

## **Appendix B**

### **Dust Control Plan (DCP)**



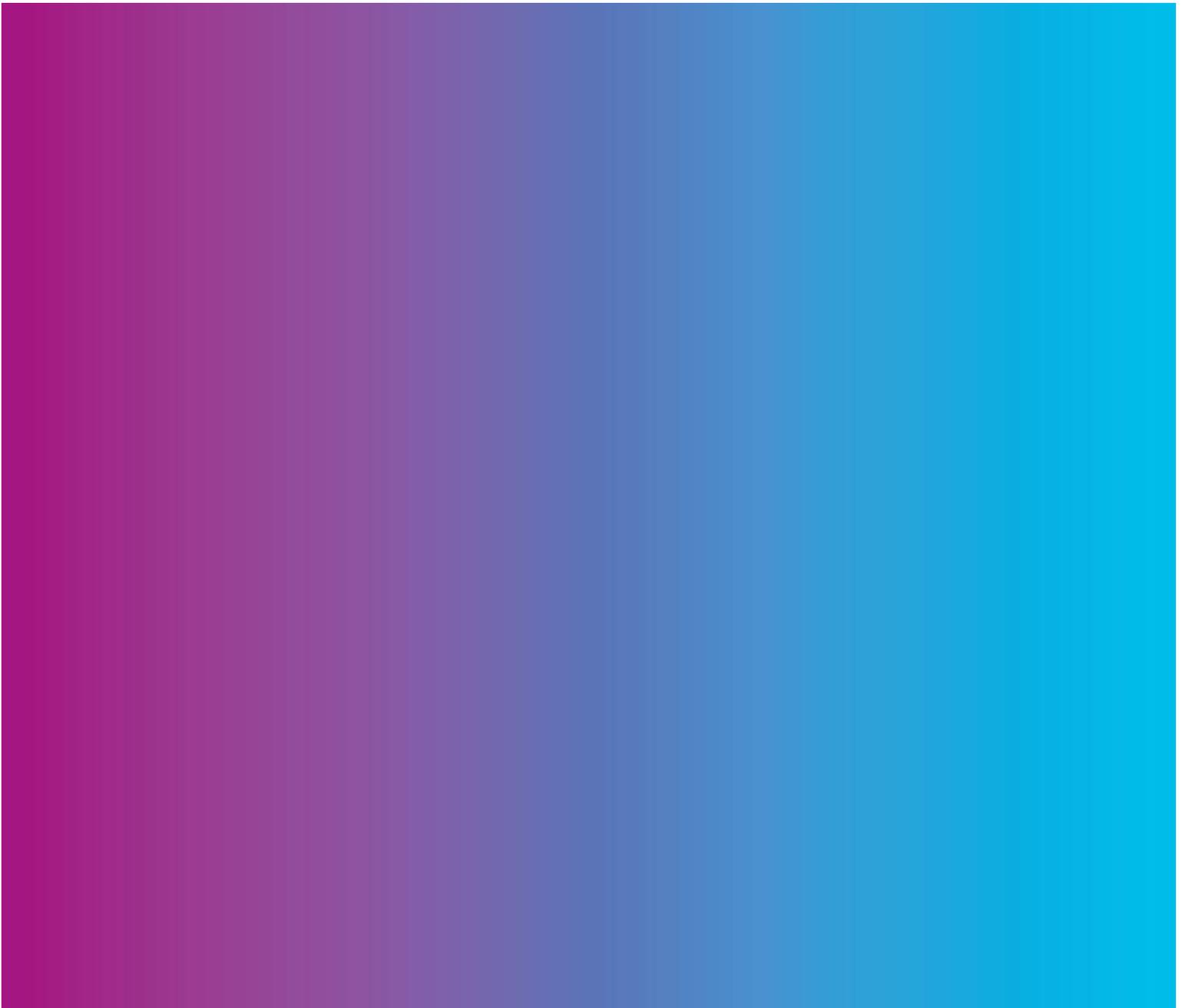
Environment

Submitted to:  
PPG Industries  
Allison Park, Pennsylvania

Submitted by:  
AECOM  
Piscataway, New Jersey  
60190341  
April 2012

# Dust Control Plan – RAWP

Garfield Avenue Group  
Jersey City, New Jersey





Environment

Submitted to:  
PPG Industries  
Allison Park, Pennsylvania

Submitted by:  
AECOM  
Piscataway, New Jersey  
60190341  
April 2012

# Dust Control Plan – RAWP

Garfield Avenue Group  
Jersey City, New Jersey

---

Prepared By  
Hue Quan, P.E.

---

Lead Engineer  
Craig MacPhee, P.E.

---

Reviewed By  
Scott H. Mikaelian, Program Manager

# Contents

<b>1.0 Introduction</b>	<b>1-1</b>
<b>2.0 Identification of Dust Sources</b>	<b>2-1</b>
2.1 On-site Transportation Routes	2-1
2.2 Steel Sheeting Installation/Removal	2-2
2.3 Building Demolition	2-2
2.4 Concrete Slab Excavation	2-2
2.5 Soil Excavation	2-3
2.6 Soil Blending	2-3
2.7 Soil Stockpiling	2-3
2.8 Truck Loading	2-3
2.9 Backfill Placement	2-4
2.10 Stabilization Agent Mixing and Augering	2-4
<b>3.0 Goals/Action Levels</b>	<b>3-1</b>
<b>4.0 Air/Dust Monitoring</b>	<b>4-1</b>
<b>5.0 Identification of Controls</b>	<b>5-1</b>
5.1 Training of Personnel	5-1
5.2 Dedicated Staff	5-1
5.3 Active Dust Controls	5-1
5.4 Material Management	5-2
5.5 Transportation Routes	5-2
<b>6.0 Dust Control Application Protocols</b>	<b>6-1</b>
<b>7.0 Dust Control Personnel</b>	<b>7-1</b>
7.1 Dust Control Manager	7-1
7.2 Air Monitoring Equipment Specialists	7-2
7.3 Dust Control Technicians	7-2

**8.0 References ..... 8-1**

## List of Tables

Table 2-1 Potential Dust Generation Activities and Proposed Controls.....2-1

## List of Figures

Figure 1 - Excavation Area Dust Control Application Protocol

Figure 2 - Transport Route Dust Control Application Protocol

Figure 3 - Stockpile Dust Control Application Protocol

## List of Appendices

Appendix B.1 Example Dust Suppression and Blending Materials

Appendix B.2 Dust Suppression Inspection Form

## 1.0 Introduction

On behalf of PPG Industries, Inc. ("PPG"), AECOM has prepared this Dust Control Plan ("DCP") for the PPG Garfield Avenue Group (Sites 114, 132, 133, 135, 137 and 143), which are located at the intersections of Garfield, Carteret and Pacific Avenues and Halladay Street, Jersey City, New Jersey ("Site"). Due to its noncontiguous nature relative to these Sites, Site 186 will not be addressed as part of this DCP. This is a working document and does not reflect work that will be completed south of Carteret Avenue (approximately 11.4 acres). When work progresses to the sites south of Carteret Avenue, this DCP will be reviewed and amended as needed. The Site 114 (north of Carteret Avenue) is a 16.6 acre property formerly used for processing of chromium ore. Soil and groundwater at the Site are primarily impacted with hexavalent chromium. The DCP is included as an Appendix to the Remediation Action Work Plan ("RAWP") for PPG Garfield Avenue Group sites. This DCP may be updated as necessary and also used for future remedial activities at the Site.

The purpose of this plan is to provide a description of dust emission mitigation activities that will be conducted for activities that may occur at the Site during remedial activities. The DCP was prepared to provide specific information about the generation and control of dust emissions during demolition, excavation, stockpiling, transportation, backfilling and associated activities during the remedial activities at the Site. Procedures in this plan were developed using United States Environmental Protection Agency ("USEPA") dust control guidance (USEPA, 1985). This plan is to be used in conjunction with the Health and Safety Plan ("HASP") and Air Monitoring Plan ("AMP") developed for remedial activities at the Site. The following sections detail potential dust sources, general air monitoring strategy, monitoring and sampling equipment to be used, dust controls, control application protocol, and roles of on-site dedicated dust control personnel.

## 2.0 Identification of Dust Sources

In total, approximately 720,000 to 820,000 tons of impacted material and concrete debris will be removed from the subsurface during RAWP excavation activities. **Table 2-1** describes the activities to be conducted during the remedial activities, including the pilot test activities, which have the potential to generate dust. In addition, proposed dust control measures are listed for each activity.

**Table 2-1 Potential Dust Generation Activities and Proposed Controls**

Activity	Proposed Controls
Trucks Entering Site	Pave roads/inspect trucks upon entering Site and wash as necessary, monitor truck speeds, tracking pads, water spray/mist/emulsifier
Sheet Pile Driving	Water spray/mist
Excavation Above Water Table	Water spray/mist, adjust excavation rate, suspend work under unfavorable conditions (very dry/high winds)
Breaking Up Concrete	Water spray/mist, break up concrete within excavation
Excavation Below Water Table	None anticipated to be needed, water spray/mist if required
Dewatering and Water Storage	None anticipated to be needed
Blending Soil to modify moisture content	Water/surfactant spray, controlled introduction/binding method for stabilizing agents, use low dust additives
Soil/Waste Stockpiling	Water/surfactant/foam spray, plastic cover and ballasts over inactive piles once created, maintain small consolidated area for stockpiles
Truck Loading	Water/surfactant spray, control loading rate and drop height, load waste into lined truck beds and cover once loading is completed
Trucks Leaving Site	Truck washing stations, tracking pads, monitor truck speeds, water spray/mist, load waste into lined truck beds and cover
Clean Backfill Placement	Water spray/mist
Stabilization Agent Mixing and Auguring	Construction controls (enclosed hoppers, storage silos, etc.) and water spray/mist
Removal of Sheet Piling	Water spray/mist

### 2.1 On-site Transportation Routes

Vehicle travel at a construction site typically generates more dust than actual excavation activities. However, the amount of dust generated depends on the condition of the travel ways. Unpaved and cracking roads have the potential to create the most dust from vehicular traffic. The main designated

travel routes for the RAWP are currently paved. Travel speeds also play a significant role in the potential for dust generation at the Site. The short truck travel routes on Site will encourage slow travel speeds (not to exceed 5 miles per hour ("mph")), maintaining a low dust generation potential. The truck travel routes for the initial phase of the RAWP are shown in Figure 1 of the Traffic Safety and Control Plan ("TSCP") provided in Appendix C of the RAWP.

Proactive controls will be instituted by AECOM and the contractor to reduce the potential for dust generation during site activities including maintenance of slow travel speeds and the application of Formula 480 to the travel ways prior to operation commencement. These controls are described in more detail in **Section 5**.

## 2.2 Steel Sheeting Installation/Removal

Steel sheeting will be installed in some areas to limit groundwater infiltration into the excavation area, thus reducing dewatering requirements. Steel sheeting will be installed within and along the perimeter of excavations to ensure structural integrity to the public roadway. Minimal trenching/excavation will be performed to prepare for steel sheeting installation. Excavations will be performed to remove any buried debris and subsurface concrete. Trenching/excavation will not occur under high wind (>25 mph) conditions since the nature of these activities creates the potential to generate dust containing hexavalent chromium.

Once location at which the sheeting is to be installed has been excavated, the sheeting installation process has a low potential for dust generation. The sheeting will be installed to the appropriate depths described in the RAWP via vibration. This vibration is intended to smoothly advance the sheet through the fill material.

Dust controls during the perimeter trenching/excavation and sheet piling installation will include a water spray/mist when necessary. These controls are described in more detail in **Section 5**.

## 2.3 Building Demolition

If building demolition should occur as a part of the RAWP, proactive controls will be implemented by AECOM and the contractor to reduce the possibility of dust generation during building demolition activities including saturating the structure with water, limiting speed of activities and spraying/misting working activities that are known to have the potential to generate dust. These controls are described in more detail in **Section 5**.

## 2.4 Concrete Slab Excavation

Concrete demolition will be conducted within the RAWP excavation limits by a track-mounted excavator with a hydraulic hammer mounted to the arm of the rig. Concrete demolition will normally produce dust at the point of impact. Concrete which is dry produces more dust during demolition than concrete which is saturated or sprayed with a wetting agent, such as water. At Site 114 subsurface concrete slabs which will be encountered during the RAWP excavation will likely be below the water table. As a result, the potential for dust generation during demolition is significantly reduced because the concrete will be saturated. However, controls for dust mitigation during concrete demolition will be addressed and are described in detail in **Section 5**.

## 2.5 Soil Excavation

Soil excavation does not typically produce an extensive amount of dust, except in principally arid climates and in dry, fine-grained soils. The soil moisture content and relatively high water table at the Site are expected to provide enough moisture to naturally suppress dust emissions from related excavation activities. However, there is a potential for dust to be generated should temperatures increase and humidity decrease enough to reduce the soil moisture content as the excavation progresses. Proactive controls for dust mitigation during excavation activities include conducting a majority of the excavation below the water table and excavating at a reduced rate to effectively monitor and reduce dust generation. A water spray/mist will be applied, if required, as indicated in **Table 2-1**. These controls are described in more detail in **Section 5**.

## 2.6 Soil Blending

Prior to commencement of the excavation, dewatering of the excavation areas will be conducted where required. The water table will be lowered to approximately 20 feet below ground surface ("bgs") in an effort to eliminate super-saturated soils or the need for ex-situ blending with drying agents to allow for safe off-site transportation. However, even when the water table is lowered to 20 feet bgs, soils will likely still be saturated in some areas. In cases where saturated soils are observed and moisture content needs to be reduced prior to disposal, soil blending activities may be conducted. If required, most soil blending activities will be conducted within the limits of the excavation by a track-mounted excavator. Some super saturated soils may be placed in the soil stockpiling area (see RAWP Drawings 6-1 through 6-3) for further stabilization. Soils from the unsaturated zone of the excavation may also be mixed with saturated soils prior to loading the soils into disposal trucks. Controls for dust mitigation during soil blending activities will include a water spray/mist. These controls are described in more detail in **Section 5**.

## 2.7 Soil Stockpiling

The RAWP excavations have been designed to limit the need for waste stockpiles by direct loading, to the extent possible, all materials excavated during the RAWP activities. Soil management, including stockpiling, has the potential for dust generation depending on the moisture content of the soils, and cover and size of the stockpiles. A specific location within the Site has been set aside for stockpiles. This proposed stockpile area is shown in the RAWP Drawings 6-1 through 6-3. Controls for dust mitigation during soil stockpiling include applying a water spray/mist, limiting stockpile size, and meeting stockpile cover requirements. These controls are described in more detail in **Section 5**.

## 2.8 Truck Loading

The loading of materials into hauling trucks for off-site disposal presents the possibility of dust generation if conditions are not controlled effectively. As most of the soil to be excavated will be from below the water table, the soil is expected to exhibit sufficient moisture content to keep dust generation to a minimum, even after potential blending or stockpile "draining". Each truck will be equipped with a liner, and once the soil/materials are loaded, the liners will be closed and the cargo covered. Hauling trucks will be located in close proximity to the excavators to facilitate live loading to the extent practicable. Controls for dust mitigation during soil loading of hauling trucks include a water mist/spray, careful material handling, and truck liner installation and covering. These controls are described in more detail in **Section 5** and the TSCP provided in the RAWP Appendix C.

## 2.9 Backfill Placement

Backfill used during the RAWP activities will likely be a non-porous Type I or Type II gravel or similar material, with minimal to no fines. The backfill material will be hauled onto the Site by haul trucks and placed in the excavation area following completion of soil removal activities. Backfill will then be compacted using a sheep's foot adapter for the excavator arm. All backfill used will be certified "clean" and not contaminated based on a comparison to remediation standards. However, dust generation may occur during placement activities and may trigger dust control activities. Controls for dust mitigation during backfill placement will include a water spray/mist and reduction of backfill rate, if necessary. These controls are described in more detail in **Section 5**.

## 2.10 Stabilization Agent Mixing and Augering

Large diameter (about 10 ft) augers will be utilized for in-situ stabilization and solidification activities. Cementitious materials will be mixed onsite with an activation agent (typically water) to produce a slurry and pumped into the augers for soil mixing. The unloading and mixing of these agents will have the potential to produce dust prior to injection into the augers. The churning of the soil by the augers also has the potential to produce dust during dry conditions. The amount of dust is partially dependent on the rate of rotation of the auger. With the use of coarse grain backfill, this tendency for dust production is reduced, but not eliminated. Controls for dust mitigation during stabilization agent mixing and augering will include a water spray/mist, construction controls such as closed bins and silos used for storage of materials, and a reduction in the mixing rate, if necessary. These controls are described in more detail in **Section 5**.

### 3.0 Goals/Action Levels

The goal of this DCP is to reduce the potential dust generation from site activities to the extent feasible. However, understanding that the potential for non-visible dust generation exists, a tiered approach will be used for dust/air monitoring with specialized equipment. Twelve air monitoring stations (“AMS”) are installed at the site (as shown in Figure 1 of the AMP Amendments 01 through 03 in Appendix A of the RAWP), which will be utilized for dust monitoring and to initiate control activities. The placement of portable units is subject to change depending on the locations of certain on site activities, wind direction and current conditions. The monitoring units in the perimeter of the exclusion zone will collect 5-minute data averages which will be compared to the Site-specific Action Levels and will be considered a “first line of defense” for managing dust control activities at the Site. The monitoring units in the site’s fence line will collect 15-minute data averages which will also be compared to the Site-specific Action Levels.

If the action level at the exclusion zone is exceeded, additional dust control measures will be implemented, supplemental to the controls described in **Section 5**. Action Levels are described in the AMP described in Appendix A of the RAWP. Should action levels at the perimeter fence locations be exceeded at a sustained level (15-minute data average above background) and it is determined that those exceedances are from on-site activities, Site activities will be shut down until controls can be enacted which will rectify the situation. Should any visible dust be seen within the exclusion zone or at the site perimeter, control measures will be implemented immediately, even if action levels have not been exceeded. Dedicated personnel will be monitoring the perimeter for visible dust emissions as described in **Section 7**.

## 4.0 Air/Dust Monitoring

The AMP for site activities, presented in Appendix A of the RAWP, is considered an integral part of and complementary to the DCP. Multiple levels of air monitoring will occur at the Site during RAWP activities as indicated in the AMP. These levels include continuous real-time monitoring for total volatile organic compounds ("TVOCs") and particulates, plus integrated collection of dust and hexavalent chromium samples at the perimeter fence line and around the exclusion zone. Personal (hand-held) monitoring will also be conducted by an air monitoring technician along the exclusion zone. Potential locations of mobile and permanent air monitoring stations/units are shown on Figure 1 of the AMP Amendments 01 through 03 in Appendix A of the RAWP.

Monitoring for other specific compounds, such as hydrogen sulfide and carbon monoxide, will also be conducted on an as-needed basis depending on the activity that is occurring. Additional details regarding worker's chemical exposure and measures to mitigate exposure are provided in the Site HASP presented in Appendix E of the RAWP.

## 5.0 Identification of Controls

As mentioned, control of dust is a high priority during RAWP activities. As such, AECOM and PPG have reviewed and instituted many proactive controls as detailed in the following sections to reduce the potential for dust generation during site activities. Although dust monitoring and dust control activities will be implemented during RAWP activities, some potential for dust generation will exist during excavation/remediation activities. Thus, AECOM and PPG have also identified response measures as described in the following sections that will be implemented should action levels be approached or exceeded, even after proactive dust control measures have been implemented.

Remedial activities at the Site have been designed to allow for the least amount of site disturbance possible to minimize potential generation of dust. All excavation, sheet piling installation, soil and debris loading, concrete demolition, stockpiling, and decontamination will be conducted in designated areas, which will be relocated as remediation progresses. Trucks will be allowed to travel only along specified on-site travel routes. Travel ways and staging areas are noted on Figure 1 of the TSCP (Appendix C of RAWP) and will be clearly marked in the field.

In addition, should weather conditions deteriorate to the point of encouraging the potential for dust generation (i.e., high winds) and prohibit the field crew's ability to conduct site activities without adequately monitoring (i.e., decrease effectiveness of being able to monitor for dust due to high humidity, fog, etc.) and controlling dust generation, site activities will be shut down or postponed until more favorable weather conditions return.

### 5.1 Training of Personnel

Control of dust at the Site will only be effective if all site personnel are aware of the importance of dust control to the overall success of the remedial activities. Site personnel must also understand the dust monitoring requirements and know the required procedures to minimize dust generation. Therefore, AECOM and PPG will develop and implement a training program for all site personnel. This training program will review the potential sources of dust, individual responsibilities, and actions for controlling dust.

### 5.2 Dedicated Staff

Dedicated personnel will be assigned to dust control monitoring and mitigation for the duration of remedial activities. Monitoring of dust control activities and minimizing the potential for dust generation will be given continuous attention through the use of dedicated personnel who do not have un-related responsibilities. Personnel and their responsibilities are described in **Section 7**.

### 5.3 Active Dust Controls

Water will be utilized as the main dust suppressant on-site, as necessary. Water is available onsite and is applied via misters, power washers and/or mobile water trucks. If water application is not successful in reducing the dust generation during remedial activities, emulsifiers or surfactants, such as ZHP by Ziron Industries, may be used to improve the "wettability" of water sprays (see **Appendix B.1** for product description). Emulsifiers stabilize emulsions by increasing the kinetic stability of the emulsion. One

class of emulsifier is known as surface active substances, or surfactants. Surfactants can typically reduce the amount of water by increasing the particle penetration of water and retarding evaporation. In addition, foaming agents could also be used as a soil "binding" agent, if necessary. Excavation and loading rates may also be reduced if water is not successful in reducing dust generation. If dust continues following the application of active controls, remedial operations will be shut down until the source of the dust is identified and mitigated. The application protocol for these controls is described in further detail in **Section 6**.

#### 5.4 Material Management

Given an unlimited supply of trucks and disposal facilities, excavation rates would likely exceed 2,000 tons per day. However, while these conditions are unlikely and considering that a high excavation and loading rate could lead to excessive dust generation, AECOM and PPG have reduced the initial excavation rate to approximately 400 tons per day (approximately 270 cubic yards/day) for the first few weeks. After a few weeks of excavation activities, the loading rate may be increased if dust control measures are effective and air monitoring samples indicate that dust levels are well below the Action Levels. In addition to the excavation rate, given the high water table (less than approximately 5 feet bgs) most of the excavation will be conducted below the water table. Demolition of concrete and/or other debris will also be conducted within the excavation limits. Once the debris has been demolished and reduced to the appropriate size, it will be direct loaded onto trucks for disposal.

Soil and debris will be live loaded to the extent practical to reduce the need for stockpiles. Given the high water table and likely saturated soils during excavation, soil blending activities described in **Section 2.6** will be implemented to modify the moisture content to facilitate direct loading. Saturated soils which cannot be direct loaded will be moved to the stockpile area for additional blending and/or allowed to drain. Blending materials also have the potential to produce dust. AECOM will use dust reducing blending agents, such as Quik Solid® Superabsorbent Media (**Appendix B.1**), and also apply water spray/mist as needed to reduce dust generation potential during blending activities.

Live loading of trucks will occur as close to the bed of the truck as possible to limit dust generation when loading. If required, wetting agents will be applied to the soil to reduce the potential for dust generation during the loading of the trucks. All loaded materials will be fully enclosed in the truck liner prior to departure from the exclusion/work zone.

Should stockpiles be needed, the height will be kept to a minimum (<10 feet), with a maximum on-site stockpile capacity of 4,000 cubic yards. Stockpiles will be sprayed with a water spray or mist should the potential for dust generation occur. In addition, a foam will also be administered to the stockpiles should the water spray or mist not succeed in reducing the dust generation. Stockpiles may also be reduced in size and/or immediately covered to prevent contact with the ambient air. At the end of each day, or when not in active use (inactive for two hours or more), each stockpile will be covered with a reinforced liner weighed down by sandbags or other ballast (see Drawing 6-4 of the RAWP).

#### 5.5 Transportation Routes

As stated in **Section 2.1**, transportation activities at sites have a high potential to generate dust. Dust generation is even more prevalent if the travel ways are unpaved. Truck routes will be sprayed with an emulsion salt application or equivalent in the form of a non hazardous light bonding asphaltic glue. This "glue" is designed to bind any potential dust which may be generated during transportation activities. After this initial application, subsequent applications of water or dust suppression agent will be applied,

as necessary, to the travel ways. As site activities proceed, additional application of the emulsion agent may be required if the initial bonding layer deteriorates. To further reduce dust generating potential, a speed limit of 5 mph will be enforced on the Site.

Multiple truck washes will also assist in maintaining low dust levels. Each truck will be washed a minimum of two times during its presence on the Site. First, upon entering the Site, each truck will be inspected and washed using a high pressure water spray if necessary to remove any dirt that the trucks may bring to the Site which would be mistakenly interpreted as dust generated from RAWP activities. Next, after each truck is loaded with soil and/or debris for disposal and a liner installed to cover the soil, each truck will be decontaminated at a wash station prior to exiting the exclusion zone(s) to be established at the Site. Finally, following inspection, each truck will drive through a tire wash station just prior to leaving the Site. This will reduce the potential for trucks to deposit material within public roadways. In addition, personnel vehicles will be located in a designated area away from the excavation limits. Truck washing will take place on a waterproof pad. The details and locations of the truck washing and truck decontamination pad design can be found on Drawings 6-1 through 6-4 in the RAWP. Water generated by equipment and truck decontamination activities will be collected and containerized at the point of generation and will be transferred to a designated on-site staging area or frac tank for subsequent off-site disposal.

Hourly inspections will be conducted of on-site travel routes for spilled material or dusty conditions. Water misting trucks will spray travel ways as necessary to eliminate the potential for dust generation from vehicle traffic. In addition, off-site travel routes near the Site will be inspected on a daily basis. Any material accidentally deposited on travel routes will be removed immediately by dust control technicians. A street sweeper may be employed for on- and off-site perimeter travel routes as necessary.

As indicated in the TSCP, Standard Operating Procedures ("SOPs") will be developed for incident/accident investigations to evaluate root cause and recommend future preventative measures, vehicle operation safety (on- and off-site), truck washing and securing/covering the liner following loading.

## 6.0 Dust Control Application Protocols

Site workers will be trained on the potential sources of dust and responsive controls for mitigating dust. Dedicated dust control personnel will be trained in the proper use of the suppression equipment. Protocols for dust suppression activities within the excavation area, along on-site transport routes, and for soil stockpiles are shown in **Figures 1, 2 and 3**, respectively. Working areas will be kept clean and free of debris to reduce the generation of fugitive dust. Dust and emission suppression equipment will be maintained in a proper working order and in assigned work areas. The following general procedures will be implemented to control the generation and migration of dust during remedial activities:

- Water or water/surfactant mixture will be applied directly to the active excavation, loading, stockpiling, mixing, and/or hauling operations such that fugitive dust is minimized. Water spray/mist will be applied. On-site water trucks and/or mobile water tanks (minimum 250 gallons) will be situated at strategic locations on-site to facilitate dust control activities. Tanks will be kept at least 1/3 full at all times.
- Application of Formula 480 dust suppressant to concrete slabs, stockpiles, excavation faces and roadways.
- At the end of each shift or when the stockpile is not in use for two hours or longer, the pile(s) will be securely covered with a heavy duty plastic and tear resistant (fiber reinforced) liner, weighted with ballast, and inspected.
- Enforcement of an on-site speed limit has of 5 mph.
- Limiting stockpile height to 10 feet and stockpile volume to a maximum of 4,000 cubic yards.
- Minimizing the volume of material stored outside of designated stockpile areas at the end of the work day to a small amount of soil draining back into the excavation.
- Reducing the open excavation area to reduce the size of potential dust sources.
- Trucks will drive through a tire wash station upon entering and exiting the Site to prevent material deposits off-site and along the haul route. Trucks leaving the exclusion zone will also be fully washed.
- Spilled soil material within the loading and work areas will be immediately collected and managed.
- Long term dust suppressants and/or reinforced liners will be applied to stockpiles which will remain inactive for more than two hours. All soil piles will be covered with a reinforced liner at the end of every work shift regardless of dust-generation potential.

Should these control measures be ineffective in keeping dust emissions to within allowable limits, the following corrective measures may be implemented:

- Operating procedures and/or methods will be modified to eliminate problematic conditions (e.g., limited operations under high wind conditions).
- Continue monitoring and resume normal operation once acceptable conditions are achieved.
- Cease operations and/or decrease excavation/loading rate.

In addition to the protocol above, the flow charts (**Figures 1, 2 and 3**) have been developed to aid dedicated dust suppression field personnel in determining the steps to be taken for dust suppression during daily on-site operations.

Specific surfactants, foams or other dust control products will be selected by the remedial contractor and implemented according to manufacturer specifications provided with the dust suppression product. Examples of dust suppression and blending materials are provided in **Appendix B.1**.

## 7.0 Dust Control Personnel

Dedicated dust control personnel will be on-site throughout the duration of remedial activities. Dedicated personnel will be familiar with all plans, protocol, equipment, materials and methods of application relating to the control of dust at the Site. If warranted, specific on- or off-site training for dedicated dust control personnel will be conducted. Dedicated personnel include, but are not limited to, the following positions:

- Dust Control Manager
- Air Monitoring Equipment Specialists
- Dust Control Technicians

### 7.1 Dust Control Manager

An AECOM representative will be designated as the Site Dust Control Manager (“DCM”). Initially, the DCM will be a full-time position and will report to the AECOM Site Engineer/Construction Supervisor. The DCM will be responsible for monitoring and inspecting all site activities for the potential for dust generation, and directing all dust suppression activities. Inspection forms will be completed following inspection of each of the following areas:

- Truck washing/decontamination stations,
- Excavation/loading/mixing area,
- Hauling lanes, and
- Stockpile areas.

The DCM will also be responsible for daily inspection of dust control equipment and direct any equipment modifications/recommendations as necessary. The DCM will inspect excavation and loading activities, stockpile areas, mixing activities, and hauling roads during all site activities and have the authority to direct the adjustment of excavation/loading rates as necessary to control dust generation. The DCM will direct dust suppression personnel and technicians in regards to suppression application rates. The DCM will be responsible for keeping dust generation to within the allowable limits at the Site for the duration of the remedial activity as documented in the AMP provided in Appendix A of the RAWP.

Inspections will be documented on daily dust control inspection forms included in **Appendix B.2**. The daily inspection form is divided into four main dust suppression stations and generation activities:

- Truck washing/decontamination stations,
- Excavation/loading/mixing areas,
- On-site truck routes, and

- Stockpile areas.

The forms will be used to document adequate water and/or water/surfactant mixture supplies are available for dust control activities, whether dust is/was visible during the listed activities, whether dust control measures were applied, and whether personnel are able to keep up dust suppression with the rate of activity. The inspector (DCM) will answer “Yes” or “No” for each of these items, and provide additional comments, as necessary. Forms will be completed approximately every two hours; however continuous inspection of activities will be conducted. If a more frequent schedule for form completion is required, additional times will be noted on the form. Inspection forms will be kept on file at the Site for the duration of the project and made available for NJDEP, AECOM, PPG and contractor personnel. Upon project completion, the forms will be forwarded to AECOM's office for inclusion in the remedial action report.

## **7.2 Air Monitoring Equipment Specialists**

Two full-time AECOM representatives will be designated as Air Monitoring Equipment Specialists (“AMES”) with responsibilities for air monitoring and sampling equipment. Each AMES will be responsible for equipment either within the exclusion zone or at the perimeter. Specialists will be tasked with monitoring the exclusion zone and perimeter for visible dust emissions. If visible dust emissions are present, the AMES will notify the DCM on-site to implement appropriate control measures. The AMES will also be responsible for setting up and checking all air monitoring and sampling equipment. Additional details regarding the collection of air sampling data can be found in Section 3 of the AMP provided in Appendix A of the RAWP.

## **7.3 Dust Control Technicians**

The construction/remediation contractor will provide staff to operate dust suppression equipment at the entrance/exit truck wash, decontamination pad, stockpiles, excavation/loading area, and transport routes, as needed. These personnel will continuously address these activities which have the potential to generate dust. The Dust Control Manager will have authority to direct the Dust Control Technicians in the application of controls.

## 8.0 References

ENSR, 2006. *Remedial Investigation Report, PPG Site 114 – Garfield Avenue, Jersey City, New Jersey.*

US Environmental Protection Agency, 1985. *Handbook: Dust Control at Hazardous Waste Sites.* Office of Research and Development, Hazardous Waste Engineering Laboratory, EPA/540/2-85/003. November

## FIGURES

Figure 1 - Excavation Area Dust Control Application Protocol

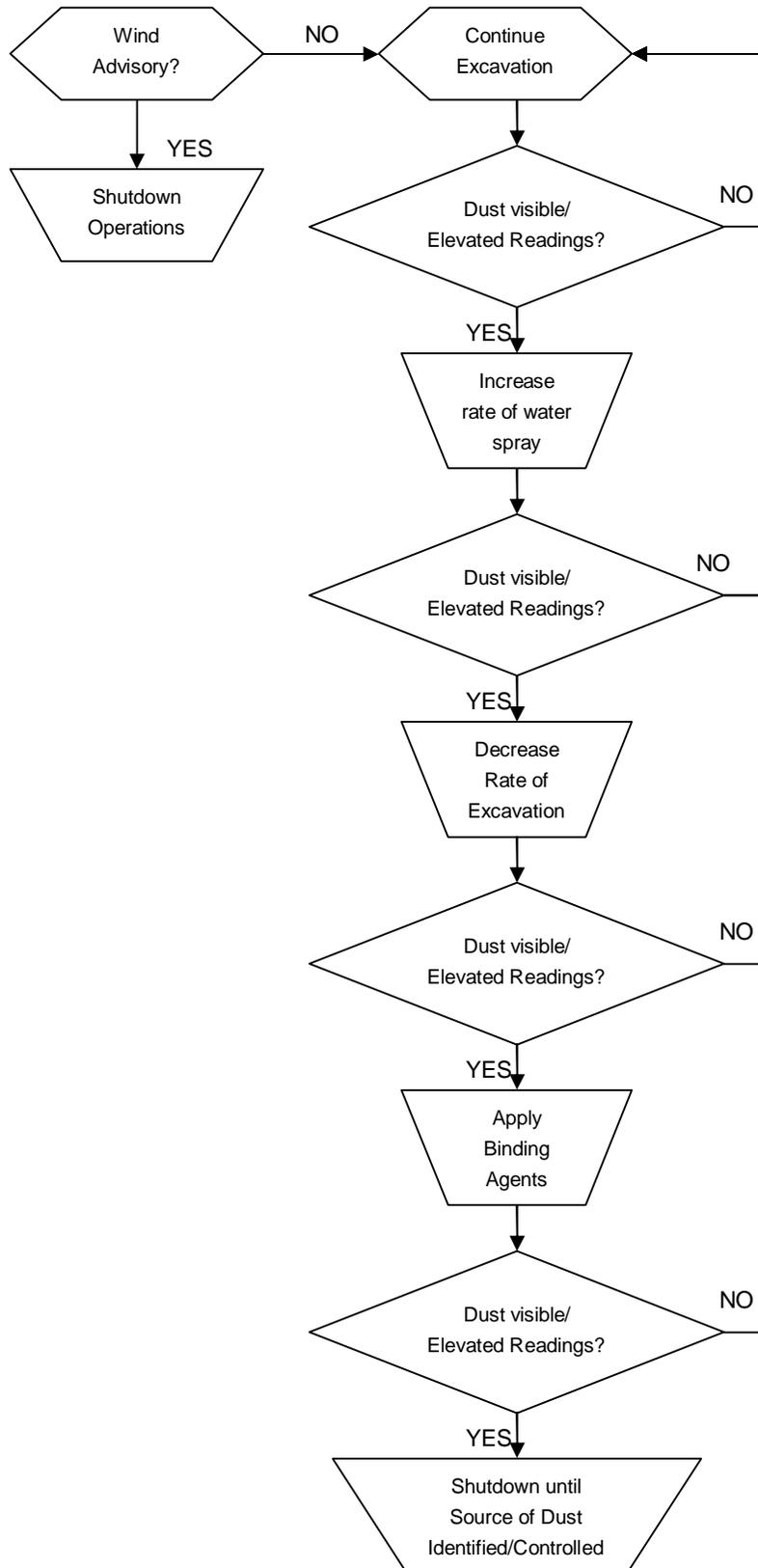


Figure 2 - Transport Route Dust Control Application Protocol

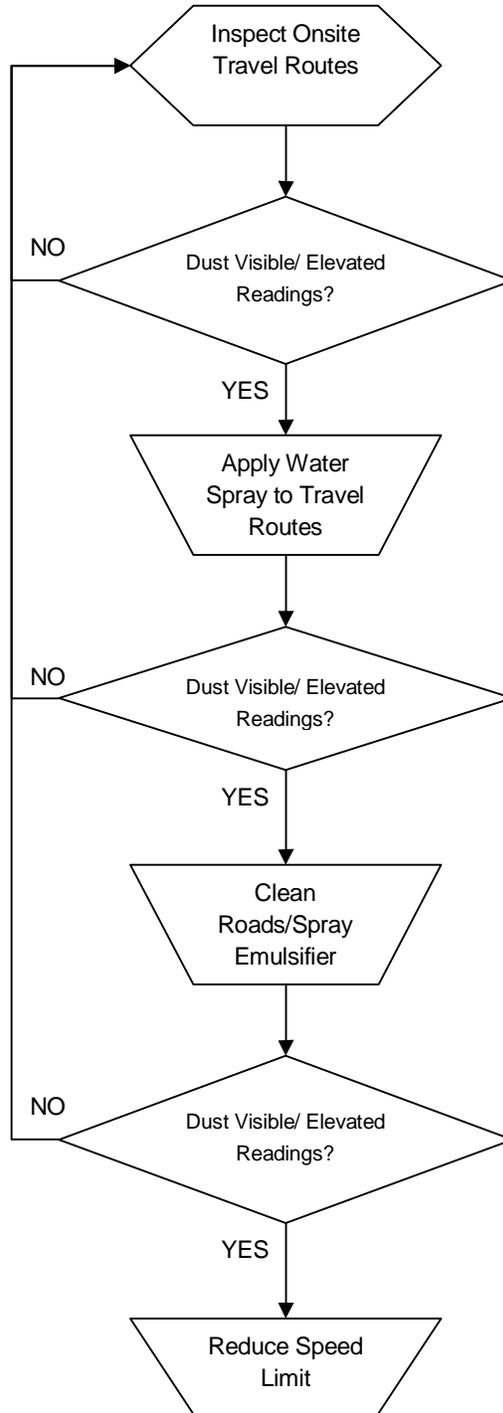
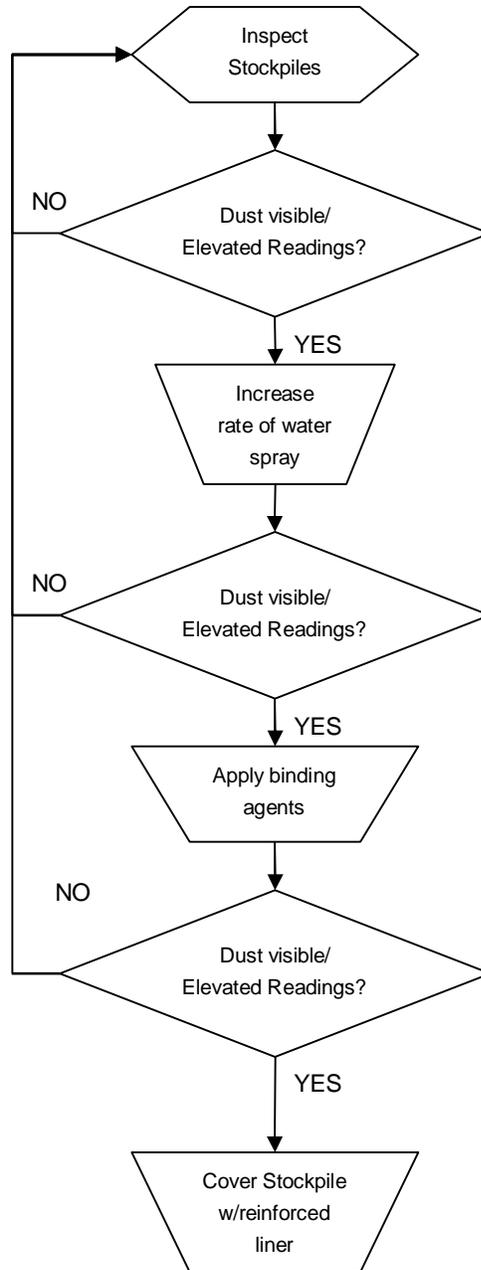
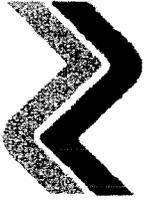


Figure 3 - Stockpile Dust Control Application Protocol



## **Appendix B.1**

### **Example Dust Suppression and Blending Materials**



**ZIRCON INDUSTRIES, INC.**  
www.liquidheat.com

P.O. Box 22483  
Cleveland, Ohio 44122  
216/581-7570  
FAX 216/581-2868  
1-800-547-4328  
e-mail: staff@liquidheat.com

## **Z H P WATER ADDITIVE**

### **DUST CLEAR POLY DUST CONTROL PRODUCT**

**A WETTING AGENT SURFACTANT USED WHEN SPRAYING ROADS, COAL/  
MINERALS, AND OTHER SURFACES.**

#### **DESCRIPTION:**

A non-ionic surfactant and resin extender for use as a wetting agent to improve the effectiveness of water for dust control on road dust, coal dust and other finely divided solids. The effect of the extenders is cumulative with repeated applications.

#### **PHYSICAL PROPERTIES:**

General Appearance	clear, liquid
Specific Gravity	1.025
Density, lbs/gal	8.54
pH	3.5
Flash Point, degrees F	>200
Viscosity, Brookfield 77 degrees F cps	820

#### **APPLICATION:**

For Dust Control - Add product to water for a dilution of 1:1000 to 1:3000, depending on product concentration or blend. Spray to the surface as part of a routine watering program. Reduces the application rate of water thru rapid penetration of the water and retarded evaporation. With continued use, the resin extenders will build up and further decrease the watering frequency.

**SAFE / EFFECTIVE / BIODEGRADABLE**

# MATERIAL SAFETY DATA SHEET

Zircon Industries Inc  
19701 S. Miles Road  
Cleveland, Ohio 44128

phone (216)581-7570  
Emergency Number (800)-535-5053

## ZHP SUPER DUST SUPPRESSANT

### SECTION I Product Identity(As used on label and list)

Product Name: ZHP Super Dust Suppressant  
Generic Name: Dust Suppressant  
Effective Date: 05/05

### SECTION II Material or Component

Ingredient	CAS#	WT% PEL	TWA	TLV	CARCIG
Water	7732-18-5	50% NA	NA	NA	NA
Wetting Agent	68890-92-6	15-20 None	None	None	None
Surfactant	1323-39-3	15-20 None	None	None	None
Surfactant hms	31566-31-1	15-20 None	None	None	None

### SECTION III Physical Data

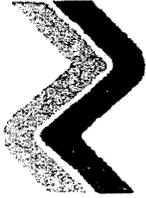
Boiling Range: 190 Degrees F  
% Solid by Weight: NA  
Solubility in Water: 100%  
Specific Gravity: 8.375 lbs/gal  
Appearance and Odor: Clear liquid with mild odor  
PH: 7-9

### SECTION IV Fire/Explosion Hazard Information

Flash Point: <200 Degrees F Water based Solution  
Flammable Limits: LEL: NA UEL: NA  
Extinguishing Media: NA  
Special Fire Fighting Procedures: NA  
Unusual Fire and Explosion Hazards: NA

### SECTION V Reactivity Data

Chemical Stability: Stable  
Conditions to Avoid: None Known  
Incompatibility (Materials to Avoid): Strong oxidizing agents  
Hazardous decomposition By-Products: None Known  
Hazardous Polymerization: Will NOT occur



## ZIRCON INDUSTRIES, INC.

www.liquidheat.com  
www.directchem.com

P.O. Box 22483  
Cleveland, Ohio 44122  
216/581-7570  
FAX 216/581-2868  
1-800-547-4328  
e-mail: staff@liquidheat.com

### PRODUCT BRIEF

- Product Name:** **ZIRCON'S LATEX 100 DUST CONTROL**
- What It Is:** A latex emulsion based product used primarily to seal road or pile surfaces that will remain undisturbed for a period of 3-12 months. The Latex 100 is also used at high dilution ratios for short term seal of days to one month.
- How It Works:** Latex 100 forms a clear, brittle crust on the surfaces to which it is applied, preventing dust from escaping and wind and water from eroding the treated area.
- Where It Works:**
- Static coal piles
  - Fly ash storage areas
  - Open unused lots
  - Open railcar tops
- Where It Doesn't Work:**
- Active mineral or ash piles
  - Haul roads
  - Roads with traffic of any significance
- Characteristics:**
- Water insoluble
  - Long lasting if undisturbed
  - Clean, clear applied appearance
  - Easy to apply and handle
- Winter Prevention Strategy:** Zircon's Latex 100 has been successfully implemented as a winter strategy to handle cold weather coal. The latex coating will preserve and maintain low moisture for easy handling of coal in winter months.
- Dilution Ratio:**
- Long Term Storage - 7 - 12 parts water to 1 part Latex concentrate
- Short Term Rock Dust Binder - As high as 100 parts water to 1 part Latex concentrate



# Technical Data

## Quik-Solid®

**Quik-Solid®** is a solid, granular cross-linked polyacrylate Advanced Superabsorbent Media that rapidly absorbs and retains large volumes of aqueous solutions. The absorptive properties of **Quik-Solid®** are ideally suited for the absorption and solidification of radioactive and other types of waste waters.

### Product Features:

- **Reduces Waste Disposal Costs** - Expands In Volume By Less Than 1%.
- Non-Biodegradable Polymer (per 40 CFR 264.314 (e)(ii)).
- Freeze-Thaw Tested : **Quik-Solid®** Will Not Release Liquids After Freezing And Subsequent Heating To 160° F.
- Will Not Release Trapped Ionic Contaminants If Solute Evaporation Occurs.
- Passes Paint Filter Test (EPA 9095).
- Approved For Use At Hanford & Other Licensed Facilities.
- SEG Certified Incinerable Material. Incinerable Polymer With A Heat Value Of 5560 BTU/lbs.
- Strong Ion Exchange Capability Allows For Heavy Metals To Be Bound & Wastes To Pass TCLP.

### Typical Absorptive Properties:

Free Swell In D.I. Water	250-350 X
In 1% AlCl <sub>3</sub>	22-26 X
Free Swell In 1% NaCl	43-52 X
In 6N NaOH	23-29 X
Free Swell In 2% NaCl	34-41 X
In 8N NaOH	22-28 X
Free Swell In 10% NaCl	19-23 X
In 6N NaOH + 2% NaCl	22-28 X
Free Swell In 1% CaCl <sub>2</sub>	20-24 X
In 10% Bleach + 1% NaCl	39-47 X

### Liquid Release Test (EPA 9096):

#### (Deionized Water Retention After 10 Minutes)

Passes With 25 X Weight At 20 psi  
 Passes With 15 X Weight At 50 psi

### Radiation Testing On Dry Polymer:

<b>Cobalt <sup>60</sup> Rad Dosage</b>	<b>Absorbency In Deionized Water</b>	<b>Absorbency In 0.9% NaCl</b>	<b>Gel Volume In 0.9% NaCl</b>
0 megarads	250-300 X	50-60 X	33-41 X
5 megarads	120-140 X	34-42 X	n.d.
25 megarads	78-92 X	28-34 X	15-19 X
50 megarads	68-83 X	27-33 X	15-19 X
100 megarads	n.d.	n.d	14-18 X
150 megarads	n.d	n.d	12-16 X

The information and data contained herein are believed to be accurate and reliable. CETCO makes no warranty of any kind and accepts no responsibility for the results obtained through application of this information.



## Material Safety Data Sheet

ZapZorb

MSDS ID: ZT/ZZ

### \*\*\* Section 1 – Chemical Product and Company Identification \*\*\*

**Chemical Name:** Sodium Polyacrylate, Crosslinked

Zappa Tec, LLC  
828 Knox Road  
McLeansville, NC 27301

Phone: (888) 369-8704

Emergency #: (800) 424-9300 CHEMTREC

### \*\*\* Section 2 – Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent
9003-04-7	Sodium polyacrylate	>99
Not Available	Post Treated – Trade Secret	0

#### Component Information/Information on Non-Hazardous Components

The components of this product are not regulated as hazardous under 29 CFR and 49 CFR. However, the manufacturer recognizes the potential for respiratory tract irritation as a result of inhalation of this material as a respirable dust. See Sections 8, 11, 14, and 15 for further regulatory information.

### \*\*\* Section 3 – Hazard Identification \*\*\*

#### Emergency Overview

Sodium polyacrylate is a white, granular, odorless polymer that yields a gel-like material with the addition of water. It is insoluble in water and causes extremely slippery conditions when wet. Although not regulated as a hazardous material, the respirable dust is a potential respiratory tract irritant. The manufacturer recommends an eight-hour exposure limit of 0.05 mg/m<sup>3</sup>.

#### Potential Health Effects: Eyes

Dust may cause burning, drying, itching and other discomfort, resulting in reddening of the eyes.

#### Potential Health Effects: Skin

Exposure to the dust, such as in manufacturing, may aggravate existing skin conditions due to drying effect.

#### Potential Health Effects: Ingestion

Although not a likely route of entry, tests have shown that polyacrylate absorbents are non-toxic if ingested. However, as in any instance of non-food consumption, seek medical attention in the event of any adverse symptoms.

#### Potential Health Effects: Inhalation

Exposure to respirable dust may cause respiratory tract and lung irritation and may aggravate existing respiratory conditions.

#### HMIS Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe \*=Chronic hazard

### \*\*\* Section 4 – First Aid Measures \*\*\*

#### First Aid: Eyes

Immediately flush eyes with plenty of water for at least 15 minutes.

#### First Aid: Skin

Remove polyacrylate absorbent dust from skin using soap and water.

#### First Aid: Ingestion

Non-toxic by ingestion. However, if adverse symptoms appear, seek medical attention.

# Material Safety Data Sheet

ZapZorb

MSDS ID: ZT/ZZ

## First Aid: Inhalation

If inhaled, move to source of fresh air. Seek medical attention if symptoms persist.

## \*\*\* Section 5 – Fire Fighting Measures \*\*\*

### General Fire Hazards

No recognized fire hazards associated with the finished product.

**Upper Flammable Limit (UFL):** NE

**Lower Flammable Limit (LFL):** NE

**Method Used:** None

**Flash Point:** None

**Flammability Classification:** None

### Hazardous Combustion Products

None known.

### Extinguishing Media

Dry Chemical, foam, carbon dioxide, water fog. Extremely slippery conditions are created if spilled product comes in contact with water.

### Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self contained breathing apparatus.

### NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

## \*\*\* Section 6 – Accidental Release Measures \*\*\*

### Containment Procedures

Sweep or vacuum material when possible and shovel into a waste container.

### Clean-Up Procedures

Use caution after contact of product with water as extremely slippery conditions will result. Residuals may be flushed with water into the drain for normal wastewater treatment. This is a non-hazardous waste suitable for disposal in an approved solid waste landfill.

### Evacuation Procedures

None Required.

### Special Procedures

Avoid respirable dust inhalation during clean-up. Wear appropriate respirator.

## \*\*\* Section 7 – Handling and Storage \*\*\*

### Handling Procedures

Handle as an eye and respiratory tract irritant.

### Storage Procedures

Store in a dry, closed container.

## \*\*\* Section 8 – Exposure Controls / Personal Protection \*\*\*

### Exposure Guidelines

#### A: General Product Information

This product is not regulated as a hazardous material. However, the manufacturer recognizes the potential for respiratory tract irritation and recommends an eight hour exposure limit of 0.05 mg/m<sup>3</sup>.

# Material Safety Data Sheet

ZapZorb

MSDS ID: ZT/ZZ

## B: Component Exposure Limits

No information is available.

## Engineering Controls

Provide local exhaust ventilation to maintain worker exposure to less than 0.5 mg/m<sup>3</sup> over an eight-hour period.

## PERSONAL PROTECTIVE EQUIPMENT

### Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields or goggles.

### Personal Protective Equipment: Skin

Use impervious gloves when handling the product in the manufacturing environment.

### Personal Protective Equipment: Respiratory

Wear respirator with a high efficiency filter if particulate concentrations in the work area exceed 0.05 mg/m<sup>3</sup> over an eight-hour period.

### Personal Protective Equipment: General

Obey reasonable safety precautions and practice good housekeeping. Wash thoroughly after handling.

## \*\*\* Section 9 – Physical & Chemical Properties \*\*\*

<b>Appearance:</b> White granular Powder	<b>Odor:</b> None
<b>Physical State:</b> Solid	<b>PH:</b> 5.5-6.5 (1% in water)
<b>Vapor Pressure:</b> <10 mm Hg	<b>Vapor Density:</b> NE
<b>Boiling Point:</b> NE	<b>Melting Point:</b> >390 F
<b>Solubility (H2O):</b> Not soluble.	<b>Specific Gravity:</b> 0.4-0.7 g/ml
<b>Evaporation Rate:</b> <1.0	

## \*\*\* Section 10 – Chemical Stability & Reactivity Information \*\*\*

### Chemical Stability

The product is stable.

### Chemical Stability: Conditions to Avoid

None

### Incompatibility

None

### Hazardous Decomposition

None known.

### Hazardous Polymerization

Will not occur.

## \*\*\* Section 11 – Toxicological Information \*\*\*

### Acute and Chronic Toxicity

#### A: General Product Information

Acute inhalation of respirable dust may cause irritation of the upper respiratory tract and lungs.

#### B: Acute Toxicity-LD50/LC50

##### Sodium polyacrylate (9003-04-7)

LD50: Oral LD50 Rat: 40gm/kg

### Carcinogenicity

#### Component Carcinogenicity

No information is available.

# Material Safety Data Sheet

ZapZorb

MSDS ID: ZT/ZZ

## Chronic Toxicity

Chronic inhalation exposure to rats for a lifetime (two years) using sodium polyacrylate that had been micronized to a respirable particle size (less than 10 microns) produced non-specific inflammation and chronic lung injury at 0.2 mg/m<sup>3</sup> and 0.8 mg/m<sup>3</sup>. Also, at 0.8 mg/m<sup>3</sup>, tumors were seen in some test animals. In the absence of chronic inflammation, tumors are not expected. There were no adverse effects detected at 0.05 mg/m<sup>3</sup>.

## Mutagenicity

Sodium polyacrylate had no effect in mutagenicity tests.

## \*\*\* Section 12 – Ecological Information \*\*\*

### Ecotoxicity

#### A: General Product Information

Composted polyacrylate absorbents are nontoxic to aquatic or terrestrial organisms at predicted exposure levels from current application rates.

#### B: Component Analysis – Ecotoxicity – Aquatic Toxicity

No information available.

### Environmental Fate

Polyacrylate absorbents are relatively inert in aerobic and anaerobic conditions. They are immobile in landfills and soil systems (>90% retention), with the mobile fraction showing biodegradability. They are also compatible with incineration of municipal solid waste. Incidental down-the-drain disposal of small quantities of polyacrylic absorbents will not affect the performance of wastewater treatment systems.

## \*\*\* Section 13 – Disposal Considerations \*\*\*

### US EPA Waste Number & Descriptions

#### A: General Product Information

This product is a non-hazardous waste material suitable for approved solid waste landfills.

#### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

### Disposal Instructions

Dispose of in accordance with Local, State and Federal regulations.

## \*\*\* Section 14 – Transportation Information \*\*\*

### International Transportation Regulations

This product is not transport regulated.

## \*\*\* Section 15 – Regulatory Information \*\*\*

### US Federal Regulations

#### A: General Product Information

This product is not Federally regulated as a hazardous material.

#### B: Clean Air Act

No information is available.

#### C: Component Analysis

No information is available.

#### D: Food & Drug Administration

CFR references for the FDA regulated components in this product are listed.

##### Sodium polyacrylate (9003-04-7)

Direct Food Additives: 173.73, 173.310

Indirect Food Additives: 175.105

# Material Safety Data Sheet

ZapZorb

MSDS ID: ZT/ZZ

## State Regulations

### A: General Product Information

This product is not regulated by any State as a hazardous material.

### B: Component Analysis - State

None of this product's components are listed on the state lists from CA, FL, MA, MN, NJ, or PA.

### Component Analysis – WHMIS IDL

No components are listed in the WHMIS IDL.

### Component Analysis – Inventory

Component	CAS#	TSCA	CAN	EEC
Sodium polyacrylate	9003-04-7	Yes	DSL	No

## \*\*\* Section 16 – Other Information \*\*\*

### Other Information

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

### Key/Legend

**Contact:** Product Compliance Officer

**Contact Phone:** (888) 369-8704



# MATERIAL SAFETY DATA SHEET

Page 1 of 5

## EG480 - FORMULA 480 LIQUID CLAY CONCEN TRATE

1. Product And Company Identification	
<b>Supplier</b> HENRY COMPANY 909 N. Sepulveda Blvd., Suite 650 El Segundo, CA 90245-2724  <b>Company Contact:</b> Technical Services <b>Telephone Number:</b> (800) 486-1278 <b>Web Site:</b> www.henry.com www.bakor.com	<b>Manufacturer</b> HENRY COMPANY 909 N. Sepulveda Blvd., Suite 650 El Segundo, CA 90245-2724  <b>Company Contact:</b> Technical Services <b>Telephone Number:</b> (800) 486-1278 <b>Web Site:</b> www.henry.com www.bakor.com
<b>Supplier Emergency Contacts &amp; Phone Number</b> CHEMTREC: (800) 424-9300 CHEMTREC: (703) 527-3887 CANUTEC: (613) 996-6666	<b>Manufacturer Emergency Contacts &amp; Phone Number</b> CHEMTREC: (800) 424-9300 CHEMTREC: (703) 527-3887 CANUTEC: (613) 996-6666
<b>Issue Date:</b> 01/08/2011  <b>Product Name:</b> EG480 - FORMULA 480 LIQUID CLAY CONCEN TRATE <b>Product Code:</b> EG480	

2. Composition/Information On Ingredients			
Ingredient Name	CAS Number		Percent Of Total Weight
petroleum asphalt	8052-42-4		40 - 60
bentonite	1302-78-9		1 - 5
kaolin	1332-58-7		5 - 10
silica, quartz	14808-60-7		0.1 - 1
water	7732-18-5		30 - 50

EMERGENCY OVERVIEW	
<b>CAUTION! Vapor may cause light-headedness, headache, nausea, loss of coordination and respiratory tract irritation. Causes skin irritation.</b>	
<b>Appearance/Odor:</b> Black liquid, negligible odor	

3. Hazards Identification
<b>Primary Routes(s) Of Entry</b> Inhalation
<b>Eye Hazards</b> May cause eye irritation (burning, tearing, redness or swelling).
<b>Skin Hazards</b> May cause skin irritation and contact dermatitis upon prolonged contact.
<b>Ingestion Hazards</b> May be harmful if swallowed. May cause gastric distress, vomiting and diarrhea.
<b>Inhalation Hazards</b> Exposure to vapors may cause respiratory tract irritation. Inhalation of vapors or mists may cause central nervous system depression, light-headedness, headache, nausea and loss of coordination.

## EG480 - FORMULA 480 LIQUID CLAY CONCENTRATE

## 3. Hazards Identification - Continued

**Chronic/Carcinogenicity Effects**

This product or one of its ingredients present at 0.1% or more is listed as a carcinogen by NTP, IARC or OSHA. See Section 11 (Toxicological Information) for more details.

## 4. First Aid Measures

**Eye**

In case of contact, hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Skin**

Remove contaminated clothing and shoes. Wash affected areas with soap and water.

**Ingestion**

Get medical attention immediately. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious victim. Call a physician or poison control center immediately.

**Inhalation**

Remove the person from the contaminated area to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately.

## 5. Fire Fighting Measures

**Flash Point:** >212 °F >100 °C

**Flash Point Method:** Setaflash

**Lower Explosive Limit:** not available

**Upper Explosive Limit:** not available

**Fire And Explosion Hazards**

Thermal decomposition (burning) may release irritating, corrosive and/or toxic gases, vapors and fumes.

**Extinguishing Media**

Chemical foam, carbon dioxide (CO<sub>2</sub>), water fog or dry chemical.

**Fire Fighting Instructions**

Firefighters should wear self-contained breathing apparatus and full protective gear.

## 6. Accidental Release Measures

Contain and/or absorb spill with inert material (e.g. sand, vermiculite). Collect and dispose in accordance with applicable regulations. Avoid runoff to waterways and sewers.

## 7. Handling And Storage

**Handling And Storage Precautions**

Keep containers tightly closed. Store in a cool, dry, well-ventilated area. Do not handle or store near strong oxidants or strong acids. Use only with adequate ventilation.

## 8. Exposure Controls/Personal Protection

**Engineering Controls**

Use with adequate general and local exhaust ventilation. When used outdoors, stay well away from building air intakes or close and seal the intakes to prevent product from entering building.

**Eye/Face Protection**

Safety glasses with side shields or goggles recommended.

## 8. Exposure Controls/Personal Protection - Continued

**Skin Protection**

Use with chemical-protective gloves to prevent skin contact.

**Respiratory Protection**

This product is an encapsulated mixture which reduces the likelihood of exposure to hazardous particulates. Airborne exposures to hazardous dusts or mists may be generated by spraying, sanding or grinding.

The level of respiratory protection needed should be based on the evaluation of chemical exposures by a health or safety professional. If required, use a NIOSH-approved air purifying respirator with organic vapor cartridge and particulate filter or supplied air respirator.

Occupational Exposure Limits for individual ingredients (if available) are listed below.

**Ingredient(s) - Exposure Limits**

petroleum asphalt

OSHA PEL-TWA 5mg/m<sup>3</sup>

ACGIH TLV-TWA 0.5mg/m<sup>3</sup> (Benzene soluble aerosol)

bentonite

ACGIH TLV-TWA 10 mg/m<sup>3</sup> (total dust)

ACGIH TLV-TWA 3 mg/m<sup>3</sup> (respirable dust)

OSHA PEL-TWA 15 mg/m<sup>3</sup> (total dust)

OSHA PEL-TWA 5 mg/m<sup>3</sup> (respirable dust)

kaolin

ACGIH TLV-TWA 2 mg/m<sup>3</sup>

OSHA PEL-TWA 15 mg/m<sup>3</sup>

OSHA PEL-TWA 5 mg/m<sup>3</sup>

silica, quartz

ACGIH TLV-TWA 0.025 mg/m<sup>3</sup>

OSHA PEL-TWA 30mg/m<sup>3</sup> / (%SiO<sub>2</sub>+2) (total dust)

OSHA PEL-TWA 10 mg/m<sup>3</sup>/ (%SiO<sub>2</sub>+2) (respirable dust)

## 9. Physical And Chemical Properties

**Appearance**

black liquid

**Odor**

negligible

**Chemical Type:** Mixture

**Physical State:** Liquid

**Boiling Point:** 212 °F 100 °C

**Specific Gravity:** 1.08

**Percent Volatiles:** 50

**Vapor Pressure:** not available

**Vapor Density:** >1

**pH Factor:** not applicable

**Solubility:** dispersible

**Evaporation Rate:** <1

<p>10. Stability And Reactivity</p> <p><b>Stability:</b> Stable  <b>Hazardous Polymerization:</b> Will not occur</p> <p><b><u>Incompatible Materials</u></b>          Avoid contact with strong oxidizing agents and acids.</p> <p><b><u>Hazardous Decomposition Products</u></b>          Toxic and irritating gases, vapors or fumes, carbon monoxide (CO), carbon dioxide (CO2).</p>
<p>11. Toxicological Information</p> <p><b><u>Chronic/Carcinogenicity</u></b>          IARC has concluded that the following chemicals in this product are carcinogenic to humans (Group 1): silica, quartz          ACGIH has designated the following chemicals in this product as suspected human carcinogens (A2): silica, quartz          NTP has listed the following chemicals in this product as known human carcinogens: silica, quartz</p> <p>Risk of cancer depends on duration and level of exposure to this product as a dust or aerosol mist.</p> <p><b><u>Miscellaneous Toxicological Information</u></b>          Toxicological testing has not been conducted for this product overall. Available toxicological data for individual ingredients are summarized below.</p> <p><b><u>Ingredient(s) - Toxicological Data</u></b>          silica, quartz              iv-rat LD50: 500 mg/kg bw/Quartz (10-200 um)</p>
<p>12. Ecological Information</p> <p>No specific information available.</p>
<p>13. Disposal Considerations</p> <p>Dispose in accordance with applicable federal, state and local government regulations.</p>
<p>14. Transport Information</p> <p>Ground   Not Restricted</p> <p>IMDG     Not Restricted</p> <p>IATA     Not Restricted</p>
<p>15. Regulatory Information</p> <p><b><u>U.S. Regulatory Information</u></b>          Asphalt may contain detectable amounts of chemicals known to the State of California to cause cancer or reproductive harm.</p> <p><b><u>Ingredient(s) - State Regulations</u></b>          petroleum asphalt              California - Proposition 65          kaolin              Pennsylvania - Workplace Hazard          silica, quartz              New Jersey - Workplace Hazard              Pennsylvania - Workplace Hazard              California - Proposition 65</p>

### EG480 - FORMULA 480 LIQUID CLAY CONCEN TRATE

15. Regulatory Information - Continued

**Ingredient(s) - State Regulations - Continued**

Massachusetts - Hazardous Substance

**Canadian Regulatory Information**

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. WHMIS Classification: D2A - Very Toxic

**Ingredient(s) - Canadian Regulatory Information**

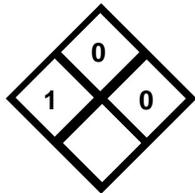
silica, quartz

WHMIS - Ingredient Disclosure List

**WHMIS - Canada (Pictograms)**



**NFPA**



**HMIS**

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	

16. Other Information

**Revision/Preparer Information**

This MSDS Supersedes A Previous MSDS Dated: 02/11/2008

Disclaimer

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purposes(s).

## **Appendix B.2**

### **Dust Suppression Inspection Form**

**DAILY DUST SUPPRESSION INSPECTION FOR  
PPG GARFIELD AVENUE SITE  
RAWP**

Date:	Dust Control Manager:									
Air Monitoring Specialists:	Dust Control Technicians:									
Weather:										
<b>ACTIVITY</b>	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	If NA, please explain.
<b>Truck Washing/Decontamination Stations</b>										
1. Sufficient water supply available	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
2. Dust visible as trucks enter/exit wash/decon station	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
3. Personnel able to keep pace with trucks	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
<b>Excavation/Loading Area</b>										
1. Sufficient water supply available	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
2. Sufficient additive(s) supply available, as needed	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
3. Dust visible during excavation/loading activities	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
4. Suppression personnel able to keep pace with equip.	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
<b>Hauling Lanes</b>										
1. Sufficient water supply available	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
2. Sufficient additive/emulsifier supply available	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
3. Dust visible during hauling activities	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
4. Truck speeds acceptable (max. 5 mph)	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
5. Suppression personnel able to keep pace with traffic	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
6. Soil spills on the hauling lanes?	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
<b>Stockpile Areas</b>										
1. Inactive stockpiles covered with liners	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
2. Sufficient water supply available for active stockpiles	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
3. Sufficient additive(s) supply available, as needed.	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	
4. Dust visible from active stockpiles	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	Y/N/NA	

Was dust ever visible during site activities? If yes, please explain when, where, why, and what controls were applied.

---



---

Were site activities shutdown during the day? If yes, please explain when, why, and for how long.

---



---



---

Notes.

---