



Phosphate Program – Environmental, Health and Safety (EHS) Department

Personal Protective Equipment Program

Document Title: Phosphate Personal Protective Equipment Program		Document Identifier: <Generated by Content Server>	
Applies To: North America Phosphates		Managed By: EHS PMO	
Document Owner: Director, NA Health & Safety Department		Document Approver: VP EHS	
Current Version Effective Date:	21 May 2025	Formal Review Cycle Due Date:	21 August 2030

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1. PURPOSE

The objective of this program is to protect personnel from the risk of injury by creating a barrier against workplace hazards with the use of personal protective equipment, and to establish procedures for personal protective equipment selection and use at all Mosaic Fertilizer LLC Phosphate Business Unit facilities. Addressed in the program are head protection, eye and face protection, hand protection, foot protection, electrical protective clothing, and other protective clothing and water safety devices. Other programs are established for respiratory protection, hearing protection, fall protection, and emergency response protective equipment.

2. SCOPE

This program covers all employees, contractors, and visitors on Mosaic Fertilizer LLC Phosphate Business Unit property.

3. DEFINITIONS

- 3.1 PPE - Personal Protective Equipment - All clothing and equipment worn by an employee / contractor to protect themselves from workplace hazards.
- 3.2 ANSI - American National Standards Institute
- 3.3 NIOSH - National Institute of Occupational Safety and Health
- 3.4 USCG - United States Coast Guard
- 3.5 JSA - Job Safety Analysis

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- 3.6 SWP - Safe Work Procedure
- 3.7 SDS - Safety Data Sheet
- 3.8 PFD - Personal Flotation Device
- 3.9 ASTM - American Society for Testing and Materials
- 3.10 HRS - Heat Recovery System (Sulfuric acid plants)

4. GENERAL REQUIREMENTS

4.1 The minimum required PPE for Mosaic employees and contractors at operational facilities is:


- hard hat,
- safety glasses,
- approved safety shoes/boots,
- high visibility clothing or break-away vest,
- gloves,
- hearing protection in designated areas

4.2 All site visitors that will be accessing a PPE required zone must either bring or be supplied with the following PPE:

Site visitors must wear the following PPE when entering PPE required areas:

- hard hat,
- safety glasses,
- work or hiking boots that lace or slip on, with non-slip tread,
- high visibility clothing or break-away vest,
- gloves,
- hearing protection when in in designated areas

Reference: Phosphates Hearing Conservation Program

 **Note:** Visitors in general are defined as anyone that will not be paid or perform any work while on site.

4.2.1 PPE Matrix


- a. Refer to the PPE Matrix (Appendix A) for the minimum personal protective equipment (PPE) required when: handling chemicals, operating valves on systems containing chemicals, opening equipment or lines that have contained or may contain chemicals, obtaining samples, washing / cleaning an area, performing a hot tap or working on pressurized equipment, or performing maintenance / troubleshooting on electrical equipment.
- b. The PPE specified in the PPE Matrix is in addition to hard hat, safety glasses, approved safety shoes/boots, and gloves.
- c. Any deviation to the Matrix or PPE requirements for hazardous materials not listed in the PPE Matrix must be approved by a Superintendent and Safety Department representative.

4.2.2 All personal protective equipment shall be maintained in good condition. Alteration of any protective equipment is prohibited.

4.2.3 PPE must be worn if engineering and administrative controls do not provide adequate protection from hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

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- 4.2.4 Loose clothing, neckties, hanging jewelry, or exposed long hair shall not be worn when working near moving machinery or equipment. Hair longer than the base of the collar must be secured where it could not become entangled with moving machinery. Facial hair such as mustaches, beards, etc. must be trimmed or secured to a maximum length of two inches to avoid becoming entangled with moving machinery.
- 4.2.5 Personal body adornments shall not interfere with the proper fit of any PPE.
- 4.2.6 Rings shall not be worn within the operating areas of any facility, including silicone rings. Under unique situations, a variance allowing the wearing of rings can be approved by the Facility Manager. Employees who are required to wear gloves or who work around hazardous moving equipment or machinery shall keep fingernails trimmed to within ¼ inch beyond the end of the finger.
- 4.2.7 A close weave shirt, or equivalent, that covers the back, chest, and shoulders to at least the mid upper arm shall be worn when entering or while working in any plant or operating area.
- 4.2.8 Trousers or slacks shall be full length and persons performing hot work shall not have trousers with cuffs. Shorts or cutoffs are prohibited. Dresses may be worn by office personnel in an office environment only.
- 4.2.9 All PPE that is acquired or provided by employees that is not a company stock item must be approved by the Safety Department before use.

 **Note:** Contractors' PPE must comply with the Mosaic standards, but does require Safety department approval and shall be provided by the contractor.



4.3 Hazard Assessments

- 4.3.1 The Safety Group will ensure that hazard assessments are performed for all Mosaic Fertilizer locations. All recommendations for new PPE or modifications to existing PPE generated from the hazard assessments will be reviewed and approved by Safety Equipment Committee.
- 4.3.2 Each location shall verify that a hazard assessment has been performed and complete a written certification that identifies the workplace evaluated, the person certifying the evaluation, the date, and the document must be identified as a written certification of assessment. Please refer to Appendix C.
- 4.3.3 Methods used to perform the hazard assessment will include:
 - a. Tour and visual inspection of the entire area. (Use instructions and forms in Appendix B and Appendix C.);
 - b. Observation of job tasks in the area;
 - c. Interviewing employees in the area to identify possible hazards;
 - d. Reviewing area JSA's, SWP's and critical tasks to ensure all job tasks are considered;
 - e. Reviewing SDS sheets for chemicals in the area; and
 - f. Reviewing accident/injury data from the past two years.

4.4 Equipment Selection and Use

- 4.4.1 Only PPE that meets ANSI, NIOSH or other applicable standards will be recommended or accepted for use.
- 4.4.2 All PPE must be inspected prior to each use and defective or damaged PPE shall not be used.

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- 4.4.3 All PPE will be of safe design and construction for the work to be performed and will be maintained in a sanitary and reliable condition.
- 4.5 Head Protection:
 - 4.5.1 Hard hats with suspension properly installed must be worn at all times by each employee in all plant and operating areas. Hard hats must meet or exceed the ANSI Z89.1 standard, Type 1, Class E & G.
 - 4.5.2 Hard hats shall include the employee's full name. This requirement applies to Mosaic Employees and Contractors.
 - 4.5.3 The assigned hard hat color for each individual group are as follows:
 - a. Mosaic Employees – WHITE
 - b. Emergency Response Team Members – RED
 - i. Emergency Response Team Members routinely exposed to the sun may utilize a white hard hat with an ERT sticker/decal
 - c. New Hire Employees with less than 90 days – GREEN
 - d. Visitors **will wear White or Green**
 - i. Implementation date for names and hard hat colors **went** into effect 9/1/2013.
 - 4.5.4 Employees are not required to wear hard hats, but must have a hard hat in their possession in the following circumstances:
 - a. When operating or riding in the cab of a pick-up truck, service truck, semi-tractor, automobile or equivalent vehicle.
 - b. When operating or riding in the fully enclosed cab of a tractor (crawler or rubber-tired), dragline, front end loader or locomotive.
 -  **Note:** Fully enclosed is a cab equipped with doors, windows and sides that will prevent the outside atmosphere from entering the operator's compartment.
 - 4.5.5 Employees operating mobile equipment without fully enclosed cabs, i.e., bobcats, forklifts, golf carts, mobile cranes, or other similar equipment without fully enclosed cabs must wear a hard hat while operating the equipment.
 -  **Note:** Hard hats shall be worn while operating cranes in which an overhead door is opened in order to view the work area. Chin straps may have to be provided in order to allow the hard hat to fit properly. Employees must wear their hard hats when walking to and from their vehicles or equipment in operating areas, unless "safe zones" are properly marked.
 - 4.5.6 Hard hats and liners must be maintained in good condition. Alterations to hard hats and liners are prohibited. It is specifically prohibited to file, drill, saw, or cut any hard hat. It is prohibited to apply any type of coating or paint to a hard hat. Hard hats may only be decorated or modified by the application of self-adhesive decals that are approved by management.
 - 4.5.7 Hard hats and suspension systems will be inspected frequently, hard hats replaced at least every 5 years and suspension systems annually or when excessive wear or deterioration is noticed.
 - 4.5.8 Ball caps, or street caps shall not be worn under hard hats.
 - 4.5.9 Tight fitting welder's caps or winter liners may be worn under hard hats as long as it does not interfere with the fit of the hat.
 - 4.5.10 Hard hats shall be worn with the "bill" to the front except when using attachments which interfere with the "bill".


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4.6 Eye and Face Protection: All eye and face protection shall meet or exceed ANSI Z87.1 standard and shall be identified as such with the Z87.1 marking.

4.6.1 Safety glasses that provide side impact protection shall be worn at all times at all Mosaic Fertilizers locations. Additional eye protection (foam seal safety glasses or goggles) is recommended for tasks or environmental conditions that have the potential to create flying debris and should be evaluated as part of the Task Risk or Field Level Hazard Assessment (FLHA) process.

4.6.2 Employees operating mobile equipment without fully enclosed cabs, i.e., bobcats, forklifts, golf carts, mobile cranes, or other similar equipment without fully enclosed cabs must wear safety glasses while operating the equipment.

 **Note:** Safety glasses are not required inside office buildings unless some type of construction, remodeling, or work posing a hazard to the eyes is being performed by the employee.

 **Note:** Safety glasses are not required inside a fully enclosed cab of a vehicle. However, if the vehicle is being operated with doors or windows open, safety glasses are required to be worn.

4.6.3 Safety glasses with dark tinted lens for exterior sun protection shall be worn only during daylight hours and not after dark, indoors, or in an area with restricted lighting. Examples are: warehouses, shops, inside or on bottom floors of production units, etc.

4.6.4 Employees who wear dark tinted glasses shall carry a pair of safety glasses approved for indoor use with them at all times.


4.6.5 Prescription Safety Eyewear. OSHA regulations require that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design or shall wear eye protection that can be worn over the prescription lenses (goggles, face shields) without disturbing the proper position of the prescription lenses or the protective lenses.

4.6.6 Safety glasses or goggles shall be worn under face shields at all times when a face shield is required.



4.6.7 Properly tinted goggles or face shields shall be worn when performing work requiring the use of any type of flame-cutting equipment. When performing this type of work, the following tint protection is required:

- a. Furnace/Kiln Inspection..... 1.7-2.0
- b. Light Cutting, to 1 inch..... 3-4
- c. Torch Brazing..... 3-4
- d. Medium Cutting, 1" to 6"..... 4-5
- e. Heavy Cutting, over 6"..... 5-6
- f. Plasma Arc Cutting, 20-60 Amps 4-5
- g. Plasma Arc Cutting, 80 - 400 Amps 8-12
- h. Gas Welding (light), less than 1/8"..... 4-5
- i. Gas Welding (medium), 1/8 to 1/2"..... 5-6
- j. Gas Welding (heavy), over 1/2"..... 6-8
- k. Shielded Metal Arc Welding..... 10 1/16" thru 5/32" dia.
Electrodes
- l. Automatic Hydrogen Welding..... 10-14
- m. Gas Shielded Arc Welding (non-ferrous)..... 11 1/16" thru 5/32" dia.
electrodes


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- n. Gas Shielded Arc Welding (ferrous)..... 12 3/16", 7/32", 1/4" dia. electrodes; 5/16", 3/8" dia. electrodes
 - o. Carbon Arc Welding..... 14
- 4.6.8 Welding hoods will be worn while performing any type of welding operation.
- 4.6.9 All potential controls to eliminate the risk of exposure shall be pursued when performing overhead cutting/welding on a highly hazardous chemical line (per the Line Break and Equipment Opening Matrix - Appendix A)) where the potential for dripping exists. In the event the hazard cannot be eliminated, the Purweld Powered Air Purifying Welding Helmet with lockdown visor and Stedair shroud shall be used (see Appendix D).
-  **Warning!** The Purweld Powered Air Purifying Welding Helmet with lockdown visor and Stedair shroud shall NOT be used for ammonia lines. A supplied air respirator shall be used for ammonia lines.
- 4.6.10 Face shields shall be worn when operating portable or bench grinders.
- 4.6.11 Face shields and safety glasses shall be worn when using a hot stick to operate high voltage-type fusible disconnects.
- 4.6.12 Chemical safety goggles shall be worn under a face shield when handling strong or hot acids or alkalis.
- 4.6.13 A face shield shall be worn whenever there is a possibility of flying chips or sparks.
- 4.6.14 Persons exposed to the same level of exposure as employees performing work requiring specific eye protection shall also wear the specified eye protection.
- 4.6.15 Goggles may be worn in lieu of safety glasses provided there is no possibility of side impact.
- 4.6.16 A full face, heat-proof shield shall be worn while looking into furnaces or kilns.
- 4.6.17 When handling chemicals, or operating valves on systems containing chemicals, refer to the PPE Matrix for proper eye and face protection.
- 4.7 Foot Protection: Safety toed shoes/boots that rise to a height above the ankle and either lace or slip on, and meet the ASTM F2413-11 requirements, shall be worn in all plants and operating areas.
- 4.7.1 Incidental service providers including delivery drivers are required to wear shoes of substantial construction while in plants and operating areas. Sneakers, boat shoes, slip-ons, flip-flops or other open top shoes are not permitted.
- 4.7.2 Clerical and administrative jobs are exempted from this requirement unless those employees enter a plant or operating area.
- 4.7.3 Metatarsal guards are required when there is a chance of the foot being crushed, as defined by area hazard assessment.
- 4.7.4 High top Safety toed chemical resistant boots will be worn in areas where there is potential for hot water or acids to flow into standard work boots. This will be defined by the area hazard assessment. Alterations to high top chemical protective boots are specifically prohibited.
- 4.7.5 High top Safety toed rubber boots are acceptable for wet/muddy terrain where above the ankle lace up or slip on boots could present a greater hazard.
- 4.8 Hand Protection:
- 4.8.1 General use - Employees must at all times, when in a PPE required area, wear a pair of gloves suitable for the task.

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- 4.8.2 When simply walking and being present in PPE required areas, performing no manual tasks, gloves are required, but type of glove is at the employee's discretion, provided that their chosen gloves are an approved style, provided by the company, and provide adequate protection against inadvertent contact with common hazards in the industrial environment, such as uneven metal surfaces on handrails.
- 4.8.3 Workers will consult standard operating procedures, job hazard analysis, task safety analysis or any other relevant documents that provide information on the appropriate glove to wear for the task/tasks being performed. More than one type of glove may be required to complete the task/tasks.
- 4.8.4 Should the above-mentioned documents not provide sufficient information on the appropriate gloves to wear, a hazard assessment shall be performed to determine which gloves are necessary for the specific risks workers may encounter and the findings of the assessment recorded on the hazard assessment form.
- 4.8.5 Based on the findings from a hazard assessment a glove selection guide (sample provided in Appendix E) can be used to determine what the appropriate glove for the particular task is.
- Workers are responsible to select and wear the appropriate gloves that provide the hand protection required as per the assessment (reference Appendix E for selection assistance).
 - Should you require assistance in selecting a glove for a unique hazard consult your Supervisor or Safety Professional
-  **Warning:** Additional or specialized gloves required in other programs shall be worn to provide adequate protection from hazards that can cause injury or impairment in a function to any part of the hand through absorption or physical contact. Some trades such as welders, electricians, sand blasters, painters etc. may have to don additional or specialized gloves i.e. electricians using rubber gloves under leather (double gloving).
- 4.8.6 Delivery personnel and truckers, when in a PPE required area, must wear a pair of gloves suitable for the task.
- 4.8.7 Gloves may be removed in the following situations without a documented risk assessment:
- Personal hygiene activities
 - Eating in break areas that are in PPE required zones
 - Installing earplugs, cleaning glasses or adjusting other PPE that may not be easily done with gloves on.
 - Using authorized electronic devices, such as cameras, phone, tablet, surveying equipment or drone controller.
 - When manually completing written documentation, such as hazard assessments, inspection forms and reports
 - When operating inside of or riding as a passenger inside enclosed mobile equipment
 - Handling of small/fine parts which pose no hazards, such as tiny screws.
 - Gloves must not be worn while operating tools and machinery where hands are in close proximity to rotating components that could catch the glove and pull the employee into the hazard. When there is uncertainty, follow the tool manufacturer's recommendations regarding glove usage.
-  **Note:** Gloves with drawstrings must have the string removed.

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 **Note:** Gloves may be removed in other situations, but only when a documented risk assessment (FLHA, JHA, etc.) has been performed and it can be shown that the gloves introduce more risk than they mitigate.

 **Note:** Gloves must be worn when using stairs in PPE areas, as handrails could have rough surfaces that may create a hazard.

4.9 Electrical Protective Clothing:

4.9.1 Electrical Protective Clothing for Qualified electrical personnel shall be worn as per the Mosaic Electrical Safety Program Qualified.

4.10 Hi-Visibility/Reflective Safety Apparel: Hi-Visibility/Reflective safety apparel shall be worn by all employees, contractors, and visitors entering operating areas where standard personal protective equipment is required. Requirement for Hi-Visibility/Reflective safety apparel shall be implemented at all Mosaic Phosphate locations by 6/30/2014.

4.10.1 Hi-Visibility/Reflective safety apparel shall meet the Class 2, Level 2 standard (ANSI/ISEA 107-2010).

Reference: *Mosaic Global EHS Standard – Uniform Safety Requirements*

4.10.2 Minimum requirements shall include a Hi-Visibility/Reflective break-away vest meeting the Class 2, Level 2 standard.

4.10.3 Special PPE (Chemical protective clothing, Cutting/Welding gear, Category 3 Arc Rated clothing, etc.), when required shall be worn at the specific task location. Hi-Visibility/Reflective apparel is not required while performing the task, but must be worn in all operating areas where standard PPE is required.

4.11 Protective Clothing: Protective clothing will be provided and worn any time employees may come in contact with chemicals or materials that are corrosive or could otherwise cause injury or irritation.

4.11.1 Chemical splash suits are to be used for short duration splash/spray protection against any chemical in operations such as line breaking of drained lines, opening valves, taking samples, etc. This suit is also to be used in continuous exposure to chemicals such as phosphoric acid, or any other chemical that is considered not to be highly corrosive.

4.11.2 Chemical exposure suits are to be used for protection against highly corrosive chemicals where it is anticipated that possible contact will be made with the chemical, such as opening lines that cannot be drained and entering acid storage tanks.

4.11.3 For sulfur railcar unloading operations, see Sulfur Railcar Unloading policy PPE Matrix.

4.11.4 Special high temperature acid suits and hoods are required when an employee enters inside the marked boundaries of an HRS acid tower area of a Sulfuric Acid Plant.

a. Blue Nomex High Temperature Acid Suit and Hood are required when entering inside the marked boundary of an HRS acid tower. (Designed for 160C and above)

b. Red Gortex Acid Suit are required for Sulfuric Acid and non-HRS plants with acid temperatures below 160C.

c. Exception: During turnaround and repair days, Red Gortex suits are acceptable in HRS areas if the following requirements are met:

i. acid temperatures are verified to be below 160C

ii. and the acid temperatures are documented on Safe Work Permits.

4.11.5 Each area will develop a mechanism to ensure that all chemical protective suits are inspected, cleaned, and maintained in accordance with manufacturer's specifications to ensure the integrity of the suits used.

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- 4.11.6 A protective jacket, along with face shield, gloves and goggles shall be worn when operating (opening/closing) sulfur guns. (acid jacket is not recommended due to high temperature of sulfur)
- 4.11.7 Welding and other hot work operations require the following protective clothing in addition to standard PPE: (See Hot Work Program)
 - a. Apron, leggings (where necessary for protection from hot work hazards. Ex. kneeling in shavings or slag)
 - b. **Overhead** welding, burning, brazing, cutting, grinding requires a welding jacket
 - c. **All other** welding, burning, brazing, cutting, grinding requires welding sleeves (or a welding jacket)

 **Note:** Coveralls must be FR rated (FR rated suits are blue in color)

4.12 Personal Flotation Devices

- 4.12.1 Personal Flotation Devices shall be worn by individuals working around or near water. Refer to the Phosphates Water Safety Program for specific requirements.

5. TRAINING

- 5.1 Personal Protective Equipment training will be provided on a yearly basis to all employees who are exposed to hazards in the workplace at Mosaic facilities.
- 5.2 All employees who wear PPE should be trained initially on when PPE is necessary; the proper type(s) of PPE to use; how to properly put on, remove, adjust, wear, clean, inspect, maintain, and dispose of PPE; and the limitations of PPE.
- 5.3 Retraining should be provided when new hazards/PPE are introduced at the facility, and in situations where employees are observed using PPE improperly.
- 5.4 Training documentation which includes the person's name, department, date of training, and subject of training should be maintained.

6. PROGRAM REVIEW / PERIODIC INSPECTIONS

- 6.1 The PPE Program will be reviewed on a 7 year basis by the Safety Dept. The review will include:
 - 6.1.1 Ensure that workplace hazard assessments are current, complete and that there are no areas that need to be reevaluated.
 - 6.1.2 Review the written Policy and ESM for accuracy and compliant with any new or amended government or corporate standard.
- 6.2 Review accident and injury data to identify areas where PPE is needed or is not being used.

7. APPENDICES

- 7.1 Appendix A - PPE Matrix for Routine Work
- 7.2 Appendix B - Workplace Area Hazard Assessment Guidelines
- 7.3 Appendix C - Workplace Area Hazard Assessment Checklists and Verification Forms
- 7.4 Appendix D – Pureflo/Purweld Powered Air Purifying Respirator Equipment Information

8. REFERENCES

- 8.1 ANSI
 - 8.1.1 Z87.1 Eye and Face Protection
 - 8.1.2 Z 89.1 Head Protection
- 8.2 ASME

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- 8.2.1 F2413-11 Foot Protection
- 8.3 ASTM
 - 8.3.1 F 496-96 Specification for In-Service Care of Insulating Gloves and Sleeves
- 8.4 MSHA
 - 8.4.1 30 CFR 56.15002 to .15007, .15014 and .15020
 - 8.4.2 Program Policy Manual on Enforcement of 30 CFR
- 8.5 MSA
 - 8.5.1 Type 1 Protective Helmet Warnings, Cautions, and Instructions
- 8.6 OSHA
 - 8.6.1 General Industry 1910.132 to .138 & Appendix B (except 134)
 - 8.6.2 Construction 1926.95 to .107 (except .101 & .103)
 - 8.6.3 Interpretations: Standards and Compliance Letters
 - 8.6.4 CFR 29 - Marine Terminals, Coast Guard and Longshoring Standards

9. REVISION LOG

Rev. No.	Requested By	Approved By	Revised By	Rev. Date
0	Mosaic Initial Issue	Safety Dept.	Safety Dept.	5/14/07
1	Mosaic Mgmt.	Safety Dept.	Safety Dept.	5/23/08
2	Audit	Safety Dept.	Safety Dept.	8/24/09
2	Reformat for ISO		D. Allen	8/9/2011
3	Program Review	Safety Dept.	J. Alderdice	7/3/12
4	Head Protection / Foot Protection Changes	Safety Dept.	J. Alderdice	4/30/13
5	Safety SME	Safety Dir	Operational Control Mgr	11/20/14
6	SME	Safety Director	SME	3/28/16
7	Mosaic Mgmt	Safety Director	PMO	12/19/19
8	Field Request	Health & Safety NA	PMO	8/22/2023
9	VP Operations, FL Mining	Director Health and Safety	PMO	1/25/2024
10	EHS Training EHS Operations	Director Health and Safety	PMO – removed Pink and Orange hard hats	5/22/2025