CLARIANT RESPONSE

COMPANY SANITIZED
DOES NOT CONTAIN CBI

Clariant Corporation
EPA Response
November 17, 2003

Clariant Corporation
Responses 2 through 5
November 17, 2003

Question 2 *Documentation of Health and Safety procedures used during the manufacturing, processing and distribution of these products at your Coventry facility. Include any environmental sampling that may have been conducted.*

The Coventry facility has site-wide general Health and Safety procedures as well as procedures that are specific to individual activities. Both types of procedures apply to the production of the Pigment Red 144 and Red 214 and copies are attached.

Two general procedures, that are responsive to your request, cover this process. The Respiratory Protection Program is attached as Q2-1. The Personal Protective Equipment (PPE) program is attached as Q2-2.

Activity specific procedures also apply to this manufacturing process. The PPE requirements for these materials in the Azo building, where the first step of the process occurs, are covered in several documents. Item Q2-3 is an excerpt from the PPE assessment for all materials handled in the Azo building. As seen from the document, when handling powder, the PPE required includes PVC gloves, hard hat, safety glasses, steel toe shoes, hearing protection, N 95 Dust Mask, and a white tyvek suit w/ hood.

The PPE requirements for the HPP building, where the second step of the process takes place are listed in each step of the process. An excerpt of that procedure is included as item Q2-4. The employee Right to Know (RTK) training for this material is attached as Item Q2-5. Item Q2-6 is the modified RTK training including information on PCBs.

No related environmental sampling was conducted during the August 2001 to September 2003 timeframe.

Clariant Corporation
Responses 2 through 5
November 17, 2003

Question 3 *Analytical data collected on PCB concentrations in the intermediate and final stages of the product manufacturing process during the initial lab bench scale testing.*

The Coventry Site uses a procedure called NPPI (New Product and Process Introduction) to manage the introduction of products to the site. Additionally, the site would use the experiences of Clariant companies in other countries in its process evaluation. The data collected during this process includes: the lab scale testing of the intermediate, DAZN, and the final product, Red 214.

This table of data contains the lab scale testing that was completed on the processes. The data is limited, as it confirmed the expected results, based on production information from Europe, that PCBs are formed at low levels in the DAZN manufacture, with no additional PCB generation in the second step.

Sample number	material	result	reference
10840	DAZN	<1 ppm	Q3-1
10841	DAZN	<1 ppm	Q3-1
1726-85	214	12.74	Q3-2
1726-85	214	1.8	Q3-2
1726-154	214	1.49	Q3-2
1726-154	214	6.5	Q3-2
1724-106-1	DAZN	7.61	Q3-2
1724-106-1	DAZN	8.3	Q3-2
1724-106-2	DAZN	9.27	Q3-2
1724-106-2	DAZN	6.8	Q3-2

This data confirmed discussions between the US director of operations and his counterpart in France, that there are only very low levels of PCBs in the pigment. The duplicate sample results are part of an effort to compare 2 different laboratories. The labs used the DCMA digestion method of sample prep and used GC/MS for the analysis.

Question 4 *Analytical data collected on PCB concentrations in the intermediate and final stages of the product manufacturing process during actual manufacturing process and during the quality assurance audit.*

The table of data attached as Q4-1 contains the production scale testing that has been completed on the intermediate. The data is more extensive than the lab-scale analysis presented in question 3, and it confirmed the lab-scale results showing that PCBs are formed at low levels in the DAZN manufacture. This material was not offered for sale and was not subject to the quality assurance audit.

The tables of data attached as Q4-2 contain the product testing that has been completed on the final blends of product. The data is presented in 3 sections the first of which is the preliminary result of the Quality Assurance Audit which was the initial sampling for Red 144 and Red 214. Concerns were raised that the initial result showed interference from a non-PCB chemical eluting in a similar time on the GC. The second table shows confirmation testing of the preliminary results. The third table documents the information generated after the discovery of contamination through the confirmation testing program implemented by Clariant.

A spreadsheet showing analytical results of batch production is attached as Q4-3. As we discussed in our earlier meeting, batches are generally mixed to form a blend which is the commercial product. This blending is done for coloristic properties.

Question 5 *Documentation of activities conducted to date following the determination that PCBs had exceeded 50 parts per million in the products. This should include information regarding handling, storage, marking, etc. of the products and decontamination efforts, if applicable.*

At the Coventry site the Azo building produces the intermediate (DAZN) and packaged the final product for sale to customers. The packaging operation was moved to the Clariant Mexico plant in June of 2003. The Coventry packaging operation had not processed the Red 214 or 144 since June when the process was moved. The manufactured intermediate, DAZN, did not exceed regulatory limits during the length of production. The building was checked for material using both the inventory control system and a physical inspection. There was no intermediate or final product present. The equipment was cleaned with the work being done under the health and safety procedures cited above in response to question two. There have been no further manufacturing activities in this building for Pigment Red 144 and Red 214 since the discovery of the PCB issue.

Several employee meetings have been conducted with employees in all areas of the plant. These meetings included information on the manufacturing process, general PCB information, PCB health and safety information, regulatory information and an update on the commercial aspect of this issue. Additional job specific training was conducted for employees who could potentially work with this product.

The HPP building, which houses the second step of the process, stopped manufacturing the product during a production run. The process equipment was stopped and no new reactants charged. There was material in the filter press, the steam strip kettle, the distillation still and in a receiver at the time of discovery. The process is a completely closed system until the filter press step and the still bottoms pack out stage.

The product that was in the production system was sampled and sent to the lab for PCB analysis. These results are also contained in the response for Q3-4, USEA001415, USEA001416. The material on the filter press analyzed at below 50 ppm, as did the product in the steam stripper. These materials have been packaged as press cake and are now in the PCB management area in the site's HiRise Warehouse. The material that was in the still was packed out, using appropriate PPE, and is being managed as PCB waste. The equipment was "solvent batched," which is the process of running a solvent through the equipment to decontaminate the process equipment. The filter press has been decontaminated according to 40 CFR 761 requirements by Clariant's vendor, Clean Harbors.

The HiRise warehouse is where the materials with PCBs are now all located on site. A site map is attached as Q5-1. The material is being managed according to the requirements of §40 CFR 761.65. Additional training has been provided to the

warehouse employees regarding working with potentially PCB containing material. Training included spill response procedures for PCB containing material.

The HiRise Warehouse meets the following criteria:

a. There are adequate roof and walls to prevent rain water from reaching the stored product
b. There is an adequate floor that has continuous curbing installed.
c. The floor and curbing provide a containment volume that is 220 cu feet. This is greater than 2 times the largest container, (approximately 25 cubic feet) and greater than 25% of the total volume, approximately 800 cubic feet.
d. There are no drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area;
e. The floors are constructed with a smooth surface, finished concrete.
f. The installed curb has sealed continuous nonporous surface.
g. The warehouse is not below the 100-year flood water elevation.

There are small amounts of material that was in laboratories and support areas. This material has been quarantined and labeled. A sample label is attached as Q5-2. Additional training was conducted for the laboratory employees regarding working with potentially PCB containing material. This included spill procedures for PCB containing material as well as waste disposal requirements.

Q2-1

PROGRAM OBJECTIVE

This written respiratory protection program is intended to provide guidelines that will ensure that employees are adequately protected from respiratory hazards that may potentially be found in the work environment at the Coventry Plant. It is written to establish a program, which meets the requirements of the Occupational Safety and Health Administration (OSHA) standard on Respiratory Protection found at 29 CFR 1910.134.

SCOPE

This policy applies to all Coventry Site employees who wear, or have a potential need to wear, a respirator in the performance of their normal work activity, or under/during emergency situations.

PROGRAM ELEMENTS

This written Respiratory Protection Program contains the responsibilities and procedures required for the following program elements:

- Program Administration and Implementation
- Prevention of Atmospheric Contamination
- Approved Coventry Site Respirators
- Proper Selection of Respirators, Cartridges, Canisters, and Filters
- Proper Use of Respirators
  - General Requirements / Normal Conditions / Routine Use
  - CHANGING OF CARTRIDGES / CANISTERS / FILTERS / "DUST MASKS"
  - User Seal Checks (Fit Checks)
  - Facepiece Seal Protection
  - Eyeglasses
  - Unusual, Upset, Emergency, or IDLH Conditions
  - Interior Structural Fire-fighting
- Self Contained Breathing Apparatus (SCBA) / Emergency Use Respirators
- Breathing Air Quality, Breathing Air Pumps/Compressors, and Supplied Air Respirator Use
- Medical Requirements
- Training and Instruction
- Fit Testing
- How / Where to get a Respirator
- Respirator Cleaning, Inspection, Storage, and Repair
- Respirator Program Review and Evaluation
- Temporary Employee and/or Contractor requirements
- Definitions
- Appendices

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PROGRAM RESPONSIBILITIES

PROGRAM ADMINISTRATION AND IMPLEMENTATION

The Core ESHA Department shall: (Environmental, Safety and Health Affairs)

- Administer a site-wide Respiratory Protection Program. The Industrial Hygienist / Product Safety Supervisor is the Respiratory Protection Program Administrator for the Coventry Site and shall oversee the overall management and administration of the program, as well as ensure program integrity and coordination of all facets of the program on a site-wide basis.

The ESHA B.U. Contact, along with the Business Unit / Service Department PPR shall:

- Assume responsibility for the effective implementation and continued maintenance of all program elements that are relevant in their respective areas and shall ensure that respirator users adhere to all conditions and requirements of this program.
- Ensure that, under no circumstances, shall any employee use a respirator unless all the conditions and requirements of this written program are met.

The Employee shall:

- Adhere to all elements, conditions, and requirements of this program.

PREVENTION OF ATMOSPHERIC CONTAMINATION

The primary objective of the Coventry Site shall be to prevent atmospheric contamination of breathing air from harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. This shall be accomplished as far as feasible by using accepted engineering controls such as, but not limited to, enclosure or confinement of the operation, process or equipment, general and/or local ventilation, and substitution of less toxic materials.

When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used to protect the health of the employees.

The Business Unit / Service Department PPR shall ensure that:

- Where/when it is feasible, engineering controls shall be used at the Coventry Site instead of respiratory protection. In cases where engineering controls are not feasible or are in the process of being implemented, employees shall be required to use respiratory protection, pursuant to the requirements of this written program.

The B.U. Engineering / Technical Support Group shall:

- Be responsible for determining the feasibility of engineering control measures in the workplace, considering all Industrial Hygiene, Environmental, and Safety Regulations.

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APPROVED COVENTRY SITE RESPIRATORS

All respirators, cartridges, canisters, filters, and respirator systems, including breathing air pumps/compressors, shall be "approved" **PRIOR TO ORDERING** for use at the Coventry Site.

The Industrial Hygiene Department shall:

- Approve all respirators, cartridges, canisters, filters, and respirator systems, including breathing air pumps/compressors, used at the Coventry Site, and shall maintain an "approved list". **(Appendix E)**
- Ensure that only NIOSH approved respirators, cartridges, canisters, filters, and respirator systems, etc are approved for use on site.
- Ensure that there is a choice from a sufficient number of approved respirator models and sizes available, so that the respirator is acceptable to, and allows for proper fitting of all employees.

The Business Unit / Service Department PPR shall:

- Ensure that only those respirators, cartridges, canisters, filters, respirator systems, and breathing air pumps/compressors, which are specifically on the "approved list" are ordered or used. **(Appendix E)**
- Any requests for respirators, cartridges, canisters, filters, respirator systems, and breathing air pumps/compressors that are not on the "approved list", shall be made to the Industrial Hygiene Department.

The Purchasing Department Shall:

- Ensure that only approved respirators, cartridges, canisters, filters, respirator systems, and breathing air pumps/compressors, which are specifically on the "approved list", are ordered for the Coventry Site. **(Appendix E)**

The Coventry Site Stockroom shall:

- Only stock respirators, cartridges, canisters, filters, respirator systems, and breathing air pumps/compressors, which are specifically on the "approved list". **(Appendix E)**

PROPER SELECTION OF RESPIRATORS

Respirators, cartridges, and filters shall be selected based on an evaluation of the hazards to which the employee is exposed and workplace and user factors that affect respirator performance and reliability. Consideration shall be given to the type of respiratory hazard, the nature of the operation, the length of time required to complete the operation, the respirator protection factor, the functional capabilities and limitations of the respirator, the physical form and chemical state, the contaminant concentration, chemical and physical properties, and the activities of the employee in the hazardous area. If the exposure can not be identified, or if a reasonable estimate of the employee exposure can not be determined, the atmosphere shall be considered IDLH. This respirator selection process shall be made according to the guidance of NIOSH and American National Standard Practices for Respiratory Protection Z88.2-1992.

The ESHA B.U. Contact, in Conjunction With The Industrial Hygiene Department, Shall:

- Ensure that respirators, cartridges, and filters, are properly selected considering the above criteria and made according to NIOSH and ANSI standards.

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- Select a Full Facepiece Pressure Demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or a combination Full Facepiece Pressure Demand Supplied-Air Respirator with auxiliary self-contained air supply for, any oxygen deficient atmosphere (<19.5% Oxygen), IDLH atmosphere, if the chemical concentration and/or composition is unknown, or if the exposure can not be identified, or a reasonable estimate of the employee exposure can not be determined.
- Select air purifying respirator cartridges, canisters, and filters based on the need for protection from specific airborne contaminants. Each cartridge, canister, or filter is uniquely marked and color-coded by NIOSH to indicate the specific type of contaminants for which it may be used.

The Business Unit / Service Department PPR shall:

- Ensure that each operation, task, or process, requiring a respirator, shall specify the appropriate respirator along with cartridges, and/or filters, as determined by the ESHA BU Contact and Industrial Hygiene, in the departments Batchsheets, PPE Assessments, and/or Standard Operating Procedure.

The Employee shall:

- Properly use only the specific respirators, cartridges, canisters, and filters as specified in the batchsheets, PPE Assessments, and/or SOP's for the job/task that they are performing.

PROPER USE OF RESPIRATORS

GENERAL REQUIREMENTS / NORMAL CONDITIONS / ROUTINE USE

The ESHA B.U. Contact, in Conjunction with the Industrial Hygiene Department, shall ensure that:

- Appropriate surveillance of work area conditions and degree of employee exposure or stress is maintained. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the respirator shall be reevaluated.

The Employee shall:

- Use only the specific respirators, cartridges, canisters, and filters as specified in the batchsheets, PPE Assessments, and/or SOP's for the job/task that they are performing.
- Use the provided respiratory protection equipment correctly, according to the training provided, this written program, and all departmental procedures.
- Leave the "respirator use area" :
  - To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use.
  - If you detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facpiece.
  - To replace the respirator, filter, cartridge, or canister elements, or to remove your respirator for any purpose.
- If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facpiece, the respirator, filter, cartridge, or canister elements must be replaced or repaired before returning to the work area.

The Business Unit / Service Department PPR shall ensure that:

- No employee, under any circumstances, uses a respirator unless all the conditions of this program are met and shall be responsible for the correct use of respirators ensuring that they are issued, worn, cleaned, stored, repaired, and used properly in accordance with this program.

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- All respirators are provided by the employer.

CHANGING OF CARTRIDGES / CANISTERS / FILTERS / "DUST MASKS"

- Replace "chemical cartridges" **daily at a minimum**, or **after each use** if working in high concentrations, high humidity, or with toxic chemicals.

- 3M 8210 "paper type Dust Masks" filter respirator **must be replaced after 8 hours maximum use** or whenever they are damaged, soiled, or are causing a noticeable increase in breathing resistance.

- 3M 8210 paper respirators protect from large particles, they do not protect from small particles, gases, vapors, or oil based particulates. **DO NOT WEAR FOR PROTECTION FROM "OIL BASED/CONTAINING COMPONDS.**

USER SEAL CHECKS (FIT CHECKS)

The Employee shall:

- Perform a positive and negative "user seal/fit check" each time they put on a tight-fitting respirator, using the procedure found in **Appendix...**

FACEPIECE SEAL PROTECTION

All employees who wear a Respirator, and/or who have been Respirator Fit Tested shall:

- Remain clean shaven at all times, and shall not wear tight-fitting respirators if:
  - Any Facial hair, including stubble beard growth, beard, mustache, or sideburns, comes between the sealing surface of the facepiece and the face, or that interferes with valve function.
  - Any condition interferes with the face-to-facepiece seal or valve function. (IE: scars, absence of otherwise normally worn dentures, etc.)
- If an employee wears corrective glasses or goggles or other Personal Protective Equipment (PPE), the equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.

EYEGLASSES

The Employee shall:

- Not wear eyeglasses with temple bars with a fullface respirator.
- Not wear contact lenses with a respirator.
- Anyone required to wear eyeglasses with a fullface respirator shall be provided a spectacle kit, which is designed to fit entirely inside the respirator. The spectacle kit can be obtained through the Medical Department.

The Medical Department shall:

- Coordinate the issuing of the prescription spectacle kits for Fullface respirators.

UNUSUAL, UPSET, EMERGENCY, OR IDLH CONDITIONS

During "unusual" or "upset" conditions such as spills, releases, or leaks, when the contaminant or the contaminant concentration is unknown, during an emergency, when entering an area that is immediately

dangerous to life or health (IDLH), or when entering an oxygen deficient atmosphere (<19.5% oxygen), a Full Facepiece Pressure Demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or a combination Full Facepiece Pressure Demand Supplied-Air Respirator with auxiliary self-contained air supply shall be required.

NOTE: Air Purifying Respirators may be used once appropriate tests indicate that concentrations are within the protection factor and maximum use concentration of the specific respirator, **or** the ESHA B.U. Contact and/or the Industrial Hygiene Dept. has performed an assessment and approves alternate respiratory protection. Contact your ESHA B.U. Contact, or Industrial Hygiene for "incident specific" guidance.

The Emergency Response Team Leader, Business Unit / Service Department PPR, and/or ESHA Contact shall ensure that:

- The Coventry Site Emergency Response Team (**ERT**), in conjunction with the local fire department, shall respond to, and handle, all site emergencies involving the spill or release of hazardous materials, rescue of personnel, and/or Fire.
- AirLine respirators shall not be used in IDLH or oxygen deficient atmospheres, unless an auxiliary tank of air is carried by the wearer, which can be activated by the user for escape should the airline supply fail.
- The Coventry Site Confined Space Procedure (**Safety – 08**) is followed anytime entry into a confined space is required.
- For all IDLH or potential IDLH Atmospheres:
  - One person or, when needed, more than one person is located outside the IDLH or potential IDLH atmosphere. (**Interior Structural Firefighting requires "2 in, 2 out rule" see below**)
  - Visual, voice, or signal line communication is maintained between the person(s) in the IDLH or potential IDLH atmosphere and the person(s) located outside the IDLH or potential IDLH atmosphere.
  - The person(s) located outside the IDLH or Potential IDLH atmosphere are trained and equipped to provide effective emergency rescue. They shall be equipped with a Full Facepiece Pressure Demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or a combination Full Facepiece Pressure Demand Supplied-Air Respirator with auxiliary self-contained air supply. In addition they shall be equipped with appropriate retrieval equipment for removing the employee(s) who enter the IDLH or Potential IDLH atmosphere.

>NOTE: EMERGENCY RESCUE SHALL ONLY BE PERFORMED BY THE EMERGENCY RESPONSE TEAM (ERT). IN CASE OF AN EMERGENCY CONTACT SECURITY AT EXTENSION 2200, OR VIA RADIO.

INTERIOR STRUCTURAL FIREFIGHTING

The Emergency Response Team Leader shall ensure that:

- In addition to the above requirements for all IDLH atmospheres, during Interior Structural Firefighting:
  - At least **two persons** enter the IDLH atmosphere and remain in visual or voice contact with one another at all times **and** at least **two persons** are located outside the IDLH atmosphere. (**"2 in, 2 out rule"**)
- All persons involved in Interior Structural Firefighting use Full Facepiece Pressure Demand SCBA certified by NIOSH for a minimum service life of thirty minutes.

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SELF CONTAINED BREATHING APPARATUS (SCBA) / EMERGENCY USE RESPIRATORS

The term "Self Contained Breathing Apparatus" (SCBA) refers to an Atmosphere Supplying Respirator for which the source of breathing air is designed to be carried in cylinders on the user.

NOTE: At the Coventry Site, only Emergency Response Team (ERT) personnel are "trained" and allowed to use Self Contained Breathing Apparatus (SCBA) / Emergency Use Respirators.

All SCBA / Emergency Use Respirators used on site shall be a Full Facepiece Pressure Demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or a combination Full Facepiece Pressure Demand Supplied-Air Respirator with auxiliary self-contained air supply. **(See Appendix E for "Approved List")**

The Emergency Response Team Leader shall ensure that:

- Trained Emergency Response Team (ERT) personnel, shall inspect all SCBA / Emergency Use Respirators at least once per month, and shall check them for proper function before and after each use.
- The inspection shall insure that the regulator and warning devices are functioning properly, and shall include a check of all rubber or elastic parts, the facepiece, headbands, valves, tubing, tanks, harness assembly, and the tightness of all hose connections.
- ERT personnel shall certify and maintain a monthly record of the inspection of each SCBA / Emergency Use Respirator by documenting:
  - The date the inspection was performed
  - the serial number, or "other means of identification" of the SCBA / Emergency Use Respirator
  - the "findings" of the inspection
  - any "remedial action" or service required (if any)
  - the signature of the person conducting the inspection
- The above inspection record is kept with the Emergency Response Team Leader until the next inspection is conducted and a copy shall be sent to the Industrial Hygiene Department on a monthly basis.
- After each use, trained Emergency Response Team (ERT) personnel shall arrange to have the SCBA cleaned, disinfected, inspected and stored properly.
- SCBA / Emergency Use Respirators are stored in accordance with the manufacturers recommendations, and shall be stored in compartments or in covers, that are clearly marked as containing "Emergency Use Respirators".
- After each use, trained Emergency Response Team (ERT) personnel shall arrange to have the SCBA serviced and cylinder recharged.
- Breathing Air cylinders must be fully charged.
- Breathing Air cylinders shall have a "certificate of analysis" from the supplier indicating that the breathing air meets the requirements for Type 1 – Grade D breathing air and the moisture content in the cylinder does not exceed a dew point of –50 degrees F (-45.6 degrees C) at 1 atmosphere pressure. In addition, the cylinders are tested and maintained per the Shipping Container Spec. Regulations of the Department of Transportation (49 CFR part 173 and 178) and marked in accordance with the NIOSH respirator certification standard 42 CFR 84.
- Oxygen shall not be used in Respiratory Protective devices. (This is intended to prevent fire and/or explosions that could result if high-pressure oxygen comes into contact with oil or grease that has been introduced to the respirator or airlines.)

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- All steel and aluminum cylinders shall be hydrostatically pressure checked every five years at 5/3 working pressure. All composite cylinders (I.e.: fiberglass wrapped) shall be hydrostatically pressure checked every three years at 5/3 working pressure. A record of these checks shall be kept with the Emergency Response Team Leader until the next test is conducted and a copy shall be sent to the Industrial Hygiene Department.

BREATHING AIR QUALITY, QUANTITY, AND FLOW / SUPPLIED AIR RESPIRATORS (AIRLINE RESPIRATORS)

In addition to the SCBA discussed above, Atmosphere Supplying Respirators approved for use at the Coventry Site include Supplied Air Respirators (SAR) also known as "Airline Respirators". These are respirators in which the breathing air is supplied from a source independent of the surrounding atmosphere to the respirator under pressure, via a hose.

The Coventry Site does not have any approved Airline Systems which supply "breathing air" from an "internally oil lubricated" compressor. All Airline Systems on site provide "breathing air" from "Ambient Air Pumps", which are not "internally oil lubricated", or cylinders. **Note: "Internally oil lubricated" refers to oil in the compression chamber. (See Appendix E for "Approved List")**

NOTE: Air-Line respirators shall not be used in IDLH or oxygen deficient atmospheres, unless it includes a NIOSH approved auxiliary tank of air, which is carried by the wearer, that can be activated by the user for escape should the air-line supply fail.

The Business Unit / Service Department PPR shall ensure that:

- Any supplied breathing air meets the requirements for Type I gaseous air (Grade D or better) as set forth in the most recent Compressed Gas Association Commodity Specification for Air, G-7.1. (Oxygen -19.5 % - 23.5%, CO -10 PPM Max, CO2 -1000 PPM Max, Hydrocarbons -5 mg/m3 Max, and lack of noticeable odor.)
- Breathing Air cylinders shall have a "certificate of analysis", from the supplier, indicating that the breathing air meets the requirements for Type 1 – Grade D breathing air and the moisture content, in the cylinder, does not exceed a dew point of –50 degrees F (-45.6 degrees C) at 1 atmosphere pressure. In addition, the cylinders are tested and maintained per the Shipping Container Spec. Regulations of the Department of Transportation (49 CFR part 173 and 178) and marked in accordance with the NIOSH respirator certification standard 42 CFR 84.
- The above "Certificates of Analysis" for breathing air cylinders, shall be kept on file and made available if requested.
- Oxygen shall not be used in Respiratory Protective devices. (This is intended to prevent fire and/or explosions that could result if high-pressure oxygen comes into contact with oil or grease that has been introduced to the respirator or airlines.)
- Air - intakes on breathing air-type pumps/compressors, shall be located in a contamination-free area, capable of drawing clean air and situated to prevent entry of contaminated air into the air supply system.
- Breathing Airline couplings shall be incompatible with outlets for nonrespirable work-site air or other Gas systems to prevent inadvertent servicing of Airline Respirators with nonrespirable gases or oxygen. No asphyxiating substance shall be introduced into breathing airlines.
- All breathing air type pumps/compressors shall be inspected monthly, in accordance with the procedure and form in Appendix B and C respectively, of this program. These inspection forms shall be made available upon request.

- All breathing air type pumps/compressors have in-line filters and /or sorbent beds to further ensure breathing air quality. Filters and/or sorbent beds shall be maintained and replaced following the manufacturers recommendations and schedule. **(See Appendix B)**
- A tag shall be maintained at the pump/compressor, containing the most recent filter/sorbent bed change date, along with the "signature" of the person authorized to perform the change.
- For any oil lubricated pump/compressor, a carbon monoxide alarm, shall be installed to monitor carbon monoxide levels. **(Note: "Oil lubricated" refers to oil in the compression chamber)**
- All "breathing air" lines shall be labeled as "breathing air".
- Airflow to each respirator attached to the air-supply system, shall be at least 4 CFM for a tight-fitting facepiece, and at least 6 CFM for hoods and helmets. In addition the airflow rate to each face covering shall not exceed 15 CFM (Minimum flow rates of 6 and 8 CFM, respectively, are recommended for continuous flow respirators.)
- The maximum length of breathing airline hose allowable and approved is 300 feet, for any airline respirator.
- A respirator from one manufacturer may not be used with a hose from another manufacturer, or unapproved hose.

The Purchasing Department shall:

- Communicate the requirement to all vendors that supply "Breathing Air" to the Coventry Site, that Breathing Air cylinders shall have a "certificate of analysis", from the supplier, indicating that the breathing air meets the requirements for Type 1 – Grade D breathing air and the moisture content, in the cylinder, does not exceed a dew point of –50 degrees F (-45.6 degrees C) at 1 atmosphere pressure. In addition, the cylinders are tested and maintained per the Shipping Container Spec. Regulations of the Department of Transportation (49 CFR part 173 and 178) and marked in accordance with the NIOSH respirator certification standard 42 CFR 84.

MEDICAL REQUIREMENTS

All Coventry Site employees shall receive a medical evaluation to determine their ability to use a respirator, before the employee is fit tested and required to use a respirator, and at least every two years, per Coventry Site Policy. Emergency Response Team (ERT) members shall have this medical evaluation conducted annually.

The Employee shall not:

- Wear any respirator unless the plant Health Care Provider has made a determination, that the employee is physically capable to perform the work or task while using the respiratory protection.

The Business Unit / Service Department PPR and/or ESHA BU Contact shall ensure that:

- No employee is scheduled to be Fit Tested or assigned to wear any respirator unless it has been determined, by the plant Health Care Provider, that the employee is physically capable to perform the work or task while using the respiratory protection.

- Notification is made to the Industrial Hygiene and Medical Departments whenever:
  - an employee reports medical signs or symptoms that are or may be related to the ability to use a respirator.
  - a change occurs in the workplace conditions (e.g. physical work effort, protective clothing, temperature, etc.) that may result in a substantial increase the physiological burden placed on an employee.

The Occupational Health Coordinator / Nurse shall ensure that:

- The Corporate Medical Director or the Plant Health Care Provider shall determine what health and physical conditions are required to be suitable for a specific assignment.

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- The Occupational Health Nurse shall coordinate the medical evaluation of employees required to wear respirators. The examinations shall be administered confidentially during the employees normal working hours, and shall provide each employee an opportunity to discuss the examination results with the plant physician.
- This medical evaluation shall be conducted and documented, prior to the employees "initial" respirator use, and at a minimum every two years, per Coventry Site policy, and shall be kept on file in the medical dept.
- Emergency Response Team (ERT) members shall have this medical evaluation conducted annually.
- The medical evaluation shall obtain the information requested by the questionnaire found in the Respiratory Protection Standard 29 CFR 1910.134, Appendix C, Part A, Sections 1 and 2.
- A written recommendation regarding the employees ability to use a respirator, shall be obtained from the plant Health Care Provider. A copy shall be kept on file in the medical department and a copy shall be sent to the Industrial Hygiene Department. The written recommendation shall include the following information ONLY:
  - Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.
  - The need, if any, for follow-up medical evaluations.
  - A statement that the Health Care Provider has provided the employee with a copy of his/her written recommendation.
  - The signature of the Health Care Provider.
- Records of medical evaluations must be retained and made available in accordance with 29 CFR 1910.1020.
- The medical department shall add the "approved date" to the respirator Fit Test database, located on the LAN at S:\ ESHA DEPARTMENT FILES\FITTEST\RESPFITT.XLS, for all personnel approved by the site Health Care Provider to wear a respirator.
- Industrial Hygiene shall be notified of all persons, who are not approved to wear a respirator.
- Additional medical evaluations are conducted, in addition to the every two years requirement, if:
  - An employee reports medical signs or symptoms that are related to the ability to use a respirator.
  - The Health Care Provider, supervisor, or the Respirator Program Administrator informs the medical department that an employee needs to be reevaluated.
  - Information from the Respiratory Protection Program, including observations made during fit testing and/or program evaluation, indicate a need for reevaluation.
  - A change occurs in the workplace conditions (e.g. physical work effort, protective clothing, temperature, etc.) that may result in a substantial increase the physiological burden placed on an employee.

TRAINING AND INSTRUCTION

All Coventry Site employees, who are required to use a respirator, shall be trained prior to being Fit Tested and allowed to use a respirator in the workplace. Training shall recur annually, and more often if necessary.

Training shall be conducted annually via Computer Based Training (CBT) and/or classroom training conducted by the ESHA BU Contact, the Industrial Hygiene Department, or other designated qualified person.

The Business Unit / Service Department PPR shall ensure that:

- All employees, who use or have a potential to use a respirator, have been trained and can demonstrate knowledge of the topics covered. This training shall occur prior to the employee being Fit Tested and allowed to use the respirator in the workplace.

- Retraining shall occur at least annually, and when the following situations occur:
  - Changes in the workplace or type of respirator render previous training obsolete.
  - Inadequacies in the employee's knowledge, or use, of the respirator indicate that the employee has not retained the requisite understanding or skill.
  - Any other situation arises in which retraining appears necessary to ensure safe respirator use.
- All employees, who are responsible for the cleaning of respirators, shall be trained in accordance with the Cleaning Procedures found in Appendix A, of this Policy.

FIT TESTING

All Coventry Site employees who wear, or who may have a potential need to wear, a respirator with a tight fitting facepiece, shall be Fit Tested with the same make, model, style, and size of respirator(s) that they will use. The Fit Test shall occur prior to initial use of the respirator, whenever a different respirator make, model, style, or size is used/needed, and at least annually.

A new Fit Test shall be conducted whenever the employee reports, or the supervisor, plant Health Care Provider, ESHA BU Contact, or Industrial Hygiene/Respiratory Protection Program Administrator makes visual observations of changes in the employees physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in weight.

The Occupational Health Coordinator / Nurse shall ensure that:

- The Occupational Health Nurse shall coordinate the medical evaluation of employees required to wear respirators. This medical evaluation shall be conducted and documented, prior to the employee being Fit Tested and prior to their "initial" respirator use and at a minimum every two years, per Coventry Site policy.
- No employee is approved to wear any respirator unless, it has been determined by the plant Health Care Provider, that the employee is physically capable to perform the work or task while using the respiratory protection.
- A written recommendation regarding the employees ability to use a respirator, shall be obtained from the plant Health Care Provider. A copy shall be kept on file in the medical department and a copy shall be sent to the Industrial Hygiene Department, as proof of medical approval prior to Fit Testing.
- The "approved date" is added to the respirator Fit Test database, located on the LAN at S:\ ESHA DEPATMENT FILES\FITTEST\RESPFITT.XLS, for all personnel approved by the Health Care Provider to wear a respirator and shall notify Industrial Hygiene of all persons, who are "not approved" to wear a respirator.

The Business Unit / Service Department PPR shall ensure that:

- A Fit Test is scheduled with Occupational Health Coordinator and conducted prior to any employee initially using a respirator in the course of their job, and annually thereafter.
- Only the persons whose names are listed in the Fit Test database on the LAN at S:\ ESHA DEPARTMENT FILES\FITTEST\RESPFITT.XLS are allowed to obtain, use, or possess a respirator. Anyone who needs a respirator must be medically approved, trained, and Fit Tested before they can receive/use one. CONTACT OCCUPATIONAL HEALTH IF A NAME DOESN'T APPEAR ON THE LIST.
- Any request for a different respirator type, size, make, model, style, or brand, other than what a person has already been Fit Tested for, shall require a new fit test, to be conducted by the Occupational Health department.

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- No employee is scheduled to be Fit Tested or assigned to wear any respirator unless it has been determined, by the Health Care Provider, that the employee is physically capable to perform the work or task while using the respiratory protection.
- Only employees, who are successfully Fit Tested annually, shall be allowed to wear a negative or positive pressure respirator with a facepiece.
- Once the employee has been Fit Tested for a respirator, the employee shall remain clean-shaven at all times. If an employee is not clean-shaven ensure that they do not wear a respirator and/or perform any job / task which requires respiratory protection. **(See "clean-shaven" definition)**
- The names, new department, and shift of any employee transferred out of the department shall be provided to Occupational Health Department, so that Fit Testing records can be updated.

The employee shall ensure that:

- They do not wear any respirator until they have been medically approved, and successfully Fit Tested for each negative and/or positive pressure respirator with a facepiece.
- They only use/wear the specific respirator type, size, make, model, style, or brand, for which they have been Fit Tested and approved for. Any need for a different respirator type, size, make, model, style, or brand, other than what a person has already been Fit Tested for, shall require a new fit test, to be conducted by the Industrial Hygiene department.
- Once they have been Fit Tested for a respirator, they shall remain clean-shaven at all times. If an employee is not clean-shaven, they shall not wear a respirator and/or perform any job / task which requires respiratory protection. **(See "clean-shaven" definition)**
- They arrange to have a new Fit Test conducted whenever a different respirator type, make, model, style, brand, or size is used/needed, they feel the respirator no longer fits properly, or if there are changes in the employees physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in weight.

The Person(s) designated and trained to conduct Respirator Fit Testing shall ensure that:

- The Fit Test shall not be conducted if there is any hair growth between the skin and the facepiece-sealing surface, such as stubble beard growth, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with the sealing surface shall be altered or removed.
- Fit Testing shall include handling the respirator, testing facepiece to face seal, wearing the respirator in a normal, non-contaminated atmosphere and wearing the device in a test atmosphere.
- During the fit test procedure each person shall receive instructions in how the respirator should be put on and worn, how to adjust it, how to determine if it fits properly, the purpose of the Fit Test, the negative pressure fit check, the positive pressure fit check, and the limitations of the respirator.
- Fit Testing at the Coventry Site shall be conducted according to accepted OSHA protocols, using the qualitative Irritant Smoke and/or Saccharin Solution Methods. Quantitative methods will be used when it's necessary to achieve an Assigned Protection Factor (APF) greater than 10.
- Respirators used in Fit Testing and/or Training shall be cleaned and disinfected after each use.
- All Fit Tests shall be recorded on a Respirator Fit Test Record form. The person being fit tested and the person conducting the Fit Test shall sign and date the form.

The Occupational Health Department shall:

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- Enter and maintain the Fit Test data in the Respiratory Protection Fit Test Database located on the LAN at S:\ ESHA DEPARTMENT FILES\ FITTEST\RESPFITT.XLS. Printed paper copies of this database are to be considered "uncontrolled" copies.
- Maintain the "original signed hardcopies" of the Fit Test forms.
- Fit Test records shall be retained at a minimum, until the next or new Fit Test is conducted.

HOW / WHERE TO GET A RESPIRATOR

An appropriate supply of approved respirators, parts, cartridges, canisters, and filters shall be stocked and promptly available in the Coventry Site Stockroom.

Only the persons whose names are listed in the Fit Test database on the LAN at S:ESHA DEPARTMENT FILES\FITTEST\RESPFITT.XLS are allowed to obtain, use, or possess a respirator. Anyone who needs a respirator must be medically approved, trained, and Fit Tested before they can receive one.

>>CONTACT INDUSTRIAL HYGIENE IF A NAME DOESN'T APPEAR IN THE DATABASE.

The Business Unit / Service Department PPR shall ensure that:

- Where possible, respirators shall be assigned to each employee for their exclusive use.
- Requests for respirators shall be made to the stockroom and shall list the name of the person(s) requiring the respirator.

The Stockroom personnel shall ensure that:

- The stockroom shall check the name of the person(s) to the Fit Test database located on the LAN at s:\ ESHA DEPARTMENT FILES\FITTEST\RESPFITT.XLS, and shall issue only the size, type, model, style and brand respirator(s) for which the person was fitted, as listed in the database. If there is a request for anything that is different than what is specifically listed, for that person, that person shall be referred to the Industrial Hygiene department.
- No respirators shall be issued to anyone whose name does not appear in the database. These persons shall be referred to the Industrial Hygiene department.
- An appropriate supply of approved respirators, parts, cartridges, canisters, and filters shall be stocked and promptly available at all times, in the Coventry Site Stockroom.

The employee shall ensure that:

Any request for a different respirator type, size, model, style, or brand, other than those that they have been specifically fit tested for, shall require a new fit test, to be conducted by the Occupational Health department.

RESPIRATOR CLEANING, INSPECTION, STORAGE, and REPAIR

GENERAL REQUIREMENTS

The Business Unit / Service Department PPR shall ensure that:

- Each department shall assign at least one employee to clean, inspect, store, and repair respirators. Individuals can be assigned responsibility for their own Respirators.
- All Respirators shall be identified, as to the owner, by using a metal tag, a label, water-resistant marker, or some other water-resistant method.

- Etching names or initials into, or physically altering the Respirator in any way is not allowed, as this will void any approvals and manufacturer warranty.

CLEANING

The Business Unit / Service Department PPR shall ensure that:

- Respirators are cleaned and disinfected at the following intervals:
  - All Respirators issued for the exclusive use of an individual shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition, following the Cleaning Procedures found in Appendix A, of this program.

The Emergency Response Team Leader shall ensure that:

- SCBA's and all Respirators maintained for emergency use shall be cleaned and disinfected after each use, following the complete Cleaning Procedures found in Appendix A, of this program.

The Person(s) designated and trained to conduct Respirator Fit Testing shall ensure that:

- Respirators used in Fit Testing and/or Training shall be cleaned and disinfected after each use.

The employee shall ensure that:

- All respirators issued for their exclusive use, shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition, following the Cleaning Procedures found in Appendix A, of this program.

INSPECTION

The Business Unit / Service Department PPR shall ensure that:

- The user shall inspect the Respirator prior to each use to ensure proper working condition, proper fit and that they have the correct filters / cartridges required for the job. Inspection shall be done following the procedures outlined in Appendix A, of this program.
- During cleaning, all respirators shall be inspected following the procedures outlined in Appendix A, of this program.

The employee shall ensure that:

- They inspect each Respirator prior to each use, to ensure proper working condition, proper fit and that they have the correct filters / cartridges required for the job. Inspection shall be done following the procedures outlined in Appendix A, of this program.

The Emergency Response Team Leader shall ensure that:

- In addition to the requirements outlined in Appendix A, of this program, SCBA's and all Respirators maintained for emergency use shall be inspected and documented, as required under the SCBA / Emergency Use Respirator section of this written program.

STORAGE

The Business Unit / Service Department PPR shall ensure that:

- Respirators shall be stored properly following the procedures outlined in Appendix A, of this program.

The Emergency Response Team Leader shall ensure that:

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- In addition to the requirements outlined in Appendix A, of this program, SCBA's and all Respirators maintained for emergency use shall be stored as required under the SCBA / Emergency Use Respirator section of this written program.

The employee shall ensure that:

- They store all respirators properly following the procedures outlined in Appendix A of this program.

REPAIRS

The Business Unit / Service Department PPR and Emergency Response Team Leader shall ensure:

- Respirators that fail an inspection or are otherwise found to be defective are removed from service immediately, and are discarded or repaired according to the following: (If necessary, a new respirator shall be issued.)
  - Repairs or adjustments shall be made only, by persons trained to perform such operations.
  - Repairs or adjustments shall be made using only the respirator manufacturer's NIOSH approved parts designed specifically for the respirator.
  - Repairs shall be made according to the manufacturer's recommendations and specifications.
  - Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

The employee shall ensure that:

- They do not wear any respirator that has failed an inspection, or is otherwise found to be defective, and shall remove any such respirator from service and have it repaired or discarded as necessary. If necessary, a new respirator shall be requested and issued.

RESPIRATOR PROGRAM REVIEW AND EVALUATION

The ESHA B.U. Contact, and / or The Industrial Hygiene Department, shall ensure that:

- Periodic reviews and evaluations of the workplace are conducted, to ensure that all the provisions of this written Program are being implemented effectively. The entire program shall be evaluated at least annually.
- The workplace environment, and inhalation hazards are periodically evaluated to ensure that the proper respiratory protection is in use.
- Employees who are required to use respirators, are regularly consulted to assess the employees views on the program and to identify any problems. Factors to be assessed include, but are not limited to :
  - Respirator fit, including the ability to use the respirator without interfering with workplace performance.
  - If the appropriate respirator has been selected, for the hazards to which the employee is exposed, and that it is being properly worn.
  - Proper respirator use, in accordance with its capabilities and limitations.
  - Proper respirator maintenance. (cleaning, inspection, storage and repair)
  - Proper change out and replacement of filters, cartridges, and canisters.
  - Ability to correctly perform the positive and negative user seal checks.

TEMPORARY EMPLOYEE AND CONTRACTOR REQUIREMENTS

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TEMPORARY / CONTRACT EMPLOYEES WORKING FOR AN AGENCY, BUT UNDER DIRECT SITE SUPERVISION

The Human Resources Department PPR shall ensure that:

- Temporary / Contract employees working for an agency, but under direct Site supervision, shall be medically evaluated, trained, and fit tested by, or through their own agency, prior to using a respirator on site.
- Documentation of the above medical approval, training, and fit test shall be sent to Industrial Hygiene.

The Business Unit / Service Department PPR shall ensure that:

- They notify the Human Resource Department and Industrial Hygiene, of any temporary / contract employees working for an agency, but under direct Site supervision, who require a respirator, prior to allowing them to use one in the workplace.
- Temporary / Contract employees working for an agency, but under direct Site supervision, who require a respirator, shall adhere to all requirements of this program.

The Industrial Hygiene Department shall ensure that:

- Once the appropriate medical approval, training, and fit test documentation is received, the name(s) will be added to the Coventry Site Fit Test data base located on the LAN. This will allow them access to a respirator from the stockroom.

ALL OTHER CONTRACTORS / SUB-CONTRACTORS

The M&IS Supervisor and/or Business Unit / Service Department PPR, shall ensure that:

- Any contractors / sub-contractors doing work on the Coventry Site requiring the use of a respirator, have an established program, that meets the requirements of OSHA 1910.134 and that they adhere to all requirements of that Standard.
- Contractor / Sub-contractor employees must obtain suitable respiratory protective devices from their own employer following their own established procedures, which must meet all requirements of OSHA 1910.134.

The Purchasing Department shall ensure that:

- They notify all contractors / sub-contractors doing work on the Coventry Site requiring the use of a respirator, that they must have an established program, that meets the requirements of OSHA 1910.134 and they must adhere to all requirements of that Standard.

DEFINITIONS

Respirator - Any device worn by an individual for the purpose of providing respiratory protection.

Air-Purifying Respirator – means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element. These respirators cannot be used where an oxygen deficiency exists or in an "Immediately Dangerous to Life or Health" (IDLH) atmosphere.

Atmosphere-supplying respirator – means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

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Canister or Cartridge - a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

Clean Shaven - means any facial hair such as stubble beard growth, beards, mustache, or sideburns, does not come between the sealing surface of the facepiece and the face, nor does it interfere with valve function.

Business Unit / Service Department PPR - The primary person responsible in each Business Unit or Service Department. This can include, but is not limited to, the Section Leader, Team Facilitator/Leader, Shift Leader, Supervisor, or other responsible individual, as so designated.

Emergency situation - is defined as "any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled substantial release of an airborne contaminant".

End-of-service-life indicator (ESLI) - means "a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

Filter or air-purifying element - means "a component used in respirators to remove solid or liquid aerosols from the inspired air."

Filtering facepiece (dust mask) - means "a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium."

Fit factor - means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit test - means "the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual." (See also QLFT and QNFT.)

IDLH - an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere

Interior structural Firefighting - means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures, which are involved in a fire situation beyond the incipient stage.

Negative pressure respirator - means "a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator."

Nuisance Dust - A dust having no hazard classification, as identified by the Industrial Hygiene department.

Oxygen Deficient - An atmosphere with less than 19.5% oxygen in air.

Positive pressure respirator - means "a respirator in which the pressure inside the respiratory inlet covering is positive with respect to ambient air pressure outside the respirator."

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Pressure demand respirator - means "a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation."

Qualitative fit test (QLFT) - means "a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent."

Quantitative fit test (QNFT) - means "an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator."

Self-contained breathing apparatus (SCBA) - means "an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user."

Service life - means "the period of time that a respirator, filter, or sorbent, or other respiratory equipment provides adequate protection to the wearer."

Supplied-air respirator (SAR) or airline respirator - means "an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user."

Tight-fitting facepiece - means "a respirator that forms a complete seal with the face."
(I.e.: Half-Face mask, Full-face mask, "paper disposable masks", Scott Air Pack masks, etc.)

User seal check (Fit Check) - means "an action conducted by the respirator user to determine if the respirator is properly seated to the face." Such a check is performed by the user each time the respirator is "put on" or adjusted to ensure that the tight-fitting respirator is properly seated on the user's face, i.e., that the proper seal has been achieved. There are two user seal checks, positive and negative checks.

REFERENCES

1. Code of Federal Regulations, Title 29, Part 1910, Section 134, Respiratory Protection.
2. American National Standards Institute, Z88.2-1992: Practices for Respiratory Protection.
3. NIOSH Guide to Industrial Respiratory Protection, September 1, 1987.
4. Respiratory Protection - A Manual and Guideline - AIHA, Second Edition.

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Procedures for Cleaning, Inspection and Storage of Respirators

Respirator maintenance is an important part of an overall Respirator Program. Wearing a poorly maintained, dirty or malfunctioning Respirator can be more dangerous than not wearing a Respirator at all. A proper maintenance program ensures that the Respirator remains as effective as when it was new.

All Respirators issued solely to an individual shall be regularly cleaned and disinfected, as necessary to be maintained in sanitary condition. This can be accomplished by refreshing the mask after each day's use with a respirator approved disinfectant wipe pad, or a respirator approved spray disinfectant. If there is visible contamination on the inhalation or exhalation valves, or excessive contamination on any part of the respirator, then the complete disassembling, cleaning and sanitizing procedure must be followed, beginning with section A.

Respirators issued for group, or emergency use, shall be cleaned and sanitized after each use following the complete procedure, beginning with section A.

Respirators shall be stored properly as designated by section G.

The user shall inspect the respirator prior to each use to ensure proper working condition, proper fit and that they have the correct filters/ cartridges required for the job. (See section E)

Repair or replacement of parts shall be in accordance with the Respiratory Protection Policy - Health-2.

A) Remove, when necessary, the following components of the facepiece assembly before cleaning and sanitizing:

1) filters, cartridges and canisters. **(discard)**
2) speaking diaphragms;
3) valve assemblies;
4) any components recommended by the manufacturer;

B) Wash facepiece assembly and all parts removed from the facepiece in warm (110 F/ 43 C) cleaner sanitizer solution. **(Do not wash filters, cartridges or canisters)**

1) A stiff bristle **(not wire)** brush may be used to facilitate removal of dirt or other foreign material.

2) Cleaner sanitizers that effectively clean the respirator and contain a bactericidal agent are commercially available. The bactericidal agent frequently used is a quaternary ammonium compound. **Do not use any solvents or abrasive cleaners!**

- A recommended cleaner / sanitizer that is currently kept in the stockroom is **Airwick A-33 Dry part # 4073985**.

3) Machines may be used to expedite the cleaning, sanitizing, rinsing and drying of respirators. Extreme care shall be taken to ensure against tumbling, agitation, or exposure to temperatures above those recommended by the manufacturer (110 F/ 43 C), as these conditions are likely to result in damage to the respirator.

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C) Thoroughly rinse facepiece assembly and all parts removed from facepiece in clean, warm water (110 F/ 43 C).

1) The importance of thorough rinsing can not be overemphasized. Residue that remains on the facepiece can cause dermatitis.

2) Special attention should be given to the inhalation and exhalation valves. Residue left on these valves can cause the valves not to seal properly, thereby creating a leaking or sticking valve.

D) Drain all water. Allow all parts to air dry, or completely remove excess water with a clean lint free cloth.

E) Inspect all components for defects.

1) Examine the facepiece for:

a) Excessive dirt.

b) Cracks, tears, holes or physical distortion of shape from improper storage.

c) Inflexibility of rubber facepiece (stretch and knead to restore flexibility).

d) Cracked or badly scratched lenses in full facepieces.

e) Incorrectly mounted full facepiece lenses, or broken or missing mounting clips.

f) Cracked or broken air-purifying element holder(s), badly worn threads or missing gaskets if required.

2) Examine the head straps or head harness for:

a) Breaks.

b) Loss of elasticity.

c) Broken or malfunctioning buckles and attachments.

d) Excessively worn serration's on head harness, which might permit slippage (full facepieces only).

3) Examine the exhalation valve for the following, after removing its cover:

a) Foreign material, such as detergent residue, dust particles or human hair under the valve seat.

b) Cracks, tears or distortion in the valve material.

c) Improper insertion of the valve body in the facepiece.

d) Cracks, breaks or chips in the valve body, particularly in the sealing surface.

e) Missing or defective valve cover.

f) Improper installation of the valve cover in the valve body.

4) If the respirator has a corrugated breathing tube, examine it for:

a) Broken or missing end connectors.

b) Missing or loose hose clamps.

c) Deterioration, determined by stretching the tube and looking for cracks.

- **Respirators that do not meet the above inspection criteria shall be immediately removed from use and repaired or replaced in accordance with the Respiratory Protection Policy Health-2.**

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F) Reassemble parts on the facepiece assembly.

1) Make sure any o-rings and gaskets are in their proper place.

2) Pay particular attention to the proper installation of the inhalation and exhalation valves.

G) Respirators shall be stored as follows:

- Respirators shall be properly identified as to its owner. This can be achieved with a "dog tag," label, or a solvent and water- proof marker. Etching names or initials into, or physically altering the Respirator in any way is not allowed, as this will void any approvals and manufacturer warranty!
- Respirators shall be stored in a manner that will protect them against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.
- Respirators shall be stored to prevent distortion of rubber or other elastomeric parts.
- Respirators shall be stored in clean plastic bags. **Including when respirators are left in the work area between jobs/ actual use.**
- A centralized "cubbyhole" system for storage is recommended.
- Respirators kept in lockers or tool boxes shall be stored in a rigid container, such as the original carton or carrying case, to protect against contamination, distortion and damage.

References:

OSHA Respiratory Protection Standard 1910.134

ANSI Z88.2-1992 Standard for Respiratory Protection

North 7600 Series Respirator Operating and Maintenance Instruction Manual

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MAINTENANCE of BULLARD BREATHING AIR PUMPS / COMPRESSORS

1. GENERAL

1.1 All pumps / compressors shall be inspected every month.

1.2 Inspection shall be recorded on the inspection record form, and the record maintained in building records. (See Appendix C)

2. INSPECTION PROCEDURE

2.1 Inspect all connections, pipes, hoses , and wiring for good condition.

2.2 Turn on pump and attach the number of respirators for which the compressor was designed. Pressure reading on attached meter should be at least 5 psig. Record pressure.

2.3 Remove respirators from pump. Pressure should not rise above 20 psig. Record pressure

2.4 Replace inlet/outlet filter if filter has been used 200 hours, or if 1 month has passed since its last change date, whichever occurs first. A tag must be kept attached to the pump / compressor, which contains the most recent filter change date along with the signature of the person who performed the change.

2.5 If compressor fails any test, tag-out compressor with a "DO NOT OPERATE" tag. Contact business unit maintenance for repair.

2.6 The business unit maintenance department shall diagnose and repair following manufacturers instructions.

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BULLARD SUPPLIED AIR BREATHING COMPRESSOR INSPECTION/PREVENTATIVE MAINTENANCE LOG

COMPRESSOR IDENTIFICATION: ______________________________

DATE & INSPECTORS NAME	GENERAL INSPECTION OK? (Y/N)	OPERATING PRESSURE	STATIC PRESSURE	FILTER(S) REPLACED? (Y/N)	MAINTENANCE CONTACTED?

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Appendix B-1 to § 1910.134: User Seal Check Procedures (Mandatory)

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. User seal checks are not substitutes for qualitative or quantitative fit tests.

A. ***Positive pressure check***. Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. ***Negative pressure check***. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

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Clariant/Coventry Site Approved Respirator List

Manufacturer/ Brand	Description (size)	Model / Number	Clariant Stock Number
North	Full Face-piece APR – small	7600-8AS	4073525
North	Full Face-piece APR – medium/large	7600-8A	4073527
North	Half Face-piece APR – Small	7700-30S	4073561
North	Half Face-piece APR – Medium	7700-30M	4073562
North	Half Face-piece APR – Large	7700-30L	4073563
North	Type C Pressure Demand, Supplied Air Full Face-piece	8400A Series Supplied Air Respirator	Non Stock Item
Bullard	Supplied Air Hood, Normal length with 20TG headband	CC-20 / 20TICN #608-220-0060	4073790
Bullard	Supplied Air Hood, X-long length with 20TG headband	CC-20 / 20TICRCL #508-220-0040	4073791
Bullard	Free Air, Ambient Breathing Air Pumps	EDP30 / EDP50 / EDP16HAZ	Non Stock Item
Scott	Full Face-piece – small	Scott O-Vista (non-fire applications)	Non Stock Item
Scott	Full Face-piece – large	Scott O-Vista (non-fire applications)	Non Stock Item
Scott	Full Face-piece – X-large	Scott O-Vista (non-fire applications)	Non Stock Item
Scott	Full Face-piece – small	AV-2000	Non Stock Item
Scott	Full Face-piece – large	AV-2000	Non Stock Item
Scott	Full Face-piece – X-large	AV-2000	Non Stock Item
Scott	Twin Cartridge Assembly (For above Scott face-pieces)	Model 65	Non Stock Item
Scott	Pressure Demand SCBA, 4500 psi, 1 hour Fiberglass/composite cylinder	AIR-PAK 4.5 SCBA	Non Stock Item
Scott	Pressure Demand Airline Respirator, uses two 4500 psi cylinders, and includes a 5 min. 2216 psi escape bottle	SKA-PAK Entry/Egress Airline System	Non Stock Item
3M	N95 dust mask APR	3M 8210	4073545
3M	PAPR, Loose Fitting Hood, Belt mounted system	GVP-2 / W3260 Snapcap assembly / W3256 Snapcap hood	Non Stock Item
3M	Full Face-piece APR - small	7800S	Non Stock Item
Wilson	Gas Mask APR, Full Face-piece	6600 Series, Tight-seal headgear	4073530
Wilson	Gas Mask APR, Full Face-piece	6700 Series, 6 strap headgear	4073532
Wilson	Dual Cartridge APR, Full Face-piece	6500 Series, 6 strap headgear	4073534
MSA	Half Face-piece APR – Small	Comfo / 808075	4073535
MSA	Half Face-piece APR – Large	Comfo / 808076	4073537
MSA	Half Face-piece APR – Medium	Comfo / 808074	4073538
MSA	Full Face-piece APR - small	Ultra-Twin	Non Stock Item
MSA	Full Face-piece APR – medium	Ultra-Twin	Non Stock Item
MSA	Full Face-piece APR - large	Ultra-Twin	Non Stock Item

**** NOTE: All cartridges, canisters, filters, and parts that are specifically approved, by NIOSH and the manufacturer, for use with the above listed items are considered approved for use at the Coventry Site.**

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Q2-2

POLICY

It is the policy of the Coventry Site to eliminate all potential safety and health concerns through engineering controls. Where it is not feasible for engineering controls to be installed, or satisfactory control measures are not available, personal protective equipment (P.P.E.) shall be specified, required and worn.

PURPOSE

The purpose of this procedure is to establish a minimum set of requirements for the selection and use of P.P.E. at the Coventry Site.

1. ASSESSMENT

1.1. All personal protective equipment designated in specific tasks/jobs, processes, equipment and raw materials shall be documented in an assessment (see appendix B for an example). All new tasks, infrequently accomplished tasks, equipment, processes, raw materials, products or uses shall undergo an assessment of Personal Protective Equipment (PPE) requirements before introduction at the Coventry Site. Additionally any modified task, process, equipment, product, use, or raw material triggering the initiation of an MOC (Safety -43) shall also be subjected to an assessment of PPE requirements. This assessment shall be initiated by the PPR making the change and documented using a format similar to attachment B. Typically an assessment may be conducted when initiating one of the following policies.

- Pre-start-up Safety Reviews (EHSA 10)
- Management of Change forms (Safety - 43)

1.2. The assessment document should contain the following information:

- The work area/process evaluated.
- Date of the assessment(s).
- Name of the assessor (or team) certifying that the assessment was completed.
- An example of this assessment document is contained in Appendix B.

1.3. If a member from the Safety or Industrial Hygiene department is not on the assessment team, nor the assessor, they must review the assessment to ensure that the hazards identified are consistent with PPE required. This may require a physical inspection of the workplace to ensure that all hazards have been analyzed.

1.4. Each department shall maintain documentation indicating that assessments for the workplace and specific tasks have been completed. The most current copy of the assessment shall be maintained by the Business Unit. Batch sheets, Standard Operating procedures and practices shall reflect all PPE requirements, changes and additions.

2. CONTRACTOR ASSESSMENTS

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2.1. The Designated Business Unit/Service Group PPR or Clariant host bringing contractor personnel on site shall ensure that a documented assessment has been conducted by the contract company for any task, equipment, process, raw material, product or use that the contract company shall be introducing to the Coventry site. This written assessment shall be in writing and include the information that is included in 1.2 above. The Contractor certification process shall confirm that the assessment has been made.

2.2. For any hazards inherent to the workplace at Coventry, processes specific to the site or unique hazards at the site that the contractor personnel may be exposed to, the Designated Business Unit/Service Group PPR or Clariant Host shall communicate the findings of the Clariant hazard assessment to the contract personnel. These requirements should be outlined in the PPE assessment conducted for the area where the contractor shall be working and relative to the specific tasks that the contractor shall be performing. The Contractor shall combine the hazards identified in the workplace-specific assessment with the hazards identified by their job-specific assessment to ensure that contractors have appropriate PPE.

2.3. Contractor assessments shall address the hazards of the tasks and environment in which the contractors shall be working prior to beginning any work. Any contractor assessments completed with the help of the Safety and/or Industrial Hygiene Departments shall be maintained by the owning department with the departments other assessment documents.

GUIDELINES

3. GENERAL

3.1. All P.P.E. shall meet OSHA requirements, typically established by the recognized approval agency American National Standards Institute (ANSI). The minimum requirements for the various equipment are as follows:

Eye and Face Protection - ANSI Z87.1 - 1989
Head Protection - ANSI - 89.1 - 1986
Respiratory Protection - ANSI - Z88.2 - 1972
Foot Protection - ANSI Z41.1 - 1991

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3.2. P.P.E. shall be worn in accordance with the manufacturer's instructions and in conformance with the guidelines established in this procedure.

3.3. The minimum personal protective equipment required in the plant is approved safety glasses with side shields, hard hat, long pants worn to the ankle, long sleeves worn to the wrist and steel toed safety shoes.

3.4. The minimum personal protective equipment is required at all times within the plant boundaries unless specifically exempted.

3.5. The following areas are exempt from the minimum requirement as per the attached stipulation (3.7):

Quidnick St. from the northern boundary of the pipe bridge to the southern boundary of the Waste Water Treatment Plant and the pathways leading to the Main Entrances of buildings shall be required to wear Safety Glasses with Side protection.

Work areas / processes that have had a documented PPE assessment completed which resulted in the minimum personal protective equipment indicated in 3.3 not being required.

The main street of the site (Quidnick St.), adjacent sidewalks and side streets when personnel are entering the site at the beginning of the work day and exiting at the end of the day. Each department shall designate an entrance door and safest path of travel for employees to use at shift change to enter and exit the building prior to obtaining their protective equipment.

The main street of the Site (Quidnick St.) from the Security Center south to the north smoke shack including the adjacent sidewalk, and North Street between the turnstile and Quidnick Street except as per stipulation 3.7.

Access to and from the Upper Mill is exempt from the personal protective equipment requirements except as per stipulation 3.7. This includes the area north of the Pipe Bridge east of the three (3) Upper Mill exits (between the Upper Mill and Quidnick Street).

Offices, control rooms, restrooms, locker rooms, meeting rooms, segregated areas of labs. Labs are exempted from the hard hat requirements at all times except as per stipulation 3.7.

3.6. Visitors should receive safety glasses and a hard hat from the receptionist, security, or building personnel prior to entering the production area, lab, shop, warehouse, or any area where the equipment is normally required. Additionally, visitors touring the facility shall meet the requirement defined in 8.4.

3.7. The above exemptions do not apply to personnel performing maintenance, using or handling hazardous materials, or any other operation where there is a potential for head, foot, or eye injury. In this case, PPE appropriate for the hazard is required.

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3.8. All visitors and contractors shall comply with the requirements of this procedure. Visitors going into areas where protective equipment is required shall be supplied with the equipment or provisions made with security to provide a hard hat and safety glasses.

3.9. Clariant personnel based out of the Coventry Site cannot be considered visitors. Although a Clariant employee works in an area where protective equipment is not required, when they visit an area that protective equipment is required, they must comply with the guidelines for Clariant employees.

3.10. All protective equipment shall be used and maintained according to the manufacturer's specifications and requirements. Modifications to the equipment or deviations in the usage are forbidden.

3.11. The Coventry Distribution Center (CDC) requires that hard hats, safety glasses with side shields, long sleeves, long pants, and safety shoes be worn in all areas of the warehouse. Office areas and the outside grounds do not require PPE unless job specific tasks are performed necessitating the use of PPE. PPE shall be worn in these areas as described in Section 8 of this policy.

4. EYE AND FACE PROTECTION

4.1. The use of approved safety glasses with side shields is mandatory for all employees contractors, and visitors.

4.2. Visitors wearing prescription glasses shall be given approved safety glasses with side shields to go over their glasses.

4.3. If prescription safety glasses are required, approved lens inserts are required when wearing a full face respirator. Glasses with side temples are not to be worn with full face respirators.

4.4. The use, or wearing of contact lenses in the plant is prohibited when eye protection is required unless approved by the Site Medical Department as medically necessary.

4.5. Employees coming to their jobs at the start of their shift and going home at the end of their shift are not required to wear their safety glasses when in such transit, but must wear them at all other times as specified.

4.6. Side shields are required at all times that safety glasses are required. Only approved side shields shall be worn. Slip on side shields that are not made specifically for the glasses they are used on are not permitted.

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4.7. Obtaining Safety Glasses.

A. If prescription safety glasses are necessary, the following steps shall be followed:

- The company furnishes prescription safety glasses free of charge. However, the employee pays the doctor's fee necessary for obtaining the prescription.
- Obtain safety glasses form from the nurse.
- Have the form filled in by an eye doctor and/or optometrist.
- Prescription should not be over two years old.
- All measurements should be included.
- Optometrist's or doctor's address should be on the form.
- Return the form to the Medical Department. They shall send it to the optical company.
- The completed glasses shall be sent to your doctor or optometrist who shall check and fit them.
- Prescription safety glasses are furnished to the company without side shields. Employee must mount side shields on the temples of the safety glasses.

Additional pairs of side shields are available at the Stockroom. Side shields are required at all times that safety glasses are required.

B. Safety glasses, nonprescription, are furnished with mounted side shields. Side shields are required at all times that safety glasses are required.

C. Safety glasses with lens that change color (tint) are prohibited, i.e., photogray, photogray extra, ambermatics, etc.

4.8 Chemical/Splash Goggles

Chemical goggles are not to be used as a substitute for safety glasses. **They must be worn over the safety glasses.**

- Certain jobs require that chemical goggles be worn. These jobs include:
- Handling, pouring or sampling acids, alkalies (caustics), hot or corrosive chemicals.

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- Chipping.
- Using compressed air or high pressure liquid (including water or steam) for cleaning purposes.
- Drilling or breaking concrete, brick, stone or other materials which may cause flying objects.
- As specified by Department Operating Procedure.

4.9 Impact (cup goggles)/welding hoods

When burning or cutting with a torch or welding, cup goggles or a welding hood with proper tinting lenses shall be worn.

The use of safety glasses is not required when wearing a welding hood or cup goggles for welding.

4.10 Face Shields

The use of face shield worn over safety glasses is required when:

- Charging specified materials.
- Breaking any lines suspected of being under pressure, or lines which contain corrosive or hazardous chemicals.
- Grinding.
- As specified by Departmental Operating Procedures.
-

5 RESPIRATORY PROTECTION

5.8 The use of respiratory protection is required when engineering controls are being implemented or are impractical, emergency situations, or administrative practices are not practical.

5.9 The proper use of respirators and respirator fit testing is covered in the ESHA Procedure "Health - 2".

5.10The use of respirators is governed by Department Operating and Safety Procedures.

6 HEAD PROTECTION

6.8 The use of head protection (hard hats) is required at all times on the site unless specifically exempted as per Paragraphs 3.5 or as follows:

A. The use of hard hats is not required while employees are actively engaged in dropping presses and discharging centrifuges. Actively engaged in dropping presses and discharging centrifuges means scrapping frames, baskets, etc. It does not include the initial opening and final closing of the equipment, moving carts, and cleaning up

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in the area. The hard hat shall be in close proximity to the employee at all times and shall be worn as soon as the dropping/discharging activities are stopped.

B. The use of hard hats inside vehicles with protective overhead structures is not required. This includes cars, trucks, lift trucks, club cars, and other similar vehicles that have a structure protecting the occupant compartment from overhead hazards. The structure must protect the occupants from impact as well as liquids. Lift trucks must have an impervious see-through material as part of the overhead guard.

C. The use of hard hats in the Instrumentation and Electric Shop is not required.

D. The use of hard hats is not required when wearing a full face respirator or Bullard air hood.

E. The use of hard hats is not required when using welding hoods.

6.9 Hard hats are available from the Site Stockroom.

6.10 Hard hats (other than electrical/instrumentation tradespersons) shall meet the requirements of ANSI Z89.1 - 1986.

6.11 Hard hats for electrical/instrumentation tradespersons shall meet the requirements of ANSI Z89.2 - 1971.

6.12 Employees coming to their jobs at the start of their shift and going home at the end of their shift are not required to wear their hard hats when in such transit, but must wear them at all other times as specified.

7 FOOT PROTECTION

7.8 The use of foot protection (safety shoes) is required at all times on the Site unless specifically exempted in either Section 3.5 or 7.2.

7.9 Visitors touring the facility and under direct supervision by Site personnel are exempt from the minimum requirement for safety shoes unless they are performing maintenance, operations, service work or any other operation where there is a potential for foot injury.

7.10 If waterproof or other specialized shoes are required, they must be steel toe safety shoes or worn over the employees regular steel toe safety shoes.

7.11 At no time are open toe shoes, shoes other than flat soled, or shoes with an easily permeable covering allowed in the main plant, labs, or warehouses.

7.12 Visitors are exempt from the safety shoe requirement provided they are escorted and stay in designated walkways, away from the handling and moving of materials.

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7.13 Employees coming to their jobs at the start of their shift and going home at the end of their shift are not required to wear their safety shoes when in such transit, but must wear them at all other times as specified.

7.14 Obtaining safety shoes

A. Employees shall have their supervisor complete and sign the **"UNIFORM/SAFETY SHOE"** authorization form.

B. The employee shall take the completed form to the designated shoe store (Jamiel's Shoe World) for the shoes.

C. Deviations to the above method of obtaining safety shoes must be approved prior to obtaining the shoes by the Department Designated Business Unit/Service Group PPR.

8 PROTECTIVE CLOTHING

8.1 Specialized protective equipment (acid suits, gloves, etc.) shall be specified by individual departments in their PPE hazard assessments and procedures.

8.2 Long pants and long sleeves (worn down to the wrist) are required to be worn at all times except as defined in section 3.5 of this policy. If a person's clothing does not conform to these requirements, then the legs and arms shall both be covered fully by other suitable means such as wearing a lab coat to cover arms, disposable suits to cover legs, etc. when in the plant.

8.3 Lab coats shall be worn while working in laboratory areas. The lab coat shall have sleeves worn to the wrists and be closed while working in any lab area.

8.4 If the clothing of a visitor touring the facility and under the direct supervision of Site personnel does not conform to the site requirements, then the visitor shall have arms covered fully by other suitable means such as wearing a lab coat, tyvek sleeves etc. Visitors or other Contractors performing maintenance, operations, service work or any other similar activity shall wear clothing applicable to the Hazard assessment or shall meet section 8.2.

9 HEARING PROTECTION

9.8 Hearing protection is required at all times in all posted areas.

9.9 Hearing protection is to be worn in conformance with the building requirements.

10 TRAINING

10.8 The following topics shall be covered during the employees initial orientation:

- this policy
- limitations of PPE

- how to don, doff, wear and adjust standard PPE (hard hat, safety glasses, and safety shoes)

10.9 The employee shall confirm that they are comfortable with the topics covered by signing a document stating that they have been trained.

10.10 The Designated Business Unit/Service Group PPR shall ensure that the employee (including new hires and transferred employees) is properly trained on job specific PPE required including its use, care and maintenance. The employee must demonstrate that they understand this training and it's proper use prior to being allowed to work in an environment requiring this PPE. This training shall be documented during the normal JST training process. Observation shall be used to ensure that the employee fully understands the equipment required and its proper use prior to working in that area or on that task.

10.11 Every employee is required to ensure that they understand fully how to use, care adjust and wear both standard and specialized PPE prior to being required to use it.

10.12 Retraining shall be initiated by the Designated Business Unit/Service Group PPR if an employee demonstrates that they do not understand how to use, care for and adjust required PPE. Retraining shall also occur at any time there is a significant change in an individuals job tasks, to the PPE purchasing standards, this policy or as required by specific standards.

10.13 Contractors shall be trained on PPE requirements at Coventry Site. It is the contract Company's responsibility to provide their employees with appropriate PPE and training on its use and care.

11 RESPONSIBILITIES

11.8 Employees

- Comply with all provisions of this procedure for the wearing and care of protective equipment.

11.9 Stockroom

- Maintain sufficient inventory of stockroom issue protective equipment.

11.10 Designated Business Unit/Service Group PPR

- Develop and communicate protective equipment guidelines and incorporate into department operating procedures.
- Ensure that a PPE assessment is conducted and documented.
- Ensure that all employees are trained and knowledgeable in the care and use of PPE.
- Enforce the proper use of protective equipment.
- Maintain a minimal stock of essential protective equipment in the department.

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11.11 Site ESHA Department

- Audit for compliance against site and department procedures.
- Provide up-to-date information on protective equipment.
- Develop, provide and update PPE training as necessary.
- Ensure training of contractors of Coventry Site PPE requirements.

11.12 Clariant Host:

- Discuss Coventry Site PPE assessments relevant to the contractors duties where a hazard inherent to Coventry Site exists.

APPROVED:

Levon Kasparian Plant Manager	John Paul ESHA Manager

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Hazard Assessment Certification.

Dept.:
Task:
Initiator:

Signature of Person(s) conducting the review: _____ Date _____
Signature of Person(s) conducting the review _____ Date _____

The _____ department has conducted a review of PPE requirements using the following information:

Section A Gloves:

1) Are there chemicals being used that may contact the skin?	¾	Y	¾	N
2) Are there any potential heat exposures?	¾	Y	¾	N
Are there any potential cut hazards or pinch points that cannot be eliminated?	¾	Y	¾	N
4) Does the MSDS recommend any gloves to be worn? (explain)_____	¾	Y	¾	N
5) Are there any potential radiation issues?	¾	Y	¾	N
6) Are there any other factors that may require the use of hand protection? (explain) _____	¾	Y	¾	N

If yes is answered in any of the above questions, consider the type of hand protection required:

¾	PVC/Nitrile	¾	Rubber	¾	Butyl
¾	Latex	¾	Neoprene	¾	4H
¾	Leather	¾	Other	¾	None

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Section B Eye/Face Protection:

1) Are there chemicals being used that may contact the face or eyes?	¾	Y	¾	N
2) Are there any potential splash hazards associated with this task?	¾	Y	¾	N
3) Are there any possibility, under normal or adverse circumstances of flying objects? (explain) _____	¾	Y	¾	N
4) Are there any light/flame sources that require additional eye protection? (explain)_____	¾	Y	¾	N
5) Are there any potential radiation issues?	¾	Y	¾	N
6) Is there a burn or frostbite potential?	¾	Y	¾	N
7) Are there any other factors that may require the use of eye or face protection? (explain) _____	¾	Y	¾	N

If yes is answered in any of the above questions, consider the type of eye/face protection required:

¾	Safety Glasses	¾	Goggles	¾	Face Shield
	Welding Hood	¾	Welding goggles	¾	Other (Specify)_____

Section C Protective Clothing:

1) Are there any potential impacts?	¾	Y	¾	N
2) Are there any potential splash hazards associated with this task?	¾	Y	¾	N
3) Is there a potential for chemical penetration?	¾	Y	¾	N
4) Do the materials used have potential dust hazards?	¾	Y	¾	N
5) Are there any heat sources which can potentially cause burns?	¾	Y	¾	N
6) Are steam or hot liquids used?	¾	Y	¾	N
7) Are there cut, abrasion, or burn hazards?	¾	Y	¾	N
8) Is there a risk of a flash fire? (see FRC policy)	¾	Y	¾	N
9) Are there any other factors that may require the use of protective clothing? (explain) _____ _____	¾	Y	¾	N

If yes is answered in any of the above questions, consider the type of protective clothing required:

¾	Disposable suit	¾	Lab coat	¾	Chemical splash apron
¾	FRC	¾	Chem. Splash suit	¾	Chemical boots
¾	Acid suit	¾	Long sleeves	¾	Leather apron
¾	Standard Work Clothing	¾	Other (Specify)_____		

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Section D Respiratory Protection:

1) Is additional ventilation required but unavailable? (explain) _____	¾	Y	¾	N
2) Are there any materials used which have acute or chronic health effects through inhalation?	¾	Y	¾	N
3) Shall any of the materials produce potentially dusty conditions?	¾	Y	¾	N
4) Does the MSDS of any materials used or products recommend respiratory protection? (explain) _____	¾	Y	¾	N
5) Is there a potential for an oxygen deficient or IDLH atmosphere?	¾	Y	¾	N
6) Are there any other factors that may require the use of respiratory protection? (explain) _____	¾	Y	¾	N

If yes is answered in any of the above questions, consider the type of respiratory protection required:

¾	Dust mask	¾	Cartridge Respirators (type) _____
	Dust/Mist mask	¾	Dust/Fume/Mist mask
¾	Air supplied Respirators	¾	PAPR
¾	SCBA	¾	None needed

Section E Hearing Protection:

1) Are there any areas above 85dba for an 8-hour shift?	¾	Y	¾	N
2) Are there any areas above 83dba for a 12-hour shift?	¾	Y	¾	N
3) Are there any steps during the task where a person may be exposed to noise above the recommended levels? (85dba in 8hrs/83dba in 12hrs.)	¾	Y	¾	N
4) Are there any other factors that may require the use of hearing protection? explain)_____	¾	Y	¾	N

If yes is answered in any of the above questions, consider the type of hearing protection required:

¾ NNR rating of _____dba.
¾ None required.

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Section F Foot Protection:

1) Are there any potentials for impact?	¾	Y	¾	N
2) Are there any potential heat exposures to the feet?	¾	Y	¾	N
3) Are there any potential chemical exposures to the feet?	¾	Y	¾	N
4) Are there any potential compression hazards to the feet?	¾	Y	¾	N
5) Is the task or any parts of the task performed in a Class 1 or 2, division 1 area?	¾	Y	¾	N
6) Is the task or parts of the task include potential exposure to high voltages?	¾	Y	¾	N
7) Are there any other factors that may require the use of foot protection? (explain)	¾	Y	¾	N

_____

If yes is answered in any of the above questions, consider the type of foot protection required:

¾	Steel toed shoes/boots	¾	Metatarsal protection	¾	Conductive soles
¾	Steel toed rubber boots	¾	Non-conductive Soles	¾	Other (specify)_____

ection G Additional Protective Equipment Requirements:

1) Are there any potential impacts not already identified?	¾	Y	¾	N
2) Are there any potential areas for chemical penetration not already identified?	¾	Y	¾	N
3) Is there a potential hazard that can compress/bear weight on an individual or body part not already identified?	¾	Y	¾	N
4) Are there potential high heat concerns not already identified?	¾	Y	¾	N
5) Does dust potentially cause an inhalation or explosively problem not identified above?	¾	Y	¾	N
6) Are there any potential ionizing or non-ionizing radiation issues involved not identified above?	¾	Y	¾	N
7) Are there any other factors that may require the use of Personal Protective devices? (explain)	¾	Y	¾	N

_____

If yes is answered in any of the above questions, consider what additional PPE is required.

¾	_____	¾	_____	¾	_____
¾	_____	¾	_____	¾	_____

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