



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) Aspire® Fine with Boron	
Primary Use:	Crop nutrient	
Company Information:	Corporate Headquarters	The Mosaic Company 101 East Kennedy Blvd, Ste 2500 Tampa, FL 33602
	US Guarantor	Mosaic Global Sales, LLC 13830 Circa Crossing Drive Lithia, FL 33547
	Canada Guarantor	Mosaic Canada Crop Nutrition, LP 1700 – 2010 12th Ave. Regina, SK Canada S4P 0M3
	Contact Info	www.mosaicco.com (800) 918-8270 or (813) 775-4200
Emergency Telephone:	EMERGENCY OVERVIEW 24 Hour Emergency Telephone Number: <u>For Chemical Emergencies:</u> Spill, Leak, Fire or Accident Call CHEMTREC North America: (800) 424-9300 (reference CCN201871) Others: (703) 527-3887 (collect)	

SECTION 2	HAZARD IDENTIFICATION	
OSHA/HCS Status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). See appropriate classifications below.	
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. P202: Do not handle until all safety precautions have been read and understood. P280: Wear protective gloves/protective/clothing/eye protection/face protection.	
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%	
	Sodium Tetraborate Anhydrous	CAS 1330-43-4	1-5%	

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)
Saskatchewan	CAD SK OEL (Occupational Exposure Limit in Saskatchewan, Canada.)	10 mg/m ³ TWA inhalable 3 mg/m ³ TWA respirable fraction

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
Stability & Reactivity:	None Known
Hazardous Polymerization:	Will not occur

SECTION 11	TOXICOLOGICAL INFORMATION			
	Potassium Chloride	Sodium Chloride	Calcium Hexaborate	Sodium Tetraborate
Acute Oral Toxicity	LD50 >2,600 mg/kg rat, oral	LD50 >3,000 mg/kg, rat, oral	No data	Not classified LD50: 6,000 mg/kg, rat, oral
Acute Toxicity - Dermal	No data	No data	No data	Not classified. >2,000 mg/kg Rabbit. Not classified
Acute Toxicity - Inhalation	No data	LC50> 42 g/m ³ 1hr rat	No data	Not classified. LC50 rat > 2.0 mg/L
Skin Corrosion/Irritation	Not classified	Not classified	No data	Not classified
Serious Eye damage/irritation	Not classified	Not classified	No data	Eye Irritation, Cat 2A
Respiratory/skin Sensitization	Not classified	Not classified	No data	Not classified , OECD406 - Guinea Pig
Germ Cell Mutagenicity	Not classified	Not classified	No data	Not classified
Carcinogenicity	Not classified	Not classified	No data	Not Classified, OECD451, mice
Reproductive Toxicity	Not classified	Not classified	No data	Reproductive Tox, Cat 2,
STOT - Single Exposure	Not classified	Not classified	No data	Classification criteria not met
STOT - Repeated Exposure	Not classified	Not classified	No data	Classification criteria not met
Aspiration Hazard	Not classified	Not classified	No data	No aspiration hazard potential



Information on likely routes of exposure:

Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because product is poorly absorbed through intact skin. Product is not intended for ingestion.

Symptoms related to the physical, and chemical and toxicological characteristics.

Inhalation may cause, irritation, cough, shortness of breath. No significant signs or symptoms indicative or any health hazard are expected as result of skin contact. No significant signs of symptoms indicative of adverse health hazard are expected to occur as a result of eye exposure.

Delayed and immediate effects as well as chronic effects from short and long term exposure.

Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid and sodium borate dust. Human epidemiological studies do not indicate effect on fertility in occupational populations which chronic exposures to borate dust and indicate no effect to a general population with high exposures to borates in the environment.

Numerical measures of Toxicity (such as acute toxicity)

Acute Inhalation Toxicity: LC50 (rat) : 200 mg/L (ATE mix) 4 hr. Based on available data, the classification criteria is not met.


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
	<p>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.</p>

SECTION 14	TRANSPORT INFO
Regulatory Status:	Not regulated
Identification Number:	HTS 3104.20.0000
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:	December 28, 2022
Sections Revised:	1, 2, 3, 8, 10, 11
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			