

**Attachment K**  
**S&I Respiratory Protection Policy (June 25, 2019)**



Policy and Procedure  
**SGI – SAF – 0006**  
**RESPIRATORY PROTECTION**

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- 1.0 Purpose** – The purpose of the Respiratory Protection Program is to prevent occupational exposures and protect employee health. This program includes an assessment of potential workplace exposures that require respiratory protective equipment and to provide appropriate equipment and training to all employees that work in these areas. The Respiratory Protection Program shall be consistent with ANSI Z88.2-1969. There is a preference for the use of engineering controls over respiratory protection devices where feasible.
- 2.0 Scope** – This policy applies to all employees within Specialty Granules LLC (SGI)
- 3.0 Responsibility**
- 3.1 It is the responsibility of the **Corporate Environmental, Health and Safety Manager** for ensuring that this policy is fully implemented.
- 3.2 It is the responsibility of the **Site Manager** for ensuring that all of their employees are aware of and comply with this policy and any related procedures.
- 3.3 It is the responsibility of the site **Environmental, Health and Safety or Safety Coordinator** to either provide the training or make provisions for the required training. It is also their responsibility to maintain all records of training on site. The Environmental, Health, and Safety or Safety Coordinator will be the Program Administrator.
- 3.4 It is the responsibility of the **Employee** for ensuring that they are aware of and comply with the requirements of this policy and any procedures developed in relation to this policy.
- 4.0 Procedure**
- 4.1 Medical Limitations & Testing
- 4.1.1 A medical evaluation must be completed annually in order for users to be certified to be fit tested for respirators. These examinations will be provided in accordance with the established medical procedures and protocols, ANSI Standard Z88.6-1984 and Company policy to determine physical capability of wearing a respirator.
- 4.1.1.1 The Healthcare provider must use a medical questionnaire acceptable to SGI and that questionnaire must be administered confidentially, and in a way the employee will understand.
- 4.1.1.2 A signed copy of the “Respirator Certification” sheet must be returned documenting the healthcare provider’s opinion on the ability of the user to wear a respirator, the detection of a medical condition that would put the respirator user at risk, and whether or not further medical examination is necessary.
- 4.1.1.3 Annual Medical evaluations include: (Mandatory)
- Chest X-Ray
  - Blood pressure and pulse



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- Pulmonary Function Test
- Respirator Fit Test

4.2 Respirator Selection and Use

4.2.1 Assignment of Respirators

4.2.1.1 SGI will issue personal respirator(s) to each employee. Powered Air Purifying Respirators (PAPR) will be available for use when required (for example, in baghouses) or when medical requirements will not allow an employee to use an APR (Air Purifying Respirator). If medical requirements will not allow an employee to use an APR a Physician Order is required. Requirements for individual respirator equipment other than those normally supplied will be evaluated on an as needed basis. Employees are prohibited from providing their own respirators, regardless of whether the respirator use is mandatory or on a voluntary basis. Employees cannot use another employee's respirator.

4.2.1.2 Only respirators approved by NIOSH/MSHA may be used. Respirators issued to employees will be of the appropriate size to fit them correctly. This will be determined through fit testing. A sufficient number of respirator models and sizes will be available.

4.2.2 Respirators will be supplied based on the following criteria:

- a. Nature of the hazard
- b. Chemical state
- c. Physical form
- d. Extent of the hazard
- e. Work requirements and conditions
- f. Characteristics and limitations of available respirators

4.2.2.1 Management shall make the decision whether a respirator is needed. SGI EH&S will provide assistance and recommendations.

4.2.2.2 Exposure evaluation using NIOSH recognized air sampling methods will be taken as needed to assist in the determination of whether a respirator is required. Those work areas requiring respiratory protection will be posted at the entrance to those work areas. Activities involving sweeping, shoveling, or where dusty conditions exist require respiratory protection. Management reserves the right to institute respirator use in all areas deemed necessary.

4.2.2.3 Minimum requirements for dust and crystalline silica are a half mask type respirator rated at N/P100.

4.2.2.4 Air-purifying respirators are used for protection against gases, vapors, and particulates. Cartridges/filters should be replaced with a new one at least weekly when used regularly or as needed but before breathing becomes restricted.



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4.3 Fit Testing

4.3.1 Quantitative fit testing will be conducted at the initial use and on an annual basis and for all employees who wear negative pressure respirators (see Appendix C for fit test protocols).

4.3.2 A written record of the fit test will be kept by the Program Administrator that lists the employee's name, date of test, type of respirator and whether the employee passed or failed the fit test.

4.3.3 It is imperative that a good seal is present. The following conditions will not be allowed on employees required to use tight fitting face piece and negative pressure respirators: facial hair, beards, goatees, mustaches and sideburns are not to come in contact with the sealing surface of the mask or interfere with the function of the valves. These areas must be kept clean shaven at all times when using a respirator. All mine site employees will need to be able to don a respirator at all times of employment (respirator ready). All corporate office employees will be required to comply with each mine site requirements when on a mine site. Similarly, wearing of headphones, jewelry, eyewear, or other articles that may interfere with the face piece-to-face seal is not allowed.

4.4 Training

4.4.1 Training will be conducted during the initial fit test and at least annually thereafter. The training will include:

1. Why a respirator is necessary and how improper fit, usage or maintenance can compromise the protection of the respirator.
2. Limitations of the respirator.
3. How to use the respirator effectively during malfunctions.
4. How to inspect, put on, remove and check the seals of the respirator.
5. Maintenance and storage requirements.
6. Medical signs and symptoms that will affect the respirator use.
7. How to detect vapors, changes in breathing resistance or leakage of the seal.
8. How to replace the respirator, filter, cartridge or canister

4.5 Respirator Maintenance And Care

4.5.1 Inspection

4.5.1.1 All respirators shall be inspected routinely after each use. This must include a check of tightness of all connections and the condition of the face piece, headbands, valves, connecting tubes and cartridges. Rubber or elastomeric parts shall be inspected for pliability and signs of deterioration. Any defective or worn components must be replaced before the device is used again.



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Employees must perform a seal check each time they use the respirator.

4.5.2 Maintenance

4.5.2.1 Respirators that fail inspection or are defective in some fashion must be removed from service immediately and replaced. No attempt shall be made to replace components or make adjustments, modifications or repairs beyond the manufactures recommendations.

4.5.3 Repairs

4.5.3.1 Repairs to respirators should only be accomplished by using parts per the manufacturer's recommendation, by qualified personnel where applicable.(Qualified determined by plant through training/certification)

4.5.4 Refer to Appendix D for cleaning and care instructions.

4.5.5 After inspection, cleaning and necessary repairs, respirators shall be stored in designated locations to protect the equipment from damage and the environment.

4.5.6 Respirator User Requirements

4.5.6.1 A clean respirator and new cartridges will be available to all employees requiring respirator protection. The employee clock number must be placed on the respirator immediately upon issue or receipt. Employees without clock numbers must place their name on respirator. Names or clock number must be placed on plastic frame of respirator.

4.5.6.2 Respirators shall be stored in an enclosed bag or container in the designated areas when not in use. Before and after using a respirator, the employee shall inspect the tightness of connections, condition of the face-piece, head bands, valves, filter holders and filters. If questionable items or damage are found by the employee, they must be corrected immediately in all cases prior to the employee using the respirator. If not correctable immediately, another respirator shall be used.

4.6 To ensure proper protection, the face-piece fit must be checked by the wearer before each use.

Positive Pressure Test: Close off exhalation valve with the palm of the hand. Breathe air into mask. The face fit is satisfactory if some pressure can be built inside the mask without any air leaking out between the mask and wearer's face.



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Negative Pressure Test: Close off the inhalation valves of the cartridges with the palms of the hands. Some masks may require the filter holder to be removed to seal off the inhalation valve. Inhale gently so that a vacuum occurs inside the face piece. Hold breath for 10 seconds. If vacuum remains and no inward leakage occur, the respirator is properly fit.

Negative pressure respirators shall not be worn when conditions prevent a good face seal (i.e. facial scars, missing dentures, etc.).

4.7 Record Keeping

4.7.1 The program administrator shall keep all records pertaining to medical evaluation and fit testing for their site.

4.7.2 Employee air sampling results will be kept by the SGI Corporate EHS Manager.

4.8 SELF AUDIT

4.8.1 Facility management shall assess conformance of this program, regulatory compliance and effectiveness on a regularly scheduled basis in accordance with corporate policy. The assessment shall include a review of respiratory health incidents, safety committee review, inspections, audits, complaints and observations. Opportunities for improvement will be incorporated into this program.

4.8.2 The Respirator Program Administrator will audit the respirator program at least annually. The audit will consist of a review of the written respirator program to ensure that the procedures specified are effective and followed for all respirator use.

4.8.3 Further, as part of the audit process, the Administrator will randomly select employees on a monthly basis to confirm:

- Proper respirator fit
- The ability of the employee to use the respirator without interfering with effective Workplace performance.
- Appropriate respirator selection for the hazards to which the employee is exposed.
- Proper respirator use under the workplace condition the employee encounters.
- Proper respirator maintenance, cleaning, and storage.

4.9 REGULATORY COMPLIANCE

4.9.1 This standard outlines acceptable practices involving selection, use and maintenance of respirators as required by 29 CFR 1910.134, 30 CFR 56.5005. SGI Safety and Health Practices #205, requiring use of the most stringent standard, and will be used to set compliance and actions levels for the Ione Respiratory Protection Program.



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See: [OSHA 1910.134](#) and [MSHA 56.5005](#)

**APPENDIX A**  
**RESPIRATORY REQUIRED AREAS**

<b>Affected Equipment/Location</b>	<b>Administrative Procedure</b>
<i>Note: In all facility locations where upset conditions and/or work activities such as</i>	



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<i>shoveling, sweeping, welding, cutting, equipment operation, etc., have resulted in visible dusting, respiratory protection must be worn.</i>	
<b>In addition. Respirators must be donned prior to entering these Respirator Required Areas</b>	
<b>MILL</b>	
Loaders, Haul Trucks, Graders, Excavators, Dozers, and Articulating Trucks	Heavy Equipment must be operated with doors and windows closed.
Crusher/Bldg., Screens/Bldg.	Respiratory protection must be worn when equipment is operating, working on equipment, or changing screens.
Dryer Building (enclosed)	Respiratory protection must be worn when equipment is operating, working on equipment, or changing screens.
Bobcat (open and walk behind)	Respiratory protection must be worn when performing cleanup activities.
<b>COLOR PLANT</b>	
Color Plant	Respiratory protection must be worn when batching.
Bobcat (open and walk behind)	Respiratory protection must be worn when performing cleanup activities.
<b>QUARRY</b>	
Haul Trucks, Loaders, Dozers, Excavators, Articulated Haul Trucks, and Grader	Heavy Equipment must be operated with doors and windows closed.
Crushing Plant Area	Respiratory protection must be worn when equipment is processing material that is not completely wetted and is dusting.
Bobcat (open and walk behind)	Respiratory protection must be worn when performing cleanup activities.
Teledyne	Respiratory protection must be worn when operating.
<b>MAINTENANCE</b>	
Dust Collectors	PAPR Respirators must be worn when working in all baghouses.
Crusher/Bldg., Screens/Bldg.	Respiratory protection must be worn when equipment is operating, working on equipment, or changing screens.
Dryer Building (enclosed)	Respiratory protection must be worn when equipment is operating, working on equipment
Crusher Building and Area	Respiratory protection must be worn when equipment is operating, working on equipment, or changing screens.
Shop and Repair Areas	Respiratory protection must be worn when cleaning equipment, cutting, welding, etc., that creates fugitive dust.
Welding and Cutting	If welding particulate (smoke) is not ventilated away from employee Respiratory protection must be worn.





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**APPENDIX B**  
**Fit Testing Protocols**

Quantitative Fit Test (QNFT) Protocols

*The following quantitative fit testing procedures have been demonstrated to be acceptable: Quantitative fit testing using a non-hazardous test aerosol (such as corn oil, polyethylene glycol 400 [PEG 400], di-2-ethyl hexyl sebacate [DEHS], or sodium chloride) generated in a test chamber, and employing instrumentation to quantify the fit of the respirator; Quantitative fit testing using ambient aerosol as the test agent and appropriate instrumentation (condensation nuclei counter) to quantify the respirator fit; Quantitative fit testing using controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a face piece to quantify the respirator fit.*

**1. General**

- a. The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and ensure that test equipment is in proper working order.
- b. The employer shall ensure that QNFT equipment is kept clean, and is maintained and calibrated according to the manufacturer's instructions so as to operate at the parameters for which it was designed.

**2. Ambient Aerosol Condensation Nuclei Counter (CNC) Quantitative Fit Test Protocol**

The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount™) protocol quantitatively fit tests respirators with the use of a probe. The probed respirator is only used for quantitative fit tests. A probed respirator has a special sampling device installed on the respirator that allows the probe to sample the air from inside the mask. A probed respirator is required for each make, style, model, and size that the employer uses and can be obtained from the respirator manufacturer or distributor. The CNC instrument manufacturer, TSI Inc., also provides probe attachments (TSI sampling adapters) that permit fit testing in an employee's own respirator. A minimum fit factor pass level of at least 100 is necessary for a half-mask respirator and a minimum fit factor pass level of at least 500 is required for a full face-piece negative pressure respirator. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.



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- a. Portacount Fit Test Requirements:
  1. Check the respirator to make sure the sampling probe and line are properly attached to the face-piece and that the respirator is fitted with a particulate filter capable of preventing significant penetration by the ambient particles used for the fit test (e.g., NIOSH 42 CFR 84 series 100, series 99, or series 95 particulate filter) per manufacturer's instruction.
  2. Instruct the person to be tested to don the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable. This individual shall already have been trained on how to wear the respirator properly.
  3. Check the following conditions for the adequacy of the respirator fit: chin properly placed; adequate strap tension, not overly tightened; fit across nose bridge; respirator of proper size to span distance from nose to chin; tendency of the respirator to slip; self-observation in a mirror to evaluate fit and respirator position.
  4. Have the person wearing the respirator do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting face-piece, try another size of the same model respirator, or another model of respirator.
  5. Follow the manufacturer's instructions for operating the Portacount and proceed with the test.
  6. After the test, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried.
- b. Portacount Test Instrument
  1. The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.
  2. Since the pass or fail criterion of the Portacount is user programmable, the test operator shall ensure that the pass or fail criterion meet the requirements for minimum respirator performance in this Appendix. A record of the test will be kept on file with the Environmental, Health, and Safety Coordinator.



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**APPENDIX C**  
**Approved Respiratory Protection**



1) **Half-mask, high efficiency – reusable**

- a) 3M 7501 – Small
- b) 3M 7502 – Medium
- c) 3M 7503 – Large

2) **Cartridges/Filters – for ½ mask respirators**

- a) 3M 7093/P100



**3M™ Particulate Filter 7093**

NIOSH approved for environments containing certain oil and non-oil based particles. Use with 3M™ Respirators 5000 Series or 3M™ Cartridges 6000 Series with 3M™ Adapter 502, 3M™ Face pieces 6000 Series, or 3M™ Face pieces 7000 Series with bayonet filter holders.

- b) 3M 2096/P100 for welding & organic (oil) vapors



**3M™ Particulate Filter 2096, P100, with Nuisance Level Acid Gas**

**Relief**

NIOSH approved for environments containing certain oil and non-oil based particles. Use with 3M™ Face pieces 6000 Series or 3M™ Face pieces 7000 Series with bayonet filter holders.



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**APPENDIX D**

**Cleaning Requirements for Reusable Respirators**

- 1) Following each use, respirators shall be inspected for damage and those needing repairs shall be removed from service immediately and shall not be used again until necessary repairs have been completed.
- 2) Respirators found to be in good working condition following inspection, shall be cleaned in hot water with a disinfectant detergent by either hand washing or in the respirator washer with an approved disinfectant wash.(Approved detergent)
- 3) Respirators will be dried and shaken to remove all water from the respirator. NOTE: Employees doing cleaning should wear protective gloves to protect from blood borne pathogens, and to protect the user of the respirator.
- 4) Respirators shall be reassembled, inspected, and placed in a clean airtight container (plastic bag recommended) and stored in a clean sanitary environment until next use.
- 5) Respirators storage containers shall identify the user.
- 6) Disposable filters will not be cleaned or saved. Once they are either damaged or too dirty to effectively filter air, they will be disposed of.

**Cleaning Procedure**

- 1) Collect used respirators from marked bins.
- 2) Remove filters and discard.
- 3) Inspect respirator mask rubber seal, valves, and elastic bands and clips for damage, wear, etc.
- 4) Load washer or wash sink with masks. Approximate quantities are listed in table below.
- 5) Use warm water setting, close machine and press start. If hand washing wash thoroughly wearing appropriate gloves
- 6) Once washing cycle is complete:
  - a. Wear protective gloves.
  - b. Remove respirators from machine.
  - c. Shake out excess water.
  - d. Place into dryer baskets.
  - e. DO NOT OVERLOAD – DRYING TIME WILL INCREASE.
  - f. Keep single layers.
  - g. Turn the main power on.
  - h. Press the start button. The Unit has been pre-set for the proper max temperature of 120° F. The cycle time has been pre-set, however, cycle times may need to be adjusted based on the load and humidity. DO NOT ADJUST THE TEMPERATURE - ONLY DRYING TIME.
  - i. Wipe down the work surface with anti-bacterial soap before placing respirators on work surface.
  - j. Wear protective gloves when handling clean respirators.
- 7) Final assembly steps:
  - a. Inspect employee identification. Re-write if necessary.



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- b. Ensure all (3) valves are properly installed / seated.
  - i. Check (2) round valves inside mask.
  - ii. Check (1) large valve on front of mask.
- c. Ensure elastic bands, clips, and headpiece is installed.
- d. Install respirator filters (2) onto mask.
- e. Place assembled respirator into plastic bag and seal.
- f. Place sealed respirators into the proper “cubby-hole” for employee use.

<b>Load Size</b>	<b># Masks</b>	<b>Amount of Cleaner</b>
XL	13-16	10 OZ
L	10-13	8 OZ
M	6-10	6 OZ
S	0-6	4 OZ

**Employee Responsibilities**

- 1. Remove only your respirator from designated storage location – DO NOT TAMPER WITH OR USE ANOTHER EMPLOYEE’S RESPIRATOR.

Storage locations:

Main Office

**Identify location**

- 2. Remove respirator from plastic bag –
- 3. Place respirator over nose and mouth.
- 4. Adjust elastic bands as necessary.
- 5. Perform seal test.
- 6. After use: Place respirator into designated respirator cleaning container.



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Appendix E

Annual Respirator Written Program Evaluation

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Position: \_\_\_\_\_

Table with 3 columns: Questions, Employee Consulted (Name, Clock#), and YES/NO response columns. Includes questions about respirator cleaning, seal testing, and use.

If any of the questions are answered no, fill in the corrective action below.

Four horizontal lines for entering corrective action.



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**REVISION HISTORY**

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<b>Date Revised</b>	<b>Description of Change / Revision</b>	