1. PURPOSE

1.1 To ensure no employee is exposed to Hexavalent Chromium above the PE and to document the program and for identifying and managing the hazards of airborne Hexavalent Chromium generated during the tasks and work activities associated with:

1.1.1 Hot work on
   a. Stainless steel;
   b. Specialty alloys containing chrome;
   c. Chrome plated materials; and
   d. Chromium containing surface materials (primers and pigments).

1.1.2 Installation, maintenance or demolition of refractory brick;

1.1.3 Woodworking with chromate-treated lumber;

1.1.4 Spray painting when using chromate or chromic oxide paints;

1.1.5 Abrasive blasting when using a grit containing Cr(VI) or that generates Cr(VI) dust because of a blasted material (i.e., paint).
2. SCOPE
2.1 The Hexavalent Chromium Program applies to all Mosaic Fertilizer, LLC facilities.

3. DEFINITIONS
3.1 Action Level - A concentration of airborne Hexavalent Chromium of 2.5 micrograms per cubic meter of air (2.5 µg/m³) calculated as an 8-hour time-weighted average (TWA).
3.2 Employee Exposure - The exposure to airborne Hexavalent Chromium that would occur if the employee were not using a respirator.
3.3 Engineering and Work Practice (E&WP) Controls - Controls implemented to mitigate and manage a hazard, and practices implemented to maintain safe working conditions.
3.4 Hexavalent Chromium (Chromium (VI) or Cr(VI)) - Chromium with a valence of positive six, in any form and in any compound.
3.5 High-Efficiency Particulate Air (HEPA) filter - A filter that is at least 99.97 percent efficient in removing mono-dispersed particles of 0.3 micrometers in diameter or larger.
3.6 Historical Monitoring Data - Data from Hexavalent Chromium monitoring conducted prior to May 30, 2006, obtained during workplace conditions closely resembling the conditions in the current operations.
3.7 Objective Data - Information from industry-wide surveys demonstrating the employee exposure to Hexavalent Chromium. The data must reflect workplace conditions closely resembling the processes, materials, control methods, work practices, and environmental conditions in the current operations. The information may include air monitoring data or calculations based on the composition or chemical and physical properties of a substance.
3.8 Permissible Exposure Limit (PEL) - A concentration of airborne Hexavalent Chromium of 5.0 micrograms per cubic meter of air (5.0 µg/m³) calculated as an 8-hour time-weighted average (TWA).
3.9 Physician or other Licensed Health Care Professional (PLHCP) - An individual whose legally permitted scope of practice allows him or her to provide or be delegated the responsibility to provide the health care services required for Hexavalent Chromium monitoring.
3.10 Regulated Area - An area where an employee’s exposure to airborne Hexavalent Chromium exceeds, or can reasonably be expected to exceed, the PEL.

4. GENERAL
4.1 No employee shall be exposed to an airborne concentration of Hexavalent Chromium in excess of the PEL.
4.2 Table 1, Summary of Hexavalent Chromium Requirements, lists a summary of the requirements for monitoring and managing the exposure to Hexavalent Chromium.
4.3 The Hexavalent Chromium requirements are not applicable if:
   4.3.1 Objective Data demonstrates that a material containing chromium or a specific process, operation, or activity cannot release dusts, fumes, or mists containing Hexavalent Chromium at or above 0.5 µg/m³ 8-hour TWA (one-tenth of the PEL) under any expected conditions of use.
4.4 Work that is performed at Mosaic facilities does not involve significant quantities of materials containing Hexavalent Chromium, but is generally created during tasks involving hot work. Thus those parts of the OSHA standard addressing Emergencies are not included.

5. EXPOSURE DETERMINATION
5.1 For each workplace or work activity that may generate airborne Hexavalent Chromium, the 8-hour TWA exposure for each employee exposed to Hexavalent Chromium shall be determined. Two methods are available to determine the exposure.
5.2 Performance Based Option
5.2.1 The initial determination may be made using any combination of the following:
  a. Air monitoring;
  b. Historical Monitoring Data;
  c. Objective Data.

5.2.2 The Performance Based Option must:
  a. Use data sufficient to accurately determine current worker exposure to Hexavalent Chromium, and
  b. Be performed prior to the time that the work commences and must provide the same degree of assurance that worker exposures have been correctly characterized.
  c. Reevaluating worker exposures must occur when there is any change in the production process, raw materials, equipment, personnel, work practices, or control methods that may result in new or additional exposures to Hexavalent Chromium. There is not any fixed schedule for performing reevaluations.

5.3 Air Monitoring Option

5.3.1 If the air monitoring option is selected, the initial monitoring for Hexavalent Chromium shall be performed to determine the 8-hour TWA exposure for each employee.

5.3.2 A sufficient number of personal breathing zone air samples shall be taken to accurately characterize full shift exposure:
  a. On each shift;
  b. For each job classification;
  c. In each work area.

5.3.3 When representative sampling instead of sampling all employees is conducted to determine the initial monitoring, those employee(s) reasonably expected to have the highest Hexavalent Chromium exposures shall be sampled.

5.3.4 Periodic monitoring frequency:

<table>
<thead>
<tr>
<th>Periodic Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Below Action Level</strong></td>
</tr>
<tr>
<td>&lt; 2.5 µ/m3</td>
</tr>
<tr>
<td><strong>At or above the Action Level</strong></td>
</tr>
<tr>
<td>but at or below the PEL</td>
</tr>
<tr>
<td>≥ 2.5 and ≤ 5 µ/m3</td>
</tr>
<tr>
<td><strong>Above the PEL</strong></td>
</tr>
<tr>
<td>&gt; 5 µ/m3</td>
</tr>
</tbody>
</table>

5.3.5 If periodic monitoring indicates that employee exposures are below the Action Level, and the result is confirmed by the result of additional monitoring performed at least seven days later, monitoring may be discontinued for affected employees whose exposures are represented by that monitoring.

5.3.6 Additional monitoring shall be performed when:
  a. There has been any change in the production process, raw materials, equipment, personnel, work practices, or control methods that may result in new or additional exposures to Hexavalent Chromium; or
  b. There is reason to believe that new or additional exposures have occurred.

5.3.7 Affected employees or their designated representatives shall be provided an opportunity to observe any air monitoring of employee exposure to Hexavalent Chromium.
5.3.8 When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required, the observers shall:
   a. Be provided with and use protective clothing and equipment; and
   b. Comply with all other applicable safety and health procedures.

5.3.9 A method of air monitoring and analysis must be used that provides values within plus or minus 25 percent of the true value at least 95 percent of the time for airborne concentrations at or above the Action Level.

5.4 Employee Notification

5.4.1 Each affected employee shall be individually notified in writing of the results or the results posted in an accessible location within 15 work days after performing the monitoring.

5.4.2 If the monitoring results indicate that the PEL has been exceeded, the corrective action to reduce the exposure to or below the PEL shall be included in the written notification.

6. REGULATED AREAS

6.1 A Regulated Area shall be established whenever exposure to airborne concentrations of Hexavalent Chromium is, or can reasonably be expected to be, in excess of the PEL.

6.2 Regulated Areas shall be demarcated in a manner that adequately establishes and alerts employees of the boundaries of the regulated area and controls access to the Area.

6.3 The demarcation may be warning signs, gates, ropes, barricades, lines or other methods. Signage with the following, or similar, wording should read: “Hexavalent Chromium Exposure - Carcinogenic Hazard”.

6.4 Access to Regulated Areas shall be limited to:

   6.4.1 Persons authorized and required by work duties to be present in the Regulated Area; or
   6.4.2 Any designated representative of employees to observe monitoring procedures.

7. ENGINEERING AND WORK PRACTICE CONTROLS

7.1 E&WP Controls must be used to reduce and maintain employee exposure to Hexavalent Chromium to or below the PEL unless it can be demonstrated that such controls are not feasible.

   7.1.1 Engineering controls include, but are not limited to: substitution, local exhaust ventilation, general ventilation systems, and special enclosures and isolation devices.

   7.1.2 Work practices include, but are not limited to: adjustments in the way a task is performed, hygiene, keeping containers closed, maintaining and servicing equipment as recommended by the manufacturer, training, and undertaking immediate and appropriate cleanup measures.

7.2 Wherever feasible Engineering and Work Practice Controls are not sufficient to reduce employee exposure to or below the PEL, they shall be:

   7.2.1 Used to reduce employee exposure to the lowest levels achievable; and
   7.2.2 Supplemented by the use of respiratory protection.

7.3 If a process or task does not result in any employee exposure to Hexavalent Chromium above the PEL for 30 or more days per year (12 consecutive months), the requirement to implement E&WP Controls to achieve the PEL does not apply to that process or task. (Exposure to Hexavalent Chromium for any part of a day includes that day in the 30 day count.)

7.4 Employees shall not be rotated to different jobs to achieve compliance with the PEL.

8. RESPIRATORY PROTECTION

8.1 Respiratory protection must be provided to each employee during:

   8.1.1 Periods necessary to install or implement feasible E&WP Controls.
8.1.2 Work operations, such as maintenance and repair activities, for which E&WP Controls are not feasible;
8.1.3 Work operations where all feasible E&WP Controls have been implemented and such controls are insufficient to reduce exposures to or below the PEL;
8.1.4 Work operations where employees are exposed above the PEL for fewer than 30 days per year, and the employer has elected not to implement E&WP Controls to achieve the PEL. (Exposure to Hexavalent Chromium for any part of a day includes that day in the 30 day count.);
8.1.5 Respirators required for mitigating Hexavalent Chromium exposure, and their fit testing, care and cleaning are identified in the Mosaic Respiratory Protection Program.

9. PROTECTIVE WORK CLOTHING AND EQUIPMENT
9.1 If skin or eye contact with Hexavalent Chromium is present or is likely to be present:
9.1.1 Appropriate personal protective clothing and equipment shall be provided at no cost to employees.
9.1.2 The protective clothing should include:
   a. Protective coveralls (flame retardant suit is preferred);
   b. Protective gloves;
   c. Protective eyewear;
   d. Boots/booties (rubber boots allow for ease of decontamination).
9.1.3 Affected employees shall use such clothing and equipment that is provided.

9.2 Removal and storage
9.2.1 Employees shall remove all protective clothing and equipment contaminated with Hexavalent Chromium at the end of the work shift or at the completion of their tasks involving Hexavalent Chromium exposure, whichever comes first.
9.2.2 Hexavalent Chromium-contaminated protective clothing or equipment shall not be removed from the workplace (except for personnel whose job it is to clean, maintain, or dispose of such clothing or equipment).
9.2.3 Contaminated protective clothing or equipment removed for laundering, cleaning, maintenance, or disposal, shall be stored and transported in sealed impermeable bags or other closed impermeable containers.
9.2.4 Bags, recommend double lined, or containers of contaminated protective clothing or equipment shall be labeled in accordance with the requirements of Mosaic's Hazard Communication Program.
   a. The label should contain wording such as: “Hexavalent Chromium Exposure - Carcinogenic Hazard" or similar wording.
   b. If the sealed bag is consigned for disposal add the words “DO NOT OPEN”.
   c. Use of a HEPA vacuum is recommended, followed by wiping bag surfaces down with a wet cloth or disposable towel.

9.3 Cleaning and replacement
9.4 All protective clothing and equipment required shall be cleaned, repaired and replaced as needed to maintain its effectiveness.
9.4.1 Protective clothing and other disposable contaminated waste is to be removed and properly disposed prior to leaving the Demarcated Area.
9.4.2 Equipment used in the process/work must be decontaminated prior to leaving the Demarcated Area.
9.4.3 Use of a HEPA vacuum is recommended, followed by wiping surfaces down with a wet cloth or disposable towel.
9.4.4 Non-disposable clothing is to be removed outside of the Demarcated Area.

9.5 Hexavalent Chromium shall not be removed from protective clothing and equipment by blowing, shaking, or any other means that disperses Hexavalent Chromium into the air or onto an employee's body. Any method for removing surface Hexavalent Chromium from clothing and equipment may be used that does not disperse the dust into the air or onto the employee's body.

9.6 Any person who launders or cleans protective clothing or equipment contaminated with Hexavalent Chromium shall be informed of:

9.6.1 The potentially harmful effects of exposure to Hexavalent Chromium; and
9.6.2 That the clothing and equipment should be laundered or cleaned in a manner that minimizes skin or eye contact with Hexavalent Chromium and effectively prevents the release of airborne Hexavalent Chromium in excess of the PEL.

10. HYGIENE PRACTICES

10.1 Change rooms

10.1.1 Where protective clothing and equipment is required, change rooms shall be provided. Change rooms are only required when employees must change out of their street clothes to use protective clothing and equipment.

10.1.2 Change rooms shall be equipped with separate storage facilities for protective clothing and equipment and for street clothes, and that cross-contamination is prevented.

10.2 Washing facilities

10.2.1 Where skin contact with Hexavalent Chromium occurs, washing facilities shall be provided. Affected employees are required to use these facilities when necessary.

10.2.2 Personnel who have skin contact with Hexavalent Chromium shall wash their hands and face:

   a. At the end of the work shift; and
   b. Prior to eating, drinking, smoking, chewing tobacco or gum, applying cosmetics; or
   c. Using the toilet.

10.3 Eating and drinking areas

10.4 Eating and drinking areas provided must be maintained as free as practicable of Hexavalent Chromium whenever workers are allowed to consume food or beverages at a worksite where Hexavalent Chromium is present.

10.5 Personnel may not enter eating and drinking areas with protective work clothing or equipment unless surface Hexavalent Chromium has been removed from the clothing.

10.6 Employees may not:

   10.6.1 Eat, drink, smoke, chew tobacco or gum, or apply cosmetics in Regulated Areas; or
   10.6.2 In areas where skin or eye contact with Hexavalent Chromium occurs; or
   10.6.3 Carry the products associated with these activities; or
   10.6.4 Store such products in these Areas.

11. HOUSEKEEPING

11.1 Housekeeping procedures shall include:

   11.1.1 All surfaces are maintained as free as practicable of accumulations of Hexavalent Chromium.
   11.1.2 All spills and releases of Hexavalent Chromium containing material are cleaned up promptly.
   11.1.3 The allowable surface loading of Hexavalent Chromium contamination in work areas is not specific.
11.1.4 The requirement for “as free as practicable” is met when vigilant efforts are in place to ensure that surfaces are kept free of accumulation of Hexavalent Chromium dust.

11.2 Cleaning methods

11.2.1 Surfaces contaminated with Hexavalent Chromium shall be cleaned by HEPA-filter vacuuming or other methods that minimize the likelihood of exposure to Hexavalent Chromium.

11.2.2 Dry shoveling, dry sweeping and dry brushing may be used only where HEPA-filtered vacuuming or other exposure minimizing methods have been tried and found ineffective.

11.2.3 Compressed air shall not be used to remove Hexavalent Chromium from any surface unless:
   a. The compressed air is used in conjunction with a ventilation system designed to capture the dust cloud created by the compressed air; or
   b. No alternative method is feasible.

11.2.4 The area around the hot work should be contaminating. Use of a HEPA vacuuming or wiping down the immediate area around the welds.

11.2.5 Cleaning equipment shall be handled in a manner that minimizes the reentry of Hexavalent Chromium into the workplace.

11.3 Disposal

11.3.1 Waste, scrap, debris, and any materials contaminated with Hexavalent Chromium and consigned for disposal are:
   a. Collected and disposed of in sealed, impermeable bags, recommend double lined, or other closed, impermeable containers; and
   b. Labeled in accordance with the requirements of the Mosaic Hazard Communication Program.
   c. The label should contain wording such as: “DO NOT OPEN: Hexavalent Chromium Exposure - Carcinogenic Hazard” or similar wording.
   d. Use of HEPA vacuum is recommended for all clean up tasks and hygienic practices where personnel, clothing, tools, work surfaces, or disposal items, may potentially be contaminated with Hexavalent Chromium.

12. MEDICAL SURVEILLANCE

12.1 Medical surveillance shall be made available at no cost to the employee, and at a reasonable time and place, for all employees:

12.1.1 Who are or may be occupationally exposed to Hexavalent Chromium at or above the action level for 30 or more days a year; or

12.1.2 Experiencing signs or symptoms of the adverse health effects associated with Hexavalent Chromium exposure.

12.2 All medical examinations and procedures required shall be performed by or under the supervision of a PLHCP.

12.3 The employer shall provide a medical examination:

12.3.1 Within 30 days after initial assignment, unless the employee has received a Hexavalent Chromium related medical examination that meets the requirements of this paragraph within the last twelve months;

12.3.2 Annually;

12.3.3 Within 30 days after a PLHCP’s written medical opinion recommends an additional examination;

12.3.4 Whenever an employee shows signs or symptoms of the adverse health effects associated with Hexavalent Chromium exposure; or
12.3.5 At the termination of employment, unless the last examination was less than six months prior to the date of termination.

12.4 A medical examination consists of:

12.4.1 A medical and work history, with emphasis on:
   a. Past, present, and anticipated future exposure to Hexavalent Chromium;
   b. Any history of respiratory system dysfunction;
   c. Any history of asthma, dermatitis, skin ulceration, or nasal septum perforation; and
   d. Smoking status and history;

12.4.2 A physical examination of the skin and respiratory tract.

12.4.3 Any additional tests deemed appropriate by the examining PLHCP.

12.5 The employer shall ensure that the PLHCP has a copy of the OSHA Hexavalent Chromium standard, and shall provide the following information:

12.5.1 A description of the affected employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to Hexavalent Chromium;

12.5.2 The employee's former, current, and anticipated levels of occupational exposure to Hexavalent Chromium;

12.5.3 A description of any personal protective equipment used or to be used by the employee, including when and for how long the employee has used that equipment; and

12.5.4 Information from records of employment-related medical examinations previously provided to the affected employee, currently within the control of the employer.

12.6 PLHCP's written medical opinion.

12.6.1 The employer shall obtain a written medical opinion from the PLHCP, within 30 days for each medical examination performed on each employee, which contains:
   a. The PLHCP's opinion as to whether the employee has any detected medical condition(s) that would place the employee at increased risk of material impairment to health from further exposure to Hexavalent Chromium;
   b. Any recommended limitations upon the employee's exposure to Hexavalent Chromium or upon the use of personal protective equipment such as respirators;
   c. A statement that the PLHCP has explained to the employee the results of the medical examination, including any medical conditions related to Hexavalent Chromium exposure that require further evaluation or treatment, and any special provisions for use of protective clothing or equipment.

12.6.2 The PLHCP shall not reveal to the employer specific findings or diagnoses unrelated to occupational exposure to Hexavalent Chromium.

12.6.3 The employer shall provide a copy of the PLHCP's written medical opinion to the examined employee within two weeks after receiving it.

13. TRAINING

13.1 Training must follow the requirements of the Hazard Communication Program with regard to workers exposed to Hexavalent Chromium. These requirements include, but are not limited to:

13.1.1 Informing workers of any operations in their work area where Hexavalent Chromium is present;

13.1.2 Training workers on the hazards of Hexavalent Chromium;

13.1.3 Measures employees can take to protect themselves from these hazards (such as appropriate work practices and protective equipment to be used).

13.2 Employee information and training.

13.2.1 The employer shall ensure that each employee can demonstrate knowledge of at least the following:
a. The contents of the OSHA Hexavalent Chromium standard; and
b. The purpose and a description of the medical surveillance program including recognition of the signs and symptoms of adverse health effects that may result from Hexavalent Chromium exposure.

13.3 A copy of the OSHA Hexavalent Chromium standard must be readily available without cost to all affected employees.

14. RECORDKEEPING

14.1 Air monitoring data - An accurate record of all air monitoring conducted shall be maintained. The data shall include at least the following information:
   14.1.1 The date of measurement for each sample taken;
   14.1.2 The operation involving exposure to Hexavalent Chromium that is being monitored;
   14.1.3 Sampling and analytical methods used and evidence of their accuracy;
   14.1.4 Number, duration, and the results of samples taken;
   14.1.5 Type of personal protective equipment, such as respirators worn; and
   14.1.6 Name, social security number, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.
   14.1.7 Exposure records shall be maintained for 30 years and access made available to the affected employee or their representative.

14.2 Historical Monitoring Data - Where Historical Monitoring Data has been used to determine exposure to Hexavalent Chromium, an accurate record of the Historical Monitoring Data shall be maintained. The record shall include information that reflects the following conditions:
   14.2.1 The data were collected using methods that meet the accuracy requirements above;
   14.2.2 The processes and work practices that were in use when the Historical Monitoring Data were obtained are essentially the same as those to be used during the job for which exposure is being determined;
   14.2.3 The characteristics of the Hexavalent Chromium containing material being handled when the Historical Monitoring Data were obtained are the same as those on the job for which exposure is being determined;
   14.2.4 Environmental conditions prevailing when the Historical Monitoring Data were obtained are the same as those on the job for which exposure is being determined; and
   14.2.5 Other data relevant to the operations, materials, processing, or employee exposures covered by the exception.
   14.2.6 Historical exposure records shall be maintained for 30 years and made available.

14.3 Objective Data - Where Objective Data has been used to determine exposure to Hexavalent Chromium, an accurate record of the Objective Data shall be established and maintained. This record shall include at least the following information:
   14.3.1 The chromium containing material in question;
   14.3.2 The source of the Objective Data;
   14.3.3 The testing protocol and results of testing, or analysis of the material for the release of Hexavalent Chromium;
   14.3.4 A description of the process, operation, or activity and how the data support the determination; and
   14.3.5 Other data relevant to the process, operation, activity, material, or employee exposures.
   14.3.6 Objective Data shall be maintained for 30 years and made available.

14.4 Medical surveillance - An accurate record for each employee covered by medical surveillance shall be established and maintained. The record shall include the following information about the employee:
14.4.1 Name and social security number;
14.4.2 A copy of the PLHCP's written opinions;
14.4.3 A copy of the information provided to the PLHCP as required by paragraph (k)(4) of this section.

14.5 Medical records shall be maintained for 30 years and made available to the employee or their representative.

15. CONTRACTORS

15.1 Contractors performing work that exposes employees to Hexavalent Chromium shall be responsible for:

15.1.1 Develop a Hexavalent Chromium program and provide Mosaic with their Program.
15.1.2 Coordinating with the Mosaic's project contact to review the potential exposure to Hexavalent Chromium and the contractor's plan to maintain exposure below either the Action Level or PEL.
15.1.3 Knowing the OSHA regulations and best management practices that apply to each location where work is performed.
15.1.4 Having completed the exposure determination by one of the two options, the performance based option or the Air monitoring option.
15.1.5 Performing their work in a manner that minimizes the exposure to Hexavalent Chromium, or implementing Regulated Areas, Engineering and Work Practice Controls, respiratory protection, protective work clothing and equipment, hygiene practices, and housekeeping.
15.1.6 Having appropriate medical surveillance and recordkeeping practices in their company for Hexavalent Chromium exposure.

16. REFERENCES

16.2 Letter of Interpretation, January 3, 2003 - Organization Resources Counselors, Inc., Clarification of “as free as practicable”…
16.3 OSHA Publication No. 3373, Oct. 2009 - Hexavalent Chromium
16.4 Mosaic Respiratory Protection Program
16.5 Mosaic Hazard Communication Program

17. REVISION LOG

<table>
<thead>
<tr>
<th>Rev. No.</th>
<th>Requested By</th>
<th>Approved By</th>
<th>Revised By</th>
<th>Rev. Date</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>Initial Issue</td>
<td>Safety Solutions Inc</td>
<td>XX/XX/2010</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Review Cycle</td>
<td>Director Phosphate Safety</td>
<td>SME</td>
<td>12/9/2015</td>
</tr>
</tbody>
</table>

Contact the Subject Matter Expert for additional information on this program.
Table 1 - SUMMARY OF HEXAVALENT CHROMIUM REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Any Exposure</th>
<th>&lt; 2.5 (µ/m³)</th>
<th>≥ 2.5 and ≤ 5 (µ/m³)</th>
<th>PEL &gt; 5 (µ/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exception</td>
<td>Not applicable if Objective Data shows that dusts, fumes, or mists containing Cr(VI) less than 0.5 µg/m³ 8-hour TWA under any expected conditions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure Determination (Monitoring)</td>
<td>Determine the 8-hour TWA for employees exposed to Cr(VI). 1) Initial air monitoring. 2) Any change that may result in new or additional exposures. Or may use any combination of: air monitoring + Objective Data + Historical Monitoring Data to determine employee exposure.</td>
<td>Discontinue monitoring.</td>
<td>Periodic monitoring every 6 mos.</td>
<td>Periodic monitoring every 3 mths.</td>
</tr>
<tr>
<td>Employee Notification</td>
<td>Within 15 days after monitoring, notify affected employees of the results in writing or post the results in an appropriate accessible location.</td>
<td>Same as “Any Exposure”</td>
<td>Same as “Any Exposure”</td>
<td>If the exposure exceeds the PEL, the written notification will include the corrective action to reduce the exposure.</td>
</tr>
<tr>
<td>Monitoring Observation</td>
<td>Affected employees or their representative have opportunity to observe the monitoring.</td>
<td>Same as “Any Exposure”</td>
<td>Same as “Any Exposure”</td>
<td>Same as “Any Exposure”</td>
</tr>
<tr>
<td>Regulated Area</td>
<td>Not required.</td>
<td>Not required.</td>
<td>Not required.</td>
<td></td>
</tr>
<tr>
<td>Engineering &amp; Work Practice Controls</td>
<td>Not required.</td>
<td>Not required.</td>
<td>Not required.</td>
<td>Use E&amp;WP controls to reduce &amp; maintain exposure below the PEL unless it can be shown that controls are not feasible. If controls are insufficient, use them to reduce exposure to the lowest levels achievable, supplement them by the use of respirators. If exposure is not above the PEL for 30 or more days per yr. (12 consecutive mos.), it is not required to implement E&amp;WP controls to achieve the PEL for that process or task.</td>
</tr>
<tr>
<td>Respiratory Protection</td>
<td>Not required.</td>
<td>Not required.</td>
<td>Not required.</td>
<td>Required: 1) During period necessary to implement E&amp;WP controls; 2) Operations for which E&amp;WP controls are not feasible; 3) Operations where E&amp;WP are not sufficient; 4) Operations where exposure above the PEL is less than 30 days a yr., and E&amp;WP controls are not implemented;</td>
</tr>
</tbody>
</table>
# Table 1 - continued

## Hexavalent Chromium Exposure Range

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Any Exposure</th>
<th>Action Level (AL) $\geq 2.5$ and $\leq 5$ ($\mu/m^3$)</th>
<th>PEL $&gt; 5$ ($\mu/m^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protective Work Clothing &amp; Equipment</strong></td>
<td>Provide protective work clothing and equipment if exposure to skin or eye contact is possible, Employer will clean, launder, repair, replace all protective clothing. Prohibit removal of Cr(VI) from protective clothing by any means that disperses Cr(VI) into the air.</td>
<td>Same as &quot;Any Exposure&quot;</td>
<td>Same as &quot;Any Exposure&quot;</td>
</tr>
<tr>
<td><strong>Hygiene Areas &amp; Practices</strong></td>
<td>Where protective clothing is required, change rooms provided. Where skin contact occurs, washing facilities provided. Eating and drinking areas maintained as free as practicable of Cr(VI).</td>
<td>Same as &quot;Any Exposure&quot;</td>
<td>Same as &quot;Any Exposure&quot;</td>
</tr>
<tr>
<td><strong>Housekeeping</strong></td>
<td>All surfaces maintained as free as practicable of accumulations of Cr(VI).</td>
<td>Same as &quot;Any Exposure&quot;</td>
<td>Same as &quot;Any Exposure&quot;</td>
</tr>
<tr>
<td><strong>Medical Surveillance</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Make medical surveillance - no cost to employees: 1) Occupationally exposed to Cr(VI) at or above the Action Level 30 or more days per yr.; 2) Experiencing signs or symptoms of adverse health effects associated with exposure to Cr(VI); Medical exam provided: 1) Within 30 days after initial assignment; 2) Annually; 3) Experiencing signs or symptoms of adverse health effects associated with exposure to Cr(VI); 4) Within 30 days after a PLHCP recommendation; 6) At end of employment.</td>
<td>Make medical surveillance - no cost to employees: 1) Occupationally exposed to Cr(VI) at or above the Action Level 30 or more days per yr.; 2) Experiencing signs or symptoms of adverse health effects associated with exposure to Cr(VI); Medical exam provided: 1) Within 30 days after initial assignment; 2) Annually; 3) Experiencing signs or symptoms of adverse health effects associated with exposure to Cr(VI); 4) Within 30 days after a PLHCP recommendation; 6) At end of employment.</td>
<td></td>
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<tr>
<td><strong>Communication</strong></td>
<td>Comply with HazCom standard. Each employee can demonstrate at least: 1) Knowledge of the contents of the Cr(VI) standard; and 2) Purpose and a description of the medical surveillance program. Cr(VI) std. is readily available.</td>
<td>Same as &quot;Any Exposure&quot;</td>
<td>Same as &quot;Any Exposure&quot;</td>
</tr>
<tr>
<td><strong>Recordkeeping</strong></td>
<td>Maintain an accurate record: 1) Of air monitoring performed. 2) Historical air monitoring or Objective Data used to determine exposure.</td>
<td>Same as &quot;Any Exposure&quot;</td>
<td>Same as &quot;Any Exposure&quot;</td>
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</tbody>
</table>
Document Approval Summary

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Hexavalent Chromium Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicability</td>
<td>Phosphate Business Unit</td>
</tr>
<tr>
<td>Version</td>
<td>Version 1 (Version 0 was initial issue)</td>
</tr>
<tr>
<td>Review Cycle</td>
<td>*2 Years</td>
</tr>
<tr>
<td>Next Review Date</td>
<td>Dec 15, 2017</td>
</tr>
</tbody>
</table>

Reason for Revision
- New Procedure – No previous version
- Review Cycle Due
- Other (For “Other”, include explanation in the summary of changes below.)

Summary of Changes
- SME Review - No Changes (SME – Aaron Apostolico)
- Added Phosphate Hot Work and Welding Program to Reference Section
- Revised SMEs, Effective and Review Dates

*The review cycle has changed from a 3 year review cycle to 2 years to stagger the number of documents due for review at the same time. The review cycle will revert back to 3 years in 2017.