
	<b>GILES CHEMICAL ~ PREMIER MAGNESIA</b>		
	<b>Company Procedure</b>		
	Title: <b>Hearing Conservation Program</b>	Number: <b>S12-PG-200-001</b>	
	Owner: <b>Deborah Durbin</b>	Revision: <b>02</b>	
	Effective Date: <b>07/01/15</b>	Page: <b>1 of 11</b>	

## HEARING CONSERVATION PROGRAM

Under the current OSHA Standard for Occupational Noise Exposure (29 CFR 1910.95) all workers exposed to 85 dBA Time Weighted-Average (TWA) are to be included in a hearing conservation program. It is important to note that for work shifts in excess of 8 hours, the 85 dBA TWA is reduced. For example, exposures in excess of 83.4 dBA for a 10-hour work shift and exposures in excess of 82.1 dBA for a 12 hour work shift necessitate inclusion in a hearing conservation program. An effective hearing conservation program is defined to include:

- a) An assessment of noise exposure
- b) Annual audiometric tests of exposed workers
- c) Maintenance of noise and hearing data records
- d) Noise abatement and/or administrative controls
- e) Availability of hearing protectors
- f) Employee training and education

An ongoing noise exposure evaluation program is required under the OSHA Standard for Occupational Noise Exposure (29 CFR 1910.95) when information indicates that any employee's exposure may equal or exceed an 8 hour Time-Weighted Average of 85 dBA. Monitoring shall be repeated whenever a change in production, process, equipment or control increases noise exposure to the extent that: 1) additional employees may be exposed at or above the action level or 2) the attenuation provided by the hearing protectors being used by the employees may be rendered inadequate. A complete sound survey of the plant is recommended at least every two years.



After determining the noise level, and if it is 85 dBA TWA, then it is required that employers provide to the employees the following:

- a) Annual hearing tests
- b) Annual hearing conservation training
- c) Hearing protection (optional or mandatory)
- d) The OSHA Noise Standard (29 CFR 1910.95) posted
- e) Notification of the results of the sound survey

If the Noise level exceeds 90 dBA, the OSHA Noise Standard requires that engineering and administrative control measures must be investigated, evaluated and where feasible, utilized to reduce employee exposures. It is important that any measure investigated, utilized, or evaluated to reduce the noise levels be documented.

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### Engineering Measures to Reduce Noise

- Contact with the manufacturer for noise abatement suggestions
- The purchase of quieter equipment or routine maintenance to reduce noise levels
- Reduction of noise level at the source
  - a) Substitution of materials (i.e. plastic for metal)
  - b) Dampening or reducing surface vibration
  - c) Increasing the distance between the employee and the noise source
  - d) Enclosures or sound insulation material
  - e) Relocation of job tasks which may be completed out of high noise areas

### Administrative Measures to Reduce Noise

When engineering measures alone cannot reduce the noise below 90 dBA, administrative methods may be used to minimize employee exposure such as worker rotation from high noise levels to quiet areas.

## **MANAGING THE HEARING CONSERVATION PROGRAM**



All employees at Giles Chemical who are exposed to a noise level of 85 dBA or above will be in the Hearing Conservation Program and have their hearing checked annually by a licensed or certified audiologist, otolaryngologist, or other physician. All results of the hearing tests will be filed with the Safety Department.

Employees will be scheduled as follows: (1) a baseline audiogram within 6 months of an employee's first exposure at or above an 8-hour TWA of 85dB (2) an annual audiogram starting within 1 year of the baseline.

Testing will be provided at no cost to all employees requiring participation in the Hearing Conservation Program. Each employee's supervisor or a representative from the Safety Department will notify that employee about scheduling of the test. It is the responsibility of the Safety Department to ensure that the contractors providing hearing tests to employees and the test itself meet OSHA requirements. It will be the responsibility of the Safety Department to obtain and file the following documentation ANNUALLY from the contractor providing the hearing tests: Current audiometer calibration check records, last audiometer check, both background noise level records, and current audiometer technician certification. If these records cannot be obtained, then another testing center will be used.

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## HEARING CONSERVATION TRAINING

Hearing Conservation Training is required ANNUALLY for all employees with noise exposures of 85 dBA TWA or greater. The goal of the training is to orient employees to the purpose of hearing protection, the use of hearing protection and plant policy regarding the Hearing Conservation Program.

The following topics will be included in the employee training of the hearing conservation program:



- 1) The effects of noise on hearing
  - Hearing loss can take many years to occur; the employee may not realize the gradual loss. The loss occurs without any pain and cannot be corrected by any known medical or surgical treatment. A good rule of thumb to remember is that if you have to raise your voice at a distance of three feet, you are in an area with a possible hazardous noise level. Repeated unprotected noise exposure will cause a permanent hearing loss. The Hearing Conservation Program at Giles Chemical has been established to ensure that if you ever have a standard threshold shift; your noise exposure can be lessened by using engineering or administrative controls or more effective hearing protection. Thus, the problem can be controlled.
  
- 2) The purpose of the annual hearing test and an explanation of the test procedures
  - The purpose of the annual hearing test is to monitor your hearing. Periodic audiometric testing provides an “early warning” of hearing disability. Factors such as noisy hobbies, ear infections, diseases of the ear as well as general illness may also cause hearing loss. All employees’ hearing will be checked upon employment and once a year thereafter. You will be notified of any changes in your hearing. You cannot “fail” the test and you will not lose your job due to the results of the test.
  
- 3) The purpose of hearing protectors, instructions on selection, the advantages, disadvantages, fitting use and care
  - The proper use of hearing protection will prevent many types of hearing loss. You must wear the required hearing protection properly and regularly to reap the benefits of the protection. Employees will be provided with a selection of at least one variety of hearing plug and one variety of hearing muffs. If you have any problems with the fit of your hearing protectors, contact your supervisor and/or the Safety Department.

### HOW TO PROPERLY WEAR HEARING PROTECTORS

It is an OSHA requirement that the employer ensures proper initial fitting and training in the use and care of all hearing protection provided to employees.

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Employee hearing protection training is required:

1. Annually during Hearing Conservation Program Training
2. Each time an employee shows a Standard Threshold Shift change in hearing.

To prevent a hearing loss, hearing protectors must be worn correctly and taken care of. Keep your ear plugs clean by washing them in warm soapy water and make sure they are completely dry before inserting them in your ears. Inspect your hearing protection regularly. If they become damaged, hard, or worn out, replace them with a new pair.

Due to the fact that everyone has different size ear canals, a variety of types and sizes of ear plugs will be made available to employees to ensure a proper fit. Each employee will be instructed on how to don their personal hearing protectors properly. If there is a problem with the fit comfort of your hearing protectors, see your supervisor or the Safety Department and you will be given a different type of protection.

#### HOW LONG WILL MY HEARING PROTECTION LAST?

Sponge plugs: 1- 2 days

Custom plugs: 18 - 24 months

Insert plugs: 4 - 6 months

Muffs: Replace when worn out

The life of the hearing protector is dependent upon the care it is given. A sponge type hearing protector is disposable. But, as long as it is cleaned, it may be used until it no longer expands. How long the hearing protection lasts is unique to each employee depending on the chemical make-up of their body.

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## PUTTING IN EARPLUGS ONLY INVOLVES TWO STEPS

### FIRST

Put your left arm over your head and with your left hand pull up on your right ear.



### SECOND

With your right hand roll and insert the ear plug. Switch hands and insert the other plug in the same manner.



Remember, both plugs must be worn for complete protection.



## Recordkeeping

Records are an important part of any effective Hearing Conservation Program. The information contained in these records reflects the quality and effectiveness of the Hearing Conservation Program.

A number of documents are required to be maintained under the OSHA Noise Standard once exposure is at or above the "Action Level". Some of these records must be retained for specified periods as shown in the following table. It is also required that these records be provided, upon request, to employees, former employees, representatives designated by the individual employee and the Assistant Secretary of Labor.

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**THE FOLLOWING RECORDS/DOCUMENTATION IS REQUIRED BY OSHA:**

1. Sound Survey (retain at least two years)
2. Employee notification on the results of the sound survey
3. Posted OSHA Noise Standard
4. Hearing Testing (retain for at least the duration of employment)
  - Annual
  - Baseline
5. Audiogram Evaluation Requirements
  - Standard Threshold Shift Requirements
  - Physician review
6. Hearing Protection
7. Hearing Conservation Training
8. Audiometer
  - acoustic calibration check
  - exhaustive calibration check
  - biological calibration check
  - self-listening check
9. Booth (if testing is done on site)
  - background noise
10. Recording hearing loss on the OSHA 300 log

**EMPLOYEE NOTIFICATION ON THE RESULTS OF THE SOUND SURVEY**

Employees must be notified of the results of the sound survey. Whether written or verbal notification is used, documentation must be maintained. It is recommended that the results of the survey be posted in a central location. Keep records for two years.

**POSTED OSHA NOISE STANDARD**



It is an OSHA requirement that the OSHA Noise Standard be PERMANENTLY posted in a central location.

**HEARING TESTING**

The two types of hearing tests are annual hearing tests and baseline hearing tests. Annual hearing testing is required for employees with 85 dBA TWA or higher noise exposures. Testing can be done anytime during the day. Baseline hearing testing is done when an employee is initially hired. The baseline is extremely important because it is the reference against which future audiograms are compared to determine the extent to which an employee's hearing is deteriorating. OSHA says a baseline must be done within 6 months. However, the employee must wear protection for any period exceeding six months until the baseline is obtained. (North Carolina Worker's Compensation Law has a 90 working day "grace period". If a company gives the baseline

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before the grace period is up then the company may be liable only for subsequent hearing loss.) It is required that the baseline audiogram be preceded by at least 14 hours without exposure to workplace noise. Time that hearing protection is worn may be included as part of the 14 hours without exposure to noise. The employer shall also notify the employee that they need to avoid non-occupational noise exposure during the 14 hours prior the audiometric test. Documentation of this notification is strongly recommended.

A retest audiogram can be conducted to verify or confirm a hearing threshold result. Times when a retest may be needed:

1. If an employee has suffered a Standard Threshold Shift, the employer may obtain a retest within 30 days and use the results of the retest as the annual audiogram.
2. The Audiologist or Physician can request a retest to confirm test results.
3. When problems are suspected by the test administrator.



#### **EMPLOYEES INCLUDED IN GILES HEARING CONSERVATION PROGRAM**

- Main Plant:
  - Any employee including, but not limited to, Lead Operator, Salt Operator and Maintenance **working** in the Digester Room and/or Production area assigned to an 8 or 12 hour shift must don hearing protection.
  - Any other employee such as, but not limited to, Engineering, Quality/Safety and Management shall don hearing protection when **working** in the Digester Room and/or Production area for 4 or more hours during an 8 shift.
  - Visitors or employees passing through the Digester Room and/or Production area are not required to don hearing protection.
- Repack:
  - Any employee including, but not limited to, Box Erector, Line Operator, Packer, Stacker and Maintenance **working** on or near the Manual, Auto or Carton lines must don hearing protection.
  - Any other employee such as, but not limited to, Engineering, Quality/Safety and Management shall don hearing protection when **working** on or near the Manual, Auto or Carton lines for 4 or more hours during an 8 shift.
  - Visitors or employees passing through the Repackaging facility are not required to don hearing protection.

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## NOTIFICATION OF “QUIET PERIOD” PRIOR TO BASELINE HEARING TEST

It is an OSHA Noise Standard requirement that you be free from high noise exposure for 14 hours before your baseline test.

You should avoid the following types of noise prior to the hearing test:

WORKPLACE NOISE  
 LAWN MOWERS  
 LEAF BLOWERS  
 WEED TRIMMERS  
 CHAIN SAWS  
 POWER TOOLS  
 SMALL ENGINES  
 CAR RACES  
 SNOW MOBILES  
 SMALL AIRPLANES  
 POWER BOATS  
 ALL FIREARMS (hunting, target shooting, skeet shooting)  
 LOUD MUSIC (concerts, walkman or other headset radio, radio/stereos)

Please wear hearing protection until your baseline hearing test is completed to minimize noise exposure on and off the job.

I have been notified of the need to avoid occupational and non-occupational noise prior to my test.



\_\_\_\_\_  
Employee Signature

\_\_\_\_\_  
Date

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## HEARING CONSERVATION TRAINING

It is required that all employees with noise exposure of 85 dBA TWA or greater be included in hearing conservation training annually. Documentation of this training should be maintained.

## RECORDING HEARING LOSS ON THE OSHA 300 LOG

It is required that some types of hearing loss and/or tinnitus be recorded on the Occupational Illness or Injury form. Record hearing loss on the illness side of the OSHA 300 form under the column marked for hearing loss. A Standard Threshold Shift must be entered on the OSHA 300 Form within 7 days unless a retest is performed and does not confirm the original STS. Please follow recording guidelines found under 1904.10, Recording Criteria for Cases Involving Occupational Hearing Loss.

## **STANDARD THRESHOLD SHIFT**

A Standard Threshold Shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 or more dBA at 2000, 3000, and 4000 Hz. If a Standard Threshold Shift has occurred, the employee must be informed in writing within 21 days of the determination. Employees will be trained in using hearing protectors, and in care of the hearing protectors. If the employee is already using hearing protectors, they will have to be retrained and refitted. If necessary, hearing protectors can be changed to a different type.

## **EXAMPLE OF A STANDARD THRESHOLD SHIFT AT 2000, 3000, and 4000 Hz**

COMPANY					PLANT							NAME							
ACME					Plant 1							E. B. Brown							
SOCIAL SECURITY NO.					BIRTH DATE				SEX			HIRE DATE			EMPLOYEE NO.				
000-01-0000					1/31/33				M			5/7/75							
TEST NO	DATE			EXAM TYPE	RIGHT EAR							LEFT EAR							
	YR	MO	DAY		500	1000	2000	3000	4000	5000	6000	500	1000	2000	3000	4000	5000	6000	
	77	04	15	0	10	10	35	35	75	85	NR	5	15/10	35	45	55	70	85	0
	89	04	01	2	10	15	40	40	80	85	NR	10	5/10	45	65	70	75	85	0
	90	04	05	2	5	25	50	45	80	NR	NR	15	15/20	55	85	NR	NR	NR	0

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**STANDARD THRESHOLD SHIFT NOTIFICATION**



I have been notified of a Standard Threshold Shift on my last annual hearing test. As a result of my Standard Threshold Shift, I was fitted/refitted with \_\_\_\_\_ hearing protectors and received instructions on the proper way to wear and care for this protector. I understand that the use of this hearing protection is mandatory.

Employee Signature\_\_\_\_\_

Date \_\_\_\_\_

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## HEARING CONSERVATION TRAINING PROGRAM

I have been through the Hearing Conservation Training Program at Giles Chemical. I understand that wearing hearing protectors is mandatory in designated areas of the plant. In the area where I work, hearing protection is mandatory. I have received my hearing protectors and realize that additional hearing protectors are available through the Safety Department. The following topics were included in training:

1. The effects of noise on hearing.
2. The purpose of the annual hearing test.
3. The purpose of wearing protectors and types of hearing protectors available as well as their proper fit and care.

Employee Signature \_\_\_\_\_

Date \_\_\_\_\_

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