ug/L</td> </tr> </table> <p>Sodium Tetraborate Anhydrous:</p> <table border="0"> <tr> <td>Daphnia magna</td> <td>LC50</td> <td>242 mg/L, 24 hours</td> </tr> <tr> <td>Embryonic rainbow trout</td> <td>LC50</td> <td>88 mg/L, 21 days</td> </tr> </table>	Lepomis macrochirus	LC50	2010 mg/L	Physa heterostrapha	LC50	940 mg/L	Scenedesmus subspicatus	EC50	2500 mg/L	Ceriodaphnia dubia	LC50	280,000 - 3,540,000 ug/L	Daphnia magna	LC50	3,144,000 - 10,000,000 ug/L	Daphnia pulex	EC50	56.40 mM	Pimephales promelas	LD50	6,020,000 - 10,000,000 ug/L	Daphnia magna	LC50	242 mg/L, 24 hours	Embryonic rainbow trout	LC50	88 mg/L, 21 days
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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
Regulatory Status:	Not regulated
Identification Number:	HTS 3104.20.00
Hazard Class:	Not applicable
Proper Shipping Name	Not applicable
Packing Group	Not applicable
DOT Emergency Response Guide Number:	Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Not applicable
MARPOL Annex V:	Non-HME
IMO/IMDG:	Not applicable



SECTION 15	REGULATORY INFORMATION				
CERCLA:	Not listed				
RCRA 261.33:	Not listed				
SARA TITLE III: (Exemptions at 40 CFR, Part 370 may apply for agricultural use, or for quantities of less than 10,000 pounds on-site.)	Section 302/304: Not listed		RQ: No		TPQ: No
	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: (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:	<p>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.</p> <p>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.</p>
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
References:	Globally Harmonized System of Classification and Labelling of Chemicals (GHS) – 4 th Edition 2011 OSHA Hazard Communication Standard, 2012 MARPOL Annex V; The Fertilizer Institute (TFI), 2003; TOXNET



Other Hazard Classifications:	NFPA HAZARD CLASS		HMIS HAZARD CLASS	
	Health:	1	Health:	1
	Flammability:	0	Flammability:	0
	Instability:	0	Physical Hazard:	0
	Special Hazard:	None	PPE:	Section 8
	WHMIS 2015 (HPR) HAZARD CLASS			
	Signal Word	Warning		
	Symbol			
	Classification	Reproductive Toxicity Category 2		
	Hazard Statements	H361: Suspected of damaging fertility or the unborn child		