




SAFETY DATA SHEET

SECTION 1	PRODUCT AND COMPANY IDENTIFICATION
Trade Name:	Sus-Terra™ Fertilizer
Chemical Name:	Monoammonium Phosphate with Ammonium Sulfate with complexed Organics; Organic Complexed Ammonium Phosphate, Ammonium Sulfate, with Organic Content from Food Waste Digestate, Municipal Bio-solids and/or Animal Residuals
CAS Number:	7722-76-1, 7783-20-2
Chemical Family:	Ammonium Phosphates—Inorganic Salts
Primary Use:	Crop nutrient
Company Information:	The Mosaic Company 101 East Kennedy Blvd, Ste 2500 Tampa, FL 33602 www.mosaicco.com (800) 918-8270 or (813) 775-4200 8 AM to 5 PM Eastern Time USA
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:	Acute Toxicity Oral Category 4 Skin Irritant Category 2 Serious Eye Irritation - Category 2A STOT SE Category 3	Hazard Statement H302 Hazard Statement H315 Hazard Statement H319 Hazard Statement H335
	Signal Word: WARNING Hazard Statement(s) H302: Harmful if swallowed H315: Causes skin irritation H319: Causes serious eye irritation H335: May cause respiratory irritation	
Label Elements:		
Prevention:	P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves, eye protection. P261: Avoid breathing dust P271: Use only outdoors or in a well-ventilated area.	
Response:	P302+ P352	IF ON SKIN: Wash with plenty of water.
	P321	Specific Treatment, see supplemental first aid information.
	P332+ P313	If skin irritation occurs: Get medical advice/attention.
	P362+ P364	Take off contaminated clothing and wash it before reused.
	P305+P351+ P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P337+ P313	If eye irritation persists: Get medical advice/attention.
	P304+ P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.



	P301+312	IF SWALLOWED: Call a POISON CENTER.
Storage:	Not applicable	Not applicable
Disposal:	P501	Disposal of content/containers to be in accordance with local/regional/national regulations.

SECTION 3		COMPOSITION INFORMATION ON INGREDIENTS			
Formula:	Proprietary				
Composition:	Monobasic Ammonium Phosphate Ammonium Sulfate Organics (Proprietary)	CAS 7722-76-1 CAS 7783-20-2 *Proprietary	40-50% 25-35% 12-17%	Acute Toxicity Oral Category 4 Skin Irritant Category 2 Serious Eye Irritation - Category 2A STOT SE 3 (Lungs, Inhalation)	
*The specific chemical identities and percentages withheld as a trade secret. Organic Complexed Ammonium Sulfate, Ammonium Phosphate, and Phosphoric Acid with Organic Content from Municipal Biosolids, Food Waste Digestate and/or Animal Residuals.					

SECTION 4		FIRST AID MEASURES	
First Aid Procedures:	If in 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.	
	If on 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.	
	If Inhaled:	If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.	
	If Swallowed:	If large amounts are swallowed, seek emergency medical attention. If possible, do not leave victim unattended and observe closely for adequacy of breathing.	
MOST IMPORTANT SYMPTOMS & EFFECTS (ACUTE OR DELAYED): Causes eye and skin irritation. Symptoms may include itching, pain, tearing, and redness. May cause respiratory irritation. Symptoms may include coughing, sore throat, shortness of breath, and difficulty breathing. Harmful if swallowed. Symptoms may include gastrointestinal distress with pain, nausea, vomiting, or diarrhea.			
IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT: Treat symptomatically.			

SECTION 5		FIRE FIGHTING MEASURES	
Extinguishing Media:	Use extinguishing agent suitable for type of surrounding fire. Avoid excessive water to minimize runoff. Prevent firefighter water from entering the environment. Small fires: Water spray, foam, dry chemical or CO ₂ Large fires: Water spray, fog or foam		
Protection of Firefighters:	Positive pressure, self-contained breathing apparatus is required for all firefighting activities involving hazardous materials.		



SECTION 6	ACCIDENTAL RELEASE MEASURES
<p>Personal precautions, protective equipment and emergency procedures: Before attempting clean-up, refer to Section 8 personal protection. Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Contact emergency services and supplier for advice.</p>	
<p>Methods and materials for containment and cleaning up: Evacuate unprotected and untrained personnel from the area. The spill should be handled by qualified personnel only. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Collect the spilled material and clean up the area. Place waste materials in a closed container suitable for disposal. Dike wash water for proper disposal. DO NOT contaminate sources of drinking water, irrigation water or aquatic habitats when cleaning equipment or disposing of waste. Refer to Section 13 for disposal considerations.</p>	

SECTION 7	HANDLING AND STORAGE
Handling:	<p>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.</p> <p>Avoid systems that would tend to segregate dust or any components of this product. Avoid accumulation of fugitive dust, as high concentrations of sulfur dust may present an explosion hazard. Follow standard safe-work practices, including hot-work procedures when working around this product.</p>
Storage:	<p>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.</p>

SECTION 8	EXPOSURE CONTROLS / PERSONAL PROTECTION	
Engineering Controls:	<p>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.</p>	
Personal Protective Equipment (PPE):	Eye/Face:	<p>Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended.</p>
	Skin:	<p>The use of cloth or leather work gloves is advised to prevent skin contact, possible irritation and absorption.</p>
	Respiratory:	<p>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.</p>
	Other:	<p>A source of clean water should be available in the work area for flushing eyes and skin.</p>



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 (total)
	ACGIH Threshold Limit Value (TLV):	Particulates Not Otherwise Specified: 3 mg/m ³ TWA (respirable); 10 mg/m ³ TWA (inhalable)

SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES
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Note: Unless otherwise stated, values in this section are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance:	Light brown crystals or granules	Vapor Pressure (mm Hg):	Not applicable
Odor:	Slight ammonia odor	Vapor Density (air=1):	Not applicable
Odor Threshold:	No data available	Specific Gravity or Relative Density:	Not applicable
Physical state:	Solid	Bulk Density:	54 - 55 lb/cu ft 864 - 880 kg/m ³
pH @ 20°C:	4.5 – 6.5	Solubility in Water:	76.7%
Melting Point/ Freezing Point:	Partial at 235°C (455°F)	Partition coefficient:	No data available
Boiling Point:	Not applicable	Auto-Ignition Temperature:	Not applicable
Flash Point:	Not applicable	Decomposition Temperature:	Not available
Evaporation Rate:	No data available	Viscosity:	No data available
Flammability:	Not flammable	Volatility:	Not applicable
Upper/Lower Flammability or explosive limits	Not applicable	Relative Density (water =1):	0.84

SECTION 10	STABILITY AND REACTIVITY
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Chemical Stability:	Stable under normal conditions of storage and handling.
Conditions to Avoid:	Extreme temperatures, accumulation of dust & incompatible materials.
Incompatible Materials:	Keep away from ammonium nitrate, potassium or sodium alloys, bases, chlorates, chlorine, copper and alloys, nitrates, strong oxidizers, potassium chlorate, potassium nitrate, and sodium hypochlorite.
Hazardous Decomposition Products:	Gaseous ammonia, oxides of nitrogen, oxides of carbon, oxides of sulfur.
Hazardous Polymerization:	Will not occur

SECTION 11	TOXICOLOGICAL INFORMATION
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Substance:	Monoammonium Phosphate
Acute Oral Toxicity:	LD ₅₀ (rat, oral) > 5750 mg/kg
Acute Inhalation Toxicity:	No data available
Acute Dermal Toxicity:	LD ₅₀ (rat, dermal) > 7940 mg/kg




Substance:	Ammonium Sulfate		
Acute Oral Toxicity:	LD ₅₀ (rat, oral) 3000 mg/kg		
Acute Inhalation Toxicity:	LC ₅₀ (rat, 8 h) > 1000 mg/m ³		
Acute Dermal Toxicity:	LD ₅₀ (rat, dermal) > 2000 mg/kg		
Substance:	Organics		
Acute Oral Toxicity:	No data available		
Acute Inhalation Toxicity:	No data available		
Acute Dermal Toxicity:	No data available		
Substance:	Acute Toxicity Estimates for the product		
Acute Oral Toxicity:	LD ₅₀ : 2000 mg/kg		
Acute Inhalation Toxicity:	LC ₅₀ : >5 mg/L (dust)		
Acute Dermal Toxicity:	LD ₅₀ : >2000 mg/kg		
Mutagenesis:	No data available	Target Organ:	STOT SE Cat 3; may cause respiratory irritation.
Skin Corrosion/Irritation:	Single dermal dose of 0.5 g elicited mild dermal irritation in the rabbit.	Serious eye damage/Irritation:	A single ocular dose of 100 mg elicited moderate irritation in the rabbit.
Respiratory or Skin sensitization:	Insufficient data available.	Aspiration Hazard:	Insufficient data available.
Reproductive Toxicity:	No data available	Carcinogenicity:	Insufficient data available.

SECTION 12	ECOLOGICAL INFORMATION
Ecotoxicology:	<p>Ammonium sulphate (CAS 7783-20-2)</p> <p>Aquatic</p> <p>Algae EC₅₀ Chlorella vulgaris 2700 mg/l, 18 days</p> <p>Crustacea EC₅₀ Water flea (Daphnia magna) > 100 mg/l, 96 hours</p> <p>Fish LC₅₀ Salmo gairdneri 173 mg/l, 96 hours</p> <p>May release ammonium ions that are toxic to fish. Un-ionized ammonia concentrations above 0.02 mg/l are considered toxic in fresh water. May release phosphates which will result in algae growth, increased turbidity, and depleted oxygen. At high concentrations, this may be hazardous to fish or other marine organisms. Release to watercourses may cause effects downstream. Fish 96 hour LC₅₀, OECD Guidelines 203 (rainbow trout): > 86 mg/l.</p>




SECTION 13	DISPOSAL CONSIDERATIONS
	Recover or recycle if possible. Properly characterize all waste materials. Consult federal, state/provincial and local regulations regarding the proper disposal of this material. Prevent material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways.



SECTION 14	TRANSPORT INFO
Regulatory Status:	Not regulated
Identification Number:	Not applicable
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: Yes	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:	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																					
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Preparation:	The preparation of this SDS was in accordance with ANSI Z400.1-2010.																					
Revision Date:	February 3, 2021																					
Sections Revised:	1																					
SDS Number:	MSH10A																					
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:	<table border="1"> <thead> <tr> <th colspan="2">NFPA HAZARD CLASS</th> </tr> </thead> <tbody> <tr> <td>Health:</td> <td>2</td> </tr> <tr> <td>Flammability:</td> <td>0</td> </tr> <tr> <td>Instability:</td> <td>0</td> </tr> <tr> <td>Special Hazard:</td> <td>None</td> </tr> </tbody> </table>	NFPA HAZARD CLASS		Health:	2	Flammability:	0	Instability:	0	Special Hazard:	None	<table border="1"> <thead> <tr> <th colspan="2">HMIS HAZARD CLASS</th> </tr> </thead> <tbody> <tr> <td>Health:</td> <td>2</td> </tr> <tr> <td>Flammability:</td> <td>0</td> </tr> <tr> <td>Physical Hazard:</td> <td>0</td> </tr> <tr> <td>PPE:</td> <td>Section 8</td> </tr> </tbody> </table>	HMIS HAZARD CLASS		Health:	2	Flammability:	0	Physical Hazard:	0	PPE:	Section 8
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