



Hazmat (DOT) Program

Document Title: Phosphates Hazmat (DOT) Program		Document Identifier: 692668	
Applies to: North America Phosphates Business		Managed by: Mosaic EHS PMO	
Document Owner: Director, NAB Health & Safety Department		Document Approver: VP, Mosaic EHS	
Current Version Effective Date:	August 15, 2024	Formal Review Cycle Due Date	May 2031

TABLE OF CONTENTS

1.	Purpose	1
2.	Scope	1
3.	Definitions	1
4.	Procedures	3
5.	Training	7
6.	Program Review	7
7.	Contractors / Vendors	7
8.	References	7
9.	Appendices	8
10.	Revision log	8

1. PURPOSE

To provide a comprehensive Hazardous Materials program to meet the requirements of all federal and state regulations regarding the handling and transportation of Hazardous Materials.


2. SCOPE

This Program applies to all Mosaic Phosphates Operations.

3. DEFINITIONS

3.1 Bulk Packaging – Receptacles other than a vessel or barge that has no intermediate form of containment with capacities exceeding those listed for Non-bulk Packaging.

3.2 Consumer Commodity - A limited quantity of a material that packaged and distributed in a form intended or suitable for sale through retail sales for consumption by individuals for purposes of personal care or household use. This term includes drugs and medicines.


 **Note:** DOT phased out the consumer commodity marking (ORM-D) and replaced it with Limited Quantity marking for highway transport on 12/30/20.

DOT - US Department of Transportation. The Pipeline and Hazardous Materials Safety Administration (PHMSA) is responsible for regulating and ensuring the safe and secure movement of hazardous materials to industry and consumers to, from, or within the **U.S.** by all modes of transportation, highway, aircraft, rail, and vessel.

3.3 Hazard Class and Division - The category of hazard assigned to a Hazardous Material by DOT.

3.4 Hazardous Material – Means a substance or material that DOT has determined is capable of posing an unreasonable risk to health, safety and property when transported in commerce. The term includes hazardous substances, hazardous wastes, marine pollutants, flammable or combustible liquids, compressed gases, explosives, and elevated temperature materials.

- 3.5 Hazardous Waste - A solid, liquid, or contained gaseous material that is among those listed in 40 CFR 262 or those materials characterized as ignitable, corrosive, reactive or toxic and are discarded by being disposed of, burned, or incinerated, or recycled.
- 3.6 Hazardous Waste Manifest - A multi-part form designed to track Hazardous Waste from generation to disposal.
- 3.7 HAZMAT - Hazardous Materials.
- 3.8 HAZMAT Employee - A person who in the course of employment directly affects Hazardous Material transportation safety which includes persons who:
 - 3.8.1 Transport Hazardous Materials.
 - 3.8.2 Load or unload Hazardous Materials.
 - 3.8.3 Manufactures, repairs, modifies, or marks containers or packages for the transportation of Hazardous Materials.
 - 3.8.4 Prepares or offers Hazardous Materials for transportation.
 - 3.8.5 Prepares Shipping Papers.
 - 3.8.6 Is responsible for the safety of transporting Hazardous Materials.
- 3.9 HMR - means the Hazardous Materials Regulations that apply to transportation are contained in Title 49 of the Code of Federal Regulations Parts 171 through 180.
- 3.10 Materials of Trade - Materials other than a Hazardous Waste transported in a motor vehicle in limited quantities that are in direct support of the vehicle it is carried in or a business whose principal purpose is not transportation by motor vehicle.
- 3.11 Non-bulk Packaging - Receptacles with the following capacity are identified as non- bulk:
 - 3.11.1 For a liquid: 119 gallons (450 L) or less
 - 3.11.2 For a solid: 119 gallons (450 L) or less and max net mass no more than 882 pounds (400 Kg).
 - 3.11.3 For gas: 1,000 pounds (454 Kg) water capacity or less.

 **Note:** Examples of non-bulk packaging are fiberboard boxes, drums, jerricans, bags and cylinders.
- 3.12 Packaging - a receptacle designed to perform a containment function in conformance with the minimum packing requirements of the HMR.
- 3.13 Packing Group – A grouping assigned to a Hazardous Material by DOT according to the degree of danger presented by the materials. Packing Group I indicate great danger, Packing Group II, medium danger, and Packing Group III indicates minor danger.
- 3.14 Private Motor Carrier - A person who provides transportation of property or passengers by Commercial Motor Vehicle and is not a for hire motor carrier.
- 3.15 Railroad Stop Sign (Blue Flag) – A caution sign placed on tracks or equipment (tank cars) which signifies employees are working on, under or between equipment on that track. Must be made of metal or durable material, blue in color, rectangular in shape, at least 12 inches high by 15 inches wide, and must bear the word "STOP" in white letters at least 4 inches high. Additional words, such as "Tank Car Connected" or "Crew at Work," may also appear in white letters under the word "STOP."
- 3.16 Reportable Quantity (RQ) – A quantity of a Hazardous Material that triggers reports under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). If a release exceeds its RQ, it must be reported as soon as possible.
- 3.17 Shipper – A trained and authorized employee who offers Hazardous Materials or Hazardous Waste for shipment.
- 3.18 Shipping Paper – A bill of lading, freight bill, hazardous waste manifest, or other shipping document that clearly identifies a hazardous material, the appropriate shipping information and

emergency response information. No carrier may transport a hazardous material unless it is accompanied by a shipping paper that is prepared in accordance with the HMR.

- 3.19 Transport - The movement of property and loading, unloading and storage incidental to that movement.


4. PROCEDURES

4.1 Outgoing Shipments


- 4.1.1 Only trained Warehouse and Environmental personnel shall be permitted to ship non-bulk packages of Hazardous Materials or Hazardous Waste.
- 4.1.2 Warehouse and Environmental personnel offering Hazardous Materials or Hazardous Waste for shipment shall be responsible for assuring that proper shipping papers, labels, markings, packaging, and placards, if applicable, are provided.
- 4.1.3 Personnel offering Hazardous Materials for shipment will make certain that all hazardous material labels match the hazard classes or divisions entered on the shipping papers.
- 4.1.4 Hazardous Materials shall not be offered for shipment if discrepancies, inaccuracies, or incomplete entries are found on the shipping papers.
- 4.1.5 The Shipper is responsible for properly marking all non-bulk and bulk packages.
- 4.1.6 Non-bulk packages must be marked with the proper shipping name, ID number, and the originator's or destination's name and address.
- 4.1.7 The Shipper is responsible for providing emergency response information with all Hazardous Materials shipments. Which includes:
 - a. A basic description and technical name of the hazardous material as found on the shipping papers.
 - b. Immediate hazards to health.
 - c. Risks of fire or explosion.
 - d. Immediate precautions to be taken in the event of an accident or incident.
 - e. Immediate methods of handling fires.
 - f. Initial methods for handling spills or leaks in the absence of fire.
 - g. Preliminary first aid measures.
- 4.1.8 Employees shall not accept or sign for any Hazardous Materials shipment unless proper Shipping Papers accompany it.


4.2 Transportation by Company Vehicles


- 4.2.1 Vehicle drivers shall not Transport Hazardous Materials in quantities greater than those limited **by the Materials of Trade exemption unless** the:
 - a. Driver is an authorized Commercial Motor Vehicle Driver with a hazardous material endorsement
 - b. Vehicle is properly placarded, containers are properly labeled
 - c. Shipping Papers are provided.

 **Note:** See 4.3 and Appendix A for Materials of Trade for details on how much from each hazard class you can ship under this exemption to the full regulations.

- 4.2.2 Vehicle drivers shall inspect all packages prior to loading to ensure they are in proper condition for transportation and shall refuse to accept or sign for damaged or leaking packages.
- 4.2.3 Placards shall be placed on each side, on the front, and on the back of vehicles when required. Placards must be removed from any vehicle not carrying hazardous materials.

- 4.2.4 The vehicle driver shall be responsible for maintaining the integrity of the placards during transportation.
 - 4.2.5 Vehicles shall be secured from moving before any loading or unloading is commenced.
 - 4.2.6 Smoking within 25 feet of a vehicle while loading/unloading any Class 1 (explosive), Class 3 (flammable liquid), Class 4 (flammable solid), Class 5 (oxidizing), or Division 2.1 (flammable gas) materials is forbidden.
 - 4.2.7 The vehicle driver will make certain the shipment is secured to prevent shifting and cargo movement during transit and is within legal weight limits.
 - 4.2.8 Vehicle drivers will not unload or allow the unloading process to begin until the destination representative has accepted and signed for the shipment.
 - 4.2.9 Regulators shall be removed, and protective caps will be installed before transporting compressed gas cylinders unless they are firmly secured to the vehicle and protected by a device or enclosure that prevents damage to cylinder valves, regulators, gauges, or hoses. Compressed gas cylinders shall be transported in an upright position.
 - 4.2.10 The following procedures are to be implemented by the vehicle driver if an accident or incident involving Hazardous Materials occurs:
 - a. Secure the scene. Keep people away from the accident and/or spill.
 - b. Do not touch or walk into or through any spilled material.
 - c. Avoid inhalation of all gases, fumes, and smoke. Do not assume fumes are not present simply because no odor or visible cloud is present.
 - d. Consult the Emergency Response Information provided with the shipping papers and follow the guidelines.
 - e. Notify the local police and/or fire department, and Emergency Response Authorities immediately.
 - f. Report the accident/incident to Security immediately.
 - g. Stay with the vehicle and supervise the cleanup procedures.
 - 4.2.11 Security is responsible for the coordination of all aspects of the accident/incident response.
 - 4.2.12 Environmental will assume coordination of cleanup and reporting, as necessary.
 - 4.2.13 Vehicle drivers shall not transport any hazardous material without proper emergency response information. The Emergency Response telephone number must be properly documented on the Shipping Papers.
- 4.3 Materials of Trade
- 4.3.1 Materials of Trade (MOT) are hazardous materials other than hazardous waste that can be transported in small quantities as part of doing business and are subject to less regulations because of the limited hazard they pose.
 -  **Note:** Certain hazards classes and materials are prohibited from being transported as material of trade. (e.g., explosives and poisonous gases)
 - 4.3.2 Mosaic Fertilizer can use this exemption to transport limited quantities of certain items such as paint, gasoline, solvents, welding gases, etc. on a motor vehicle used in the course of daily work.
 - 4.3.3 The MOT exemption is available since Mosaic is not a primary transportation company of hazardous materials.
 - 4.3.4 Hazardous materials transported **within the limits** of the Materials of Trade exemption do not require shipping papers, emergency response information, placarding, formal training, or recordkeeping.
 - 4.3.5 Packaging must be either the manufacturer's original packaging or a package of equal or greater strength and integrity.

- 4.3.6 Packaging must be marked with a common name such as “gasoline” or “spray paint” or a proper shipping name from the HMR such as “Isopropyl alcohol.”
 - 4.3.7 Packaging must be leak tight for liquids and gases and sift proof for solids.
 - 4.3.8 Packages must be securely closed, secured against movement, and protected against damage.
 - 4.3.9 Outer packaging is not required for receptacles such as cans or bottles that are secured against movement in cages, bins, boxes, or compartments.
 - 4.3.10 Gasoline must be transported in approved metal or plastic containers meeting DOT or OSHA requirements.
 -  **Reference:** 29CFR1910.106(d)(2) or 1926.152 (a)(1)
 - 4.3.11 Cylinders and pressure vessels must be marked with the proper shipping name, identification number and have a hazard class label.
 - 4.3.12 If the package contains a Reportable Quantity of a Hazardous Material, it must be marked “RQ.”
 - 4.3.13 Vehicle drivers are required to complete Hazardous Materials awareness training every three years on Transportation of Materials of Trade (CBT PHOS-092820202) to gain general knowledge of Materials of Trade exemption, quantity limitations, packaging, marking and labeling requirements.
 - 4.3.14 No more than 440 pounds combine gross weight of Materials of Trade may be transported on any one vehicle at one time with quantities limited to the Hazardous Materials in the Classes and Divisions listed in Appendix A (see Appendix B for compressed gas examples).
 - 4.3.15 The only exception to the 440 pounds maximum weight allowed in the Materials of Trade exemption is up to 400 gallons in a tank of a diluted mixture of a Class 9 material not exceeding 2% concentration.
- 4.4 Shipping Papers
- 4.4.1 Shipping Papers must contain the following information:
 - a. Identification number (ID), proper shipping name, hazard class, packing group (if required), and total quantity of the shipment.
 - b. Emergency Response Telephone Number.
 - c. Pages numbered as 1 of 3, 2 of 3, 3 of 3, etc., if multiple pages are involved in the document.
 - d. A signed Shipper's Certification, with the signature of an authorized employee.
 - 4.4.2 Hazardous Materials included on the same Shipping Paper with non-hazardous items will be listed first, be in red ink or have an X or Reportable Quantity (RQ) in a column designated Hazardous Material (HM).
- 4.5 Tank Car Loading and Unloading
- 4.5.1 Only personnel with current training certification in the Hazardous Material regulations pertaining to the loading and unloading of tank cars shall participate in the loading and unloading process.
 - 4.5.2 When in place for loading or unloading, and before any closure is unsecured, a tank car must be protected against movement or coupling as follows:
 - a. Railroad Stop signs (blue flags) shall be placed on the track or on the cars from the open end of the track to warn persons approaching the cars from the open end of the track and must be left up until all the closures are secured and the cars are in proper condition for transportation.
 - b. At least one wheel on a single tank car must be blocked against movement in both directions, and the hand brake must be set. If multiple tankcars are coupled

- together, sufficient hand brakes must be set, and wheels chocked to prevent movement in both directions.
- c. Hazmat employee responsible for loading or unloading must secure access to the track to prevent entry by other rail equipment, including motorize service vehicles. Place and lock derailleurs and lock switches at least one car length from the end car on tracks where switch engine entry may be obtained. Switches and derailleurs shall be locked out according to the Lockout Procedure.
- 4.5.3 Railcars shall be attended by a trained person at all times when it is being loaded or unloaded.
- a. Hazmat employee present with an unobstructed view of the operation, or monitoring system observed by hazmat employee, capable of immediate notification of emergency or malfunction
- 4.5.4 Tankcar examination before shipping. No person may offer for transportation a tankcar containing hazmat or residue of hazmat unless it determined the car is in proper condition and safe for transportation.
- 4.5.5 A visual external inspection of a tank car must include:
- a. Tank shell and heads for corrosion, cracks, dents, except when insulation precludes an inspection
 - b. Valves, fittings, gaskets
 - c. Missing or loose bolts, nuts that make the tank car unsafe for transportation
 - d. All closures and all fastenings must be tool tight
 - e. Protective housing for proper securement
 - f. Pressure relief devices inspected for corrosion or damage. A rupture disc is not required to be removed on residue tankcars for class 8 corrosives or Class 9 elevated temperature materials.
 - g. Thermal protection (jacket), head shields, double shelf couplers.
 - h. Markings for legibility
 - i. Periodic inspection date markings to ensure inspection intervals are within the prescribed intervals.
 - j. Spillage on the car.
- 4.6 Truck Cargo Tank Loading and Unloading
- 4.6.1 Only personnel with current training certification in the Hazardous Material regulations pertaining to the loading and unloading of cargo tanks shall participate in the loading and unloading process.
- 4.6.2 Smoking shall not be permitted within 25 feet of a hazardous material transfer involving any motor vehicle carrying flammable liquids, flammable solids, oxidizers, or flammable gas materials is prohibited.
- 4.6.3 No Hazardous Material shall be loaded into, on, or unloaded from, any motor vehicle unless the:
- a. Handbrake is securely set.
 - b. Wheels securely chocked.
 - c.  **Note:** The use of wheel chocks may vary from site to site. For site specific requirements, please see Mosaic's truck contactor procedures for hauling, loading/unloading hazardous materials.
 - d. Vehicle's engine is shut off, except when the material is being loaded/unloaded by a pump or other device that require the engine to remain running.
- 4.6.4 Attendance requirements.



- a. Loading. A cargo tank must be attended by a qualified person at all times when it is being loaded. The person who is responsible for loading the cargo tank is also responsible for ensuring that it is so attended.
 - b. Unloading. It is the carrier's obligation to ensure a cargo tank is attended at all times during unloading. The carrier's obligation to ensure attendance during unloading ceases when all of the following conditions are met:
 - i. The carrier's obligation for transporting the materials is fulfilled.
 - ii. The cargo tank has been placed upon the consignee's premises.
 - iii. The motive power has been removed from the cargo tank and removed from the premises.
- 4.6.5 A qualified person is considered in attendance of loading or unloading of a cargo tank if he is:
- a. Alert and is within 25 feet of the cargo tank.
 - b. Has an unobstructed view of the cargo tank and delivery hose.
 - c. A person is "qualified" if the person is aware of the nature of the hazmat that is being loaded or unloaded, has been instructed on emergency procedures, and is authorized to move the cargo tank and has the means to do so.
- 4.6.6 A cargo tank containing a Hazardous Material regardless of quantity may not be moved unless:
- a. All manhole closures are closed and secured, and
 - b. All valves and other closures are closed and free of leaks.

5. TRAINING

- 5.1 No person shall knowingly ship, receive, transport, load, unload, or prepare or handle Shipping Papers for Hazardous Materials, without having received documented, current training in the appropriate topics for the tasks to be performed.
- 5.2 Employees who change job functions may perform those HAZMAT functions under the direct supervision of a currently trained and knowledgeable HAZMAT employee for up to 90 days prior to completion of training.
- 5.3 Training is required to be repeated at three-year intervals or when an employee displays a need for additional training.

6. PROGRAM REVIEW

- 6.1 This Program and the attached appendices shall be reviewed every seven years for accuracy and completeness.

7. CONTRACTORS / VENDORS

- 7.1 Contractors and vendors vehicles and personnel will meet the performance requirements of this policy and the DOT HAZMAT rules.
- 7.2 Contractors and vendors must be able to show documentation that vehicle operators have received the appropriate training for the tasks they are to perform.

8. REFERENCES

- 8.1 Hazardous Materials Regulations, 49 CFR PART 171 –180
- 8.2 Motor Carrier Safety Regulations, 49 CFR Part 40, 300 - 399, 571 & 23 CFR Part 658
- 8.3 OSHA, 29CFR 1910.106(d)(2) Flammable liquids design, construction, and capacity of containers
- 8.4 OSHA 29CFR 1926.152 (a)(1) Flammable liquids general requirements



8.5 Mosaic's Truck Contractor Procedures for Hauling/Loading/Unloading Hazardous Materials.

9. APPENDICES

9.1 Appendix A - Materials of Trade

9.2 Appendix B - Compressed Gas Cylinders Allowable by Materials of Trade

10. REVISION LOG

Revision Log				
Rev. No.	Requested By	Approved By	Revised By	Rev. Date
0	Initial Issue	Safety Advisory Panel	CSIP Task Team	12/18/01
1	Logo Change	Safety and Health	J. Marshall	11/15/06
2	Initial issue for Mosaic	Safety and Health	R. Collins	5/30/07
	Reformat for ISO		D. Allen	7/26/2011
3	Mike Neal	Mike Neal	Mitch McDowell	10/10/2012
4	Review Cycle	Director Phosphate Safety	SME	12/9/2015
5	PMO	PMO	PMO	05/15/2023
6	PMO	Mosaic EHS	PMO	08/15/24

Contact the Subject Matter Expert for additional information on this program.



APPENDIX A Materials of Trade

Maximum of 440 Pounds combined gross weight in any combination

Material Type	HMR Class/Division	Maximum Package Size / Examples		
		Packing Group I	Packing Group II	Packing Group III
Flammable Gases	2.1	220 pound gross weight per cylinder / acetylene, propane		
Non-Flammable Gases	2.2	220 pound gross weight per cylinder /oxygen, nitrogen, argon		
Flammable or Combustible Liquids	3	1 pound or 1 pint / acetaldehyde	8 gallons or 66 pounds / acetone, gasoline, paint thinner	
Flammable Solids	4.1	1 pound or 1 pint	8 gallons or 66 pounds / charcoal, fuses, matches	
Spontaneously Combustible	4.3	Not allowed / Calcium carbide	1 ounce / aluminum powder	
Oxidizers	5.1	1 pound or 1 pint	8 gallons or 66 pounds / ammonium nitrate fertilizer 90%	
Organic Peroxides	5.2	1 pound or 1 pint	8 gallons or 66 pounds	
Poisons	6.1	1 pound or 1 pint	8 gallons or 66 pounds / lead compounds, ethyl bromide	
Corrosive	8	1 pound or 1 pint	8 gallons or 66 pounds / sulfuric acid, phosphoric acid, drain cleaners	
Miscellaneous	9	1 pound of 1 pint	8 gallon or 66 pounds / asbestos, lithium batteries	
Consumer Commodities	9	1 pound or 1 pint	8 gallon or 66 pounds	



APPENDIX B Compressed Gas Cylinders Allowable by Materials of Trade

440 pounds maximum - No other Hazardous Materials transported

		Oxygen (150lb.)				
		No.	0	1	2	3
Small Acetylene (70 lb.)	0	0	150	300	450	
	1	70	220	370	520	
	2	140	290	440	510	
	3	210	360	510		
	4	280	430	580		
	5	350	500			
	6	420	490			
	7	490				

		Oxygen (150 lb.)				
		No.	0	1	2	3
Large Acetylene (200 lb.)	0	0	150	300	450	
	1	200	350	500		
	2	400	550			
	3	600				