HEARING CONSERVATION PROGRAM

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Appendices:

1. OSHA Noise Standard, 1910.95

   This standard includes:

   Noise Survey Methods Equipment
   Compliance Limits
   Calibration of Test Equipment for Both Noise Surveys and Audiograms And Test Booth
   Selection Criteria for Hearing Protection
   Requirements for Audiograms: Methods, Procedures, and Evaluation

2. OSHA Medical Access Standard, 1910.20
3. Most Recent Noise Survey
4. Record of Training in the Hearing Conservation Program

HEARING CONSERVATION PROGRAM

Identity of Program Administrator

The Administrator of this Hearing Conservation Program is:

_____

Posting of the Standard

A copy of this standard is available to all affected employees in:

_____

_____

_____

A copy of this standard is **posted in**:

_____

_____

Noise Survey

All operators and employees exposed to excessive noise levels as defines by the Occupational Safety and Health Administration (OSHA) Noise Standard under 1910.95 will be issued appropriate **hearing protection**. Noise levels and exposures are established by **noise survey testing** conducted in accordance with the methods and procedures outlined n the OSHA noise standard.

The **date** of the most recent survey of the facility is: _____

This noise survey was **conducted by**:_____

This survey will be repeated whenever changes have been made to the workplace which may affect the noise level in the workplace so that the hearing protection provided is no longer adequate or which might cause hearing protection to be required.

Work areas, occupations, and operations have been classified into three basic categories:

1. Areas or occupations where employees are exposed to noise levels below the action level and are **not included in the Hearing Conservation Program**.

2. Areas or occupations where employees are exposed to noise levels at or above the **action level, but below the compliance level**. These **people included in the Hearing Conservation Program**, but the OSHA standard does not require them to wear hearing protection. However, hearing protection is available to these employees free of cost. These employees are also included in the training program.

3. Areas or occupations where employees are exposed to noise levels at or above the compliance level. These areas are included in an engineering controls program to reduce the noise levels to below the compliance level. In the interim, employees are required to wear hearing protection and be included in the Hearing Conservation Program until the completion of the engineering controls program.

However, in the current state of the art, there may be some areas where there are no current methods available for the reduction of noise levels to below the compliance level. In these areas, employees will continue to wear hearing protection and be included in the Hearing Conservation Program until new and more effective methods of noise control are found or developed.

All employees in this category are included in the training program and are required to wear adequate hearing protection properly while in affected area.

Included in this program and attached is a copy of the most recent Noise Survey which identifies the areas of occupations where employees are at or above the action level and the areas or occupations where employees are exposed to noise levels at or above the compliance level as defines by OSHA standard 1910.95.

Noise exposure surveys are maintained for at least two years after a new survey has been conducted.

Employees who are exposed to noise levels at or above the action level are informed of the results of the noise survey through the following procedures:

_____

_____

_____

Hearing Protection Selection

Hearing Protection is **selected by** the Administrator of this program based upon:

1. The noise survey test results
2. The effectiveness of the hearing protection for the employees' type
3. The level of exposure and the work conditions and the character of the noise level, and
4. The methods and procedures outlines in the OSHA standard 1910.95 for the evaluation of hearing protection.

Attached is a copy of the Appendices from this standard describing the methods used to evaluate hearing protection.

Training in the Hearing Protection and the Standard

All employees included in the Hearing Conservation Program are instructed in the program annually. Instruction includes:

1. The hazards or effects of overexposure to noise;
2. The need to wear hearing protection and the potential consequences if the equipment is not worn or is not worn properly;
3. The purpose of the hearing protection, the advantages and disadvantages of the various types available; and
4. Instruction on the fitting, use and care of hearing protection.

For those employees required to wear hearing protection, training is given in the proper method of inserting or wearing the equipment selected by the employee for use, maintenance and care of the equipment, and its limitations.

During training, employees handle the hearing protection and are given an opportunity to wear it prior to use in the work environment.

Training is provided by:_____

_____

***A record of training dates and programs is attached ***

Selection of Hearing Protection

Hearing Protection is **selected** based upon the noise survey test results which will indicate the levels of noise present. The information supplied by the manufacturers of the hearing protection considered through the **Noise Reduction Rating** is then evaluated in accordance with the methods and procedures outlined in the OSHA Appendix B. Only hearing protection found to be adequate for the work area and its noise levels may be considered for use or allowed to be used in that work area.

Whenever possible, and in accordance with the OSHA standard, employees are given a choice of hearing protection. However, where there may be high or problem noise areas which require specific hearing protection, employees will be required to wear that protection or its equivalent.

We have attached a listing of hearing protection permitted for use at this facility for the areas or occupations requiring hearing protection.

Disposable Hearing Protection

Disposable hearing protection is supplied daily or is available to all affected employees by:

_____

_____

Those employees who wear disposable Hearing Protection are instructed that this equipment is to be discarded after excessive soiling if it cannot be washed or cleaned properly after use.

Multiple Use Hearing Protection

Employees issued multiple use hearing protection are instructed annually in the proper care, storage, and maintenance of their equipment.
Employees are issued multiple use hearing protection by:_____

and report any problems or request replacement to:_____

***ALL EMPLOYEES IN WORK AREAS OR OCCUPATIONS WHERE NOISE LEVELS ARE AT OR ABOVE THE OSHA COMPLIANCE LIMIT MUST WEAR ADEQUATE HEARING PROTECTION AT ALL TIMES WHLE IN THE WORK AREAS.**

Employees who have shown a significant threshold shift must also wear hearing protection properly.

Below is a list of the **disposable hearing protection which is used at this facility:**

Noise Reduction Manufacturer	Trade Name	Rating

Below is a listing of the **areas or occupations which are required to wear disposable hearing protection.**

Below is a list of the multiple use hearing protection which is used at this facility:

Manufacturer	Trade Name	Noise Reduction Rating

Below is a listing of the areas or occupations which are required to **wear multiple use hearing protection.**

Periodic Inspections

Periodic Inspections of the affected areas and operations are included in the Hearing Conservation Program. The purpose of these inspections is to assist in the determination that the noise levels have not changed significantly and that operators required to wear hearing protection are doing so properly.

Employees found not be wearing their hearing protection will be instructed to do so and disciplined in accordance with the company rules if required.

Periodic inspections will be carried out by supervisors on the following schedule or randomly as described below:

_____

_____

_____

_____

_____

Signs

All areas included in the hearing conservation program and where employees are required to wear hearing protection are **marked with signs** to alert anyone in the area to the hazard and the hearing protection requirement.

Audiometric Testing

All employees included in the Hearing Conservation Program will have their hearing **tested annually** in accordance with the test methods and procedures outlines in the OSHA Noise Standard and its appendices (attached):

Audiometric testing is conducted by:_____

The audiograms have been conducted by:

_____ Licensed or certified audiologist

_____ Licensed or certified otolaryngologist

_____ Licensed physician

_____ Technician certified by the Council of Accreditation in Occupational Hearing Conservation

_____ A technician who has satisfactorily demonstrated competence in Administering audiometric examinations, obtaining valid audiograms, and Properly using, maintaining, and checking calibration and proper functioning Of the audiometers and

_____ With a microprocessor *

***Please Note**: if a microprocessor is used, the technician operating the microprocessor does not require certification.

However, a technician who does perform audiograms must be responsible to a physician, and audiologist, or otolaryngologist.

Audiograms and the test equipment and booths used are conducted, tested, calibrated, and maintained in accordance with the requirements outlines in the OSHA Noise Standard (see attached).

Baseline Audiograms

When a **baseline** audiogram is conducted, employees are tested **either** after 14 hours without exposure to workplace noise or if they are exposed to workplace noise in this period, they have worn hearing protection.

Employees will have a baseline audiogram taken as soon as is possible after start of employment or prior to assignment to a work area included in the Hearing Conservation Program.

However, if a mobile van is used for taking the audiograms, these tests may have a waiting period of up to six months before the van returns to the work site. Employees must wear hearing protection from the start of employment or assignment to the work area until this baseline audiogram is taken.
On all other audiograms (annual audiograms), employees are instructed to avoid high levels of noise for the 14 hours preceding the test.

Information Included on Audiograms

The audiometric testing records include the following information for each employee in the Hearing Conservation Program:

1. Name and Job Classification
2. Date of the Audiogram
3. The examiner's name
4. Date of the last acoustic or exhaustive calibration of the audiometer
5. Employee's most recent noise assessment.

These audiograms are maintained for the duration of the employees' period of employment.

Access to Records

These records are available to the individual employee, former employees, the representatives of employees, and the Assistant Secretary of Labor. If required by OSHA regulations or standards, however, employees of their representatives will need to complete any forms for access in accordance with 1910.20.

Evaluation of Audiograms

Each employees' audiogram is compared to **the baseline** audiogram. This comparison may be done by a technician.

If the comparision of the audiogram indicates there is a significant threshold shift (as defined by the OSHA standard), then the employee may be retested within **30 days. This retest may be considered to be the annual audiogram.**

The audiologist, otolaryngologist, or physician shall review problem audiograms and determine whether there is a need for further evaluation. This person evaluating the audiogram will be provided the following information:

1. A copy of the OSHA standard
2. The baseline audiogram and the most recent audiogram to be evaluated
3. Measurements of the background sound pressure levels in the audiometric test room as required in Appendix D of the OSHA standard 1910.95
4. Records of the audiometer calibrations required by the OSHA standard

Follow Up Procedures in Problem Audiograms

If the comparison of annual audiograms to the baseline audiogram indicates a significant threshold shift as defined by the OSHA standard 1910.95, the employee is informed of this fact **within 21 days** of this determination.

Unless a physician determines that the standard threshold shift is not work related, the following steps are taken when a standard threshold is determined to have occurred:

1. If the employee is not presently wearing hearing protection, he or she will be fitted with hearing protection and be trained in its use and care,. The employee will be required to wear the hearing protection during work.

2. Employees already wearing hearing protection will be refitted and retrained in the use of hearing protection.

3. The employee will be referred for a clinical audiological evaluation or an otological examination if additional testing is necessary or if the employer suspects that the hearing loss may have occurred or be aggravated by the wearing of the hearing protection.

4. The employee is informed of the need for an otological examination if a medical pathology of the ear that is not related to the wearing of the hearing protection is suspected.

If subsequent audiograms **of an employee who is exposed to noise levels below 90 dBA for an eight hour time weighted average** indicated that the hearing loss is not persistent:

1. The employee is informed of the new audiometric interpretation.

2. The required use of hearing protection may be discontinued.

Revised Baseline

An annual audiogram may be substituted for the baseline audiogram if:

> the audiologist otolaryngologist, or physician judges that the significant threshold shift is persistent
>
> **or**
>
> the hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

Standard Threshold Shift

The standard threshold shift is described in the OSHA Standard as:

> a change in hearing threshold relative to the baseline audiogram of an average of 10 db or more 2000, 3000, and 4000 Hz in either ear.

PLEASE NOTE: This program has been designed to meet the requirements of the OSHA Noise Standard 1910.95.

Record of Training in Hearing Conservation Program

Includes training in hearing protection selection, care, fitting, and use as well as in the purpose of this equipment. Instruction includes the hazards and possible consequences of exposure to noise.

Training also includes instruction in the purpose of the audiogram and the testing procedures.

Training Date:

Name of Training Personnel:

Employees Trained (if not listed below, attach copy of list):

OSHA STANDARD

1910.95

Occupational NOISE Exposure

1910.95
Occupational Noise Exposure.

Interpretation(s)
(a)

Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table G-16 when measured on the A scale of a standard sound level meter at slow response. When noise levels are determined by octave band analysis, the equivalent A-weighted sound level may be determined as follows:

Equivalent sound level contours. Octave band sound pressure levels may be converted to the equivalent A-weighted sound level by plotting them on this graph and noting the A-weighted sound level corresponding to the point of highest penetration into the sound level contours. This equivalent A-weighted sound level, which may differ from the actual A-weighted sound level of the noise, is used to determine exposure limits from Table 1.G-16.

(b)
(b)(1)

When employees are subjected to sound exceeding those listed in Table G-16, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of Table G-16, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.

(b)(2)

If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

TABLE G-16 - PERMISSIBLE NOISE EXPOSURES (1)

Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

Footnote(1) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: C(1)/T(1) + C(2)/T(2) C(n)/T(n) exceeds unity, then, the mixed exposure should be considered to exceed the limit value. Cn indicates the total time of exposure at a specified noise

level, and Tn indicates the total time of exposure permitted at that level. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

1910.95(c)
(c)
"Hearing conservation program."
(c)(1)
The employer shall administer a continuing, effective hearing conservation program, as described in paragraphs (c) through (o) of this section, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent. For purposes of the hearing conservation program, employee noise exposures shall be computed in accordance with appendix A and Table G-16a, and without regard to any attenuation provided by the use of personal protective equipment.
(c)(2)
For purposes of paragraphs (c) through (n) of this section, an 8-hour time-weighted average of 85 decibels or a dose of fifty percent shall also be referred to as the action level.
(d)
"Monitoring."
(d)(1)
When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the employer shall develop and implement a monitoring program.
(d)(1)(i)
The sampling strategy shall be designed to identify employees for inclusion in the hearing conservation program and to enable the proper selection of hearing protectors.
(d)(1)(ii)
Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring generally inappropriate, the employer shall use representative personal sampling to comply with the monitoring requirements of this paragraph unless the employer can show that area sampling produces equivalent results.

1910.95(d)(2)
(d)(2)(i)
All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements.

(d)(2)(ii)
Instruments used to measure employee noise exposure shall be calibrated to ensure measurement accuracy.
(d)(3)
Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:
(d)(3)(i)
Additional employees may be exposed at or above the action level; or
(d)(3)(ii)
The attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet the requirements of paragraph (j) of this section.
(e)
"Employee notification." The employer shall notify each employee exposed at or above an 8-hour time-weighted average of 85 decibels of the results of the monitoring.
(f)
"Observation of monitoring." The employer shall provide affected employees or their representatives with an opportunity to observe any noise measurements conducted pursuant to this section.

1910.95(g)
(g)
"Audiometric testing program."
(g)(1)
The employer shall establish and maintain an audiometric testing program as provided in this paragraph by making audiometric testing available to all employees whose exposures equal or exceed an 8-hour time-weighted average of 85 decibels.
(g)(2)
The program shall be provided at no cost to employees.
(g)(3)
Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used. A technician who operates microprocessor audiometers does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.
(g)(4)
All audiograms obtained pursuant to this section shall meet the requirements of Appendix C: "Audiometric Measuring Instruments."

(g)(5)
"Baseline audiogram."
(g)(5)(i)
Within 6 months of an employee's first exposure at or above the action level, the employer shall establish a valid baseline audiogram against which subsequent audiograms can be compared.
(g)(5)(ii)
"Mobile test van exception." Where mobile test vans are used to meet the audiometric testing obligation, the employer shall obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees shall wearing hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.
(g)(5)(iii)
Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.
(g)(5)(iv)
The employer shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

(g)(6)
"Annual audiogram." At least annually after obtaining the baseline audiogram, the employer shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.

(g)(7)
"Evaluation of audiogram."
(g)(7)(i)
Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift as defined in paragraph (g)(10) of this section has occurred. This comparison may be done by a technician.
(g)(7)(ii)

If the annual audiogram shows that an employee has suffered a standard threshold shift, the employer may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.
(g)(7)(iii)
The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. The employer shall provide to the person performing this evaluation the following information:
(g)(7)(iii)(A)
A copy of the requirements for hearing conservation as set forth in paragraphs (c) through (n) of this section;
(g)(7)(iii)(B)
The baseline audiogram and most recent audiogram of the employee to be evaluated;
(g)(7)(iii)(C)
Measurements of background sound pressure levels in the audiometric test room as required in Appendix D: Audiometric Test Rooms.
(g)(7)(iii)(D)
Records of audiometer calibrations required by paragraph (h)(5) of this section.
(g)(8)
"Follow-up procedures."
(g)(8)(i)
If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift as defined in paragraph (g)(10) of this section has occurred, the employee shall be informed of this fact in writing, within 21 days of the determination.
(g)(8)(ii)
Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the employer shall ensure that the following steps are taken when a standard threshold shift occurs:
(g)(8)(ii)(A)
Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.
(g)(8)(ii)(B)
Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
(g)(8)(ii)(C)
The employee shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the employer suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
(g)(8)(ii)(D)
The employee is informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.
(g)(8)(iii)
If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 decibels indicates that a standard threshold shift is not persistent, the employer:
(g)(8)(iii)(A)
Shall inform the employee of the new audiometric interpretation; and
(g)(8)(iii)(B)
May discontinue the required use of hearing protectors for that employee.

(g)(9)
"Revised baseline." An annual audiogram may be substituted for the baseline audiogram when, in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram:
(g)(9)(i)
The standard threshold shift revealed by the audiogram is persistent; or
(g)(9)(ii)

The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

(g)(10)
"Standard threshold shift."
(g)(10)(i)
As used in this section, a standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.
(g)(10)(ii)
In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure described in Appendix F: "Calculation and Application of Age Correction to Audiograms."

(h)
"Audiometric test requirements."
(h)(1)
Audiometric tests shall be pure tone, air conduction, hearing threshold examinations, with test frequencies including as a minimum 500, 1000, 2000, 3000, 4000, and 6000 Hz. Tests at each frequency shall be taken separately for each ear.
(h)(2)
Audiometric tests shall be conducted with audiometers (including microprocessor audiometers) that meet the specifications of, and are maintained and used in accordance with, American National Standard Specification for Audiometers, S3.6-1969, which is incorporated by reference as specified in Sec. 1910.6.
(h)(3)
Pulsed-tone and self-recording audiometers, if used, shall meet the requirements specified in Appendix C: "Audiometric Measuring Instruments."
(h)(4)
Audiometric examinations shall be administered in a room meeting the requirements listed in Appendix D: "Audiometric Test Rooms."
(h)(5)
"Audiometer calibration."
(h)(5)(i)
The functional operation of the audiometer shall be checked before each day's use by testing a person with known, stable hearing thresholds, and by listening to the audiometer's output to make sure that the output is free from distorted or unwanted sounds. Deviations of 10 decibels or greater require an acoustic calibration.
(h)(5)(ii)
Audiometer calibration shall be checked acoustically at least annually in accordance with Appendix E: "Acoustic Calibration of Audiometers." Test frequencies below 500 Hz and above 6000 Hz may be omitted from this check. Deviations of 15 decibels or greater require an exhaustive calibration.
(h)(5)(iii)
An exhaustive calibration shall be performed at least every two years in accordance with sections 4.1.2; 4.1.3.; 4.1.4.3; 4.2; 4.4.1; 4.4.2; 4.4.3; and 4.5 of the American National Standard Specification for Audiometers, S3.6-1969. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this calibration.

(i)
"Hearing protectors."
(i)(1)
Employers shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary.

(i)(2)
Employers shall ensure that hearing protectors are worn:
(i)(2)(i)
By an employee who is required by paragraph (b)(1) of this section to wear personal protective equipment; and
(i)(2)(ii)
By any employee who is exposed to an 8-hour time-weighted average of 85 decibels or greater, and who:
(i)(2)(ii)(A)
Has not yet had a baseline audiogram established pursuant to paragraph (g)(5)(ii);
(i)(2)(ii)(B)
Has experienced a standard threshold shift.
(i)(3)
Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer.
(i)(4)
The employer shall provide training in the use and care of all hearing protectors provided to employees.
(i)(5)
The employer shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

(j)
"Hearing protector attenuation."
(j)(1)
The employer shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used. The employer shall use one of the evaluation methods described in Appendix B: "Methods for Estimating the Adequacy of Hearing Protection Attenuation."
(j)(2)
Hearing protectors must attenuate employee exposure at least to an 8-hour time-weighted average of 90 decibels as required by paragraph (b) of this section.
(j)(3)
For employees who have experienced a standard threshold shift, hearing protectors must attenuate employee exposure to an 8-hour time-weighted average of 85 decibels or below.
(j)(4)
The adequacy of hearing protector attenuation shall be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. The employer shall provide more effective hearing protectors where necessary.

(k)
"Training program."
(k)(1)
The employer shall institute a training program for all employees who are exposed to noise at or above an 8-hour time-weighted average of 85 decibels, and shall ensure employee participation in such program.
(k)(2)
The training program shall be repeated annually for each employee included in the hearing conservation program. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.
(k)(3)
The employer shall ensure that each employee is informed of the following:
(k)(3)(i)
The effects of noise on hearing;
(k)(3)(ii)
The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and

(k)(3)(iii)
The purpose of audiometric testing, and an explanation of the test procedures.

(l)
"Access to information and training materials."
(l)(1)
The employer shall make available to affected employees or their representatives copies of this standard and shall also post a copy in the workplace.
(l)(2)
The employer shall provide to affected employees any informational materials pertaining to the standard that are supplied to the employer by the Assistant Secretary.
(l)(3)
The employer shall provide, upon request, all materials related to the employer's training and education program pertaining to this standard to the Assistant Secretary and the Director.

(m)
"Recordkeeping" -
(m)(1)
"Exposure measurements." The employer shall maintain an accurate record of all employee exposure measurements required by paragraph (d) of this section.
(m)(2)
"Audiometric tests."
(m)(2)(i)
The employer shall retain all employee audiometric test records obtained pursuant to paragraph (g) of this section:
(m)(2)(ii)
This record shall include:
(m)(2)(ii)(A)
Name and job classification of the employee;
(m)(2)(ii)(B)
Date of the audiogram;
(m)(2)(ii)(C)
The examiner's name;
(m)(2)(ii)(D)
Date of the last acoustic or exhaustive calibration of the audiometer; and
(m)(2)(ii)(E)
Employee's most recent noise exposure assessment.
(m)(2)(ii)(F)
The employer shall maintain accurate records of the measurements of the background sound pressure levels in audiometric test rooms.
(m)(3)
"Record retention." The employer shall retain records required in this paragraph (m) for at least the following periods.
(m)(3)(i)
Noise exposure measurement records shall be retained for two years.
(m)(3)(ii)
Audiometric test records shall be retained for the duration of the affected employee's employment.
(m)(4)
"Access to records." All records required by this section shall be provided upon request to employees, former employees, representatives designated by the individual employee, and the Assistant Secretary. The provisions of 29 CFR 1910.20 (a)-(e) and (g)-
(m)(4)(i)
apply to access to records under this section.

(m)(5)
"Transfer of records." If the employer ceases to do business, the employer shall transfer to the successor employer all records required to be maintained by this section, and the successor employer shall retain them for the remainder of the period prescribed in paragraph (m)(3) of this section.

(n)
"Appendices."
(n)(1)
Appendices A, B, C, D, and E to this section are incorporated as part of this section and the contents of these appendices are mandatory.
(n)(2)
Appendices F and G to this section are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

(o)
"Exemptions." Paragraphs (c) through (n) of this section shall not apply to employers engaged in oil and gas well drilling and servicing operations.

(p)
"Startup date." Baseline audiograms required by paragraph (g) of this section shall be completed by March 1, 1984.

1910.95 App A - Noise exposure computation

This Appendix is Mandatory

I. Computation of Employee Noise Exposure

(1) Noise dose is computed using Table G-16a as follows:

(i) When the sound level, L, is constant over the entire work shift, the noise dose, D, in percent, is given by: D=100 C/T where C is the total length of the work day, in hours, and T is the reference duration corresponding to the measured sound level, L, as given in Table G-16a or by the formula shown as a footnote to that table.

(ii) When the workshift noise exposure is composed of two or more periods of noise at different levels, the total noise dose over the work day is given by:

D = 100 (C(1)/T(1) + C(2)/T(2) + ... + C(n)/T(n)),

where C(n) indicates the total time of exposure at a specific noise level, and T(n) indicates the reference duration for that level as given by Table G-16a.

(2) The eight-hour time-weighted average sound level (TWA), in decibels, may be computed from the dose, in percent, by means of the formula: TWA = 16.61 log(10) (D/100) + 90. For an eight-hour workshift with the noise level constant over the entire shift, the TWA is equal to the measured sound level.

(3) A table relating dose and TWA is given in Section II.

TABLE G-16A

A-weighted sound level, L (decibel)	Reference duration, T (hour)
80	32
81	27.9
82	24.3
83	21.1
84	18.4
85	16
86	13.9
87	12.1
88	10.6
89	9.2
90	8
91	7.0
92	6.1
93	5.3
94	4.6

95	4
96	3.5
97	3.0
98	2.6
99	2.3
100	2
101	1.7
102	1.5
103	1.3
104	1.1
105	1
106	0.87
107	0.76
108	0.66
109	0.57
110	0.5
111	0.44
112	0.38
113	0.33
114	0.29
115	0.25
116	0.22
117	0.19
118	0.16
119	0.14
120	0.125
121	0.11
122	0.095
123	0.082
124	0.072
125	0.063
126	0.054
127	0.047
128	0.041
129	0.036
130	0.031

In the above table the reference duration, T, is computed by ? where L is the measured A-weighted sound level.

II. Conversion Between "Dose" and "8-Hour Time-Weighted Average" Sound Level Compliance with paragraphs (c)-(r) of this regulation is determined by the amount of exposure to noise in the workplace. The amount of such exposure is usually measured with an audiodosimeter which gives a readout in terms of "dose." In order to better understand the requirements of

the amendment, dosimeter readings can be converted to an "8-hour time-weighted average sound level." (TWA).

In order to convert the reading of a dosimeter into TWA, see Table A-1, below. This table applies to dosimeters that are set by the manufacturer to calculate dose or percent exposure according to the relationships in Table G-16a. So, for example, a dose of 91 percent over an eight hour day results in a TWA of 89.3 dB, and, a dose of 50 percent corresponds to a TWA of 85 dB.

If the dose as read on the dosimeter is less than or greater than the values found in Table A-1, the TWA may be calculated by using the formula: TWA = 16.61 log(10) (D/100) + 90 where TWA=8-hour time-weighted average sound level and D = accumulated dose in percent exposure.

TABLE A-1 - CONVERSION FROM "PERCENT NOISE EXPOSURE" OR "DOSE" TO "8-HOUR TIME-WEIGHTED AVERAGE SOUND LEVEL" (TWA)

Dose or percent noise exposure	TWA
10	73.4
15	76.3
20	78.4
25	80.0
30	81.3
35	82.4
40	83.4
45	84.2
50	85.0
55	85.7
60	86.3
65	86.9
70	87.4
75	87.9
80	88.4
81	88.5
82	88.6
83	88.7
84	88.7
85	88.8
86	88.9
87	89.0
88	89.1
89	89.2
90	89.2
91	89.3
92	89.4

93	89.5
94	89.6
95	89.6
96	89.7
97	89.8
98	89.9
99	89.9
100	90.0
101	90.1
102	90.1
103	90.2
104	90.3
105	90.4
106	90.4
107	90.5
108	90.6
109	90.6
110	90.7
111	90.8
112	90.8
113	90.9
114	90.9
115	91.1
116	91.1
117	91.1
118	91.2
119	91.3
120	91.3
125	91.6
130	91.9
135	92.2
140	92.4
145	92.7
150	92.9
155	93.2
160	93.4
165	93.6
170	93.8
175	94.0
180	94.2
185	94.4
190	94.6
195	94.8
200	95.0

210	95.4
220	95.7
230	96.0
240	96.3
250	96.6
260	96.9
270	97.2
280	97.4
290	97.7
300	97.9
310	98.2
320	98.4
330	98.6
340	98.8
350	99.0
360	99.2
370	99.4
380	99.6
390	99.8
400	100.0
410	100.2
420	100.4
430	100.5
440	100.7
450	100.8
460	101.0
470	101.2
480	101.3
490	101.5
500	101.6
510	101.8
520	101.9
530	102.0
540	102.2
550	102.3
560	102.4
570	102.6
580	102.7
590	102.8
600	102.9
610	103.0
620	103.2
630	103.3
640	103.4

650 ..... 103.5
660 ..... 103.6
670 ..... 103.7
680 ..... 103.8
690 ..... 103.9
700 ..... 104.0
710 ..... 104.1
720 ..... 104.2
730 ..... 104.3
740 ..... 104.4
750 ..... 104.5
760 ..... 104.6
770 ..... 104.7
780 ..... 104.8
790 ..... 104.9
800 ..... 105.0
810 ..... 105.1
820 ..... 105.2
830 ..... 105.3
840 ..... 105.4
850 ..... 105.4
860 ..... 105.5
870 ..... 105.6
880 ..... 105.7
890 ..... 105.8
900 ..... 105.8
910 ..... 105.9
920 ..... 106.0
930 ..... 106.1
940 ..... 106.2
950 ..... 106.2
960 ..... 106.3
970 ..... 106.4
980 ..... 106.5
990 ..... 106.5
999 ..... 106.6

1910.95 App B - Methods for estimating the adequacy of hearing protector attenuation

This Appendix is Mandatory

For employees who have experienced a significant threshold shift, hearing protector attenuation must be sufficient to reduce employee exposure to a TWA of 85 dB. Employers must select one of the following methods by which to estimate the adequacy of hearing protector attenuation.

The most convenient method is the Noise Reduction Rating (NRR) developed by the Environmental Protection Agency (EPA). According to EPA regulation, the NRR must be shown on the hearing protector package. The NRR is then related to an individual worker's noise environment in order to assess the adequacy of the attenuation of a given hearing protector. This appendix describes four methods of using the NRR to determine whether a particular hearing protector provides adequate protection within a given exposure environment. Selection among the four procedures is dependent upon the employer's noise measuring instruments.

Instead of using the NRR, employers may evaluate the adequacy of hearing protector attenuation by using one of the three methods developed by the National Institute for Occupational Safety and Health (NIOSH), which are described in the "List of Personal Hearing Protectors and Attenuation Data," HEW Publication No. 76-120, 1975, pages 21-37. These methods are known as NIOSH methods No. 1, No. 2 and No. 3. The NRR described below is a simplification of NIOSH method No. 2. The most complex method is NIOSH method No. 1, which is probably the most accurate method since it uses the largest amount of spectral information from the individual employee's noise environment. As in the case of the NRR method described below, if one of the NIOSH methods is used, the selected method must be applied to an individual's noise environment to assess the adequacy of the attenuation. Employers should be careful to take a sufficient number of measurements in order to achieve a representative sample for each time segment.

NOTE: The employer must remember that calculated attenuation values reflect realistic values only to the extent that the protectors are properly fitted and worn.

When using the NRR to assess hearing protector adequacy, one of the following methods must be used:

(i) When using a dosimeter that is capable of C-weighted measurements:

(A) Obtain the employee's C-weighted dose for the entire workshift, and convert to TWA (see appendix A, II).

(B) Subtract the NRR from the C-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

(ii) When using a dosimeter that is not capable of C-weighted measurements, the following method may be used:

(A) Convert the A-weighted dose to TWA (see appendix A).

(B) Subtract 7 dB from the NRR.

(C) Subtract the remainder from the A-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

(iii) When using a sound level meter set to the A-weighting network:

(A) Obtain the employee's A-weighted TWA.

(B) Subtract 7 dB from the NRR, and subtract the remainder from the A-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

(iv) When using a sound level meter set on the C-weighting network:

(A) Obtain a representative sample of the C-weighted sound levels in the

employee's environment.
(B) Subtract the NRR from the C-weighted average sound level to obtain the estimated A-weighted TWA under the ear protector.

(v) When using area monitoring procedures and a sound level meter set to the A-weighing network.
(A) Obtain a representative sound level for the area in question.
(B) Subtract 7 dB from the NRR and subtract the remainder from the A-weighted sound level for that area.

(vi) When using area monitoring procedures and a sound level meter set to the C-weighting network:
(A) Obtain a representative sound level for the area in question.
(B) Subtract the NRR from the C-weighted sound level for that area.

1910.95 App C - Audiometric measuring instruments

This Appendix is Mandatory

1. In the event that pulsed-tone audiometers are used, they shall have a tone on-time of at least 200 milliseconds.
2. Self-recording audiometers shall comply with the following requirements:
   (A) The chart upon which the audiogram is traced shall have lines at positions corresponding to all multiples of 10 dB hearing level within the intensity range spanned by the audiometer. The lines shall be equally spaced and shall be separated by at least 1/4 inch. Additional increments are optional. The audiogram pen tracings shall not exceed 2 dB in width.
   (B) It shall be possible to set the stylus manually at the 10-dB increment lines for calibration purposes.
   (C) The slewing rate for the audiometer attenuator shall not be more than 6 dB/sec except that an initial slewing rate greater than 6 dB/sec is permitted at the beginning of each new test frequency, but only until the second subject response.
   (D) The audiometer shall remain at each required test frequency for 30 seconds (+ or - 3 seconds). The audiogram shall be clearly marked at each change of frequency and the actual frequency change of the audiometer shall not deviate from the frequency boundaries marked on the audiogram by more than + or - 3 seconds.

(E) It must be possible at each test frequency to place a horizontal line segment

TABLE D-1 - MAXIMUM ALLOWABLE OCTAVE-BAND SOUND PRESSURE LEVELS FOR AUDIOMETRIC TEST ROOMS

Octave-band center frequency (Hz).....	500	1000	2000	4000	8000
Sound pressure level (dB) ...	40	40	47	57	62

1910.95 App E - Acoustic calibration of audiometers

This Appendix is Mandatory

Audiometer calibration shall be checked acoustically, at least annually, according to the procedures described in this appendix. The equipment necessary to perform these measurements is a sound level meter, octave-band filter set, and a National Bureau of Standards 9A coupler. In making these measurements, the accuracy of the calibrating equipment shall be sufficient to determine that the audiometer is within the tolerances permitted by American Standard Specification for Audiometers, S3.6-1969.

(1) "Sound Pressure Output Check"
A. Place the earphone coupler over the microphone of the sound level meter and place the earphone on the coupler.
B. Set the audiometer's hearing threshold level (HTL) dial to 70 dB.
C. Measure the sound pressure level of the tones at each test frequency from 500 Hz through 6000 Hz for each earphone.
D. At each frequency the readout on the sound level meter should correspond to the levels in Table E-1 or Table E-2, as appropriate, for the type of earphone, in the column entitled "sound level meter reading."

(2) "Linearity Check"
A. With the earphone in place, set the frequency to 1000 Hz and the HTL dial on the audiometer to 70 dB.
B. Measure the sound levels in the coupler at each 10-dB decrement from 70 dB to 10 dB, noting the sound level meter reading at each setting.
C. For each 10-dB decrement on the audiometer the sound level meter should indicate a corresponding 10 dB decrease.
D. This measurement may be made electrically with a voltmeter connected to the earphone terminals.

(3) "Tolerances"
When any of the measured sound levels deviate from the levels in Table E-1 or Table E-2 by + or - 3 dB at any test frequency between 500 and 3000 Hz, 4 dB at 4000 Hz, or 5 dB at 6000 Hz, an exhaustive calibration is advised. An exhaustive calibration is required if the deviations are greater than 15 dB or greater at any test frequency.

TABLE E-1 - REFERENCE THRESHOLD LEVELS FOR TELEPHONICS - TDH-39 EARPHONES

Frequency, Hz	Reference threshold level for TDH-39 earphones, dB	Sound level meter reading, dB
500	11.5	81.5
1000	7	77
2000	9	79
3000	10	80

4000	9.5	79.5
6000	15.5	85.5

TABLE E-2 - REFERENCE THRESHOLD LEVELS FOR TELEPHONICS - TDH-49 EARPHONES

Frequency, Hz	Reference threshold level for TDH-49 earphones dB	Sound level meter reading, dB
500	13.5	83.5
1000	7.5	77.5
2000	11	81.0
3000	9.5	79.5
4000	10.5	80.5
6000	13.5	83.5

1910.95 App F - Calculations and application of age corrections to audiograms

This Appendix Is Non-Mandatory

In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging to the change in hearing level by adjusting the most recent audiogram. If the employer chooses to adjust the audiogram, the employer shall follow the procedure described below. This procedure and the age correction tables were developed by the National Institute for Occupational Safety and Health in the criteria document entitled "Criteria for a Recommended Standard . . . Occupational Exposure to Noise," ((HSM)-11001).

For each audiometric test frequency;

(i) Determine from Tables F-1 or F-2 the age correction values for the employee by:

(A) Finding the age at which the most recent audiogram was taken and recording the corresponding values of age corrections at 1000 Hz through 6000 Hz;

(B) Finding the age at which the baseline audiogram was taken and recording the corresponding values of age corrections at 1000 Hz through 6000 Hz.

(ii) Subtract the values found in step (i)(B) from the value found in step (i)(A).

(iii) The differences calculated in step (ii) represented that portion of the change in hearing that may be due to aging.

EXAMPLE: Employee is a 32-year-old male. The audiometric history for his right ear is shown in decibels below.

Employee's age	Audiometric test frequency (Hz)				
	1000	2000	3000	4000	6000
26.....	10	5	5	10	5
*27.....	0	0	0	5	5
28.....	0	0	0	10	5
29.....	5	0	5	15	5
30.....	0	5	10	20	10
31.....	5	10	20	15	15
*32.....	5	10	10	25	20

The audiogram at age 27 is considered the baseline since it shows the best hearing threshold levels. Asterisks have been used to identify the baseline and most recent audiogram. A threshold shift of 20 dB exists at 4000 Hz between the audiograms taken at ages 27 and 32.
(The threshold shift is computed by subtracting the hearing threshold at age 27, which was 5, from the hearing threshold at age 32, which is 25). A retest audiogram has confirmed this shift. The contribution of aging to this change in hearing may be estimated in the following manner:

Go to Table F-1 and find the age correction values (in dB) for 4000 Hz at age 27 and age 32.

	Frequency (Hz)				
	1000	2000	3000	4000	6000
Age 32.....	6	5	7	10	14
Age 27.....	5	4	6	7	11
Difference	1	1	1	3	3

The difference represents the amount of hearing loss that may be attributed to aging in the time period between the baseline audiogram and the most recent audiogram. In this example, the difference at 4000 Hz is 3 dB. This value is subtracted from the hearing level at 4000 Hz, which in the most recent audiogram is 25, yielding 22 after adjustment. Then the hearing threshold in the baseline audiogram at 4000 Hz (5) is subtracted from the adjusted annual audiogram hearing threshold at 4000 Hz (22). Thus the age-corrected threshold shift would be 17 dB (as opposed to a threshold shift of 20 dB without age correction).

TABLE F-1 - AGE CORRECTION VALUES IN DECIBELS FOR MALES

Years	Audiometric Test Frequency (Hz)				
	1000	2000	3000	4000	6000
20 or younger...	5	3	4	5	8
21	5	3	4	5	8
22	5	3	4	5	8
23	5	3	4	6	9
24	5	3	5	6	9
25	5	3	5	7	10
26	5	4	5	7	10
27	5	4	6	7	11
28	6	4	6	8	11
29	6	4	6	8	12
30	6	4	6	9	12
31	6	4	7	9	13
32	6	5	7	10	14
33	6	5	7	10	14
34	6	5	8	11	15
35	7	5	8	11	15
36	7	5	9	12	16
37	7	6	9	12	17
38	7	6	9	13	17

39	7	6	10	14	18
40	7	6	10	14	19
41	7	6	10	14	20
42	8	7	11	16	20
43	8	7	12	16	21
44	8	7	12	17	22
45	8	7	13	18	23
46	8	8	13	19	24
47	8	8	14	19	24
48	9	8	14	20	25
49	9	9	15	21	26
50	9	9	16	22	27
51	9	9	16	23	28
52	9	10	17	24	29
53	9	10	18	25	30
54	10	10	18	26	31
55	10	11	19	27	32
56	10	11	20	28	34
57	10	11	21	29	35
58	10	12	22	31	36
59	11	12	22	32	37
60 or older	11	13	23	33	38

TABLE F-2 - AGE CORRECTION VALUES IN DECIBELS FOR FEMALES

Years	Audiometric Test Frequency (Hz)				
	1000	2000	3000	4000	6000
20 or younger...	7	4	3	3	6
21	7	4	4	3	6
22	7	4	4	4	6
23	7	5	4	4	7
24	7	5	4	4	7
25	8	5	4	4	7
26	8	5	5	4	8
27	8	5	5	5	8
28	8	5	5	5	8
29	8	5	5	5	9
30	8	6	5	5	9
31	8	6	6	5	9

32	9	6	6	6	10
33	9	6	6	6	10
34	9	6	6	6	10
35	9	6	7	7	11
36	9	7	7	7	11
37	9	7	7	7	12
38	10	7	7	7	12
39	10	7	8	8	12
40	10	7	8	8	13
41	10	8	8	8	13
42	10	8	9	9	13
43	11	8	9	9	14
44	11	8	9	9	14
45	11	8	10	10	15
46	11	9	10	10	15
47	11	9	10	11	16
48	12	9	11	11	16
49	12	9	11	11	16
50	12	10	11	12	17
51	12	10	12	12	17
52	12	10	12	13	18
53	13	10	13	13	18
54	13	11	13	14	19
55	13	11	14	14	19
56	13	11	14	15	20
57	13	11	15	15	20
58	14	12	15	16	21
59	14	12	16	16	21
60 or older	14	12	16	17	22

1910.95 App G - Monitoring noise levels non-mandatory informational appendix

This appendix provides information to help employers comply with the noise monitoring obligations that are part of the hearing conservation amendment.

WHAT IS THE PURPOSE OF NOISE MONITORING?

This revised amendment requires that employees be placed in a hearing conservation program if they are exposed to average noise levels of 85 dB or greater during an 8 hour workday. In order to determine if exposures are at or above this level, it may be necessary to measure or monitor the actual noise levels in the workplace and to estimate the noise exposure or "dose" received by employees during the workday.

WHEN IS IT NECESSARY TO IMPLEMENT A NOISE MONITORING PROGRAM?

It is not necessary for every employer to measure workplace noise. Noise monitoring or measuring must be conducted only when exposures are at or above 85 dB. Factors which suggest that noise exposures in the workplace may be at this level include employee complaints about the loudness of noise, indications that employees are losing their hearing, or noisy conditions which make normal conversation difficult. The employer should also consider any information available regarding noise emitted from specific machines. In addition, actual workplace noise measurements can suggest whether or not a monitoring program should be initiated.

HOW IS NOISE MEASURED?

Basically, there are two different instruments to measure noise exposures: the sound level meter and the dosimeter. A sound level meter is a device that measures the intensity of sound at a given moment. Since sound level meters provide a measure of sound intensity at only one point in time, it is generally necessary to take a number of measurements at different times during the day to estimate noise exposure over a workday. If noise levels fluctuate, the amount of time noise remains at each of the various measured levels must be determined.

To estimate employee noise exposures with a sound level meter it is also generally necessary to take several measurements at different locations within the workplace. After appropriate sound level meter readings are obtained, people sometimes draw "maps" of the sound levels within different areas of the workplace. By using a sound level "map" and information on employee locations throughout the day, estimates of individual exposure levels can be developed. This measurement method is generally referred to as "area" noise monitoring.

A dosimeter is like a sound level meter except that it stores sound level measurements and integrates these measurements over time, providing an average noise exposure reading for a given period of time, such as an 8-hour workday. With a dosimeter, a microphone is attached to the employee's clothing and the exposure measurement is simply read at the end of the desired time period. A reader may be used to read-out the dosimeter's measurements.

Since the dosimeter is worn by the employee, it measures noise levels in those locations in which the employee travels. A sound level meter can also be positioned within the immediate vicinity of the exposed worker to obtain an individual exposure estimate. Such procedures are generally referred to as "personal" noise monitoring.

Area monitoring can be used to estimate noise exposure when the noise levels are relatively constant and employees are not mobile. In workplaces where employees move about in different areas or where the noise intensity tends to fluctuate over time, noise exposure is generally more accurately estimated by the personal monitoring approach.

In situations where personal monitoring is appropriate, proper positioning of the microphone is necessary to obtain accurate measurements. With a dosimeter, the microphone is generally located on the shoulder and remains in that position for the entire workday. With a sound level meter, the microphone is stationed

near the employee's head, and the instrument is usually held by an individual who follows the employee as he or she moves about.

Manufacturer's instructions, contained in dosimeter and sound level meter operating manuals, should be followed for calibration and maintenance. To ensure accurate results, it is considered good professional practice to calibrate instruments before and after each use.

HOW OFTEN IS IT NECESSARY TO MONITOR NOISE LEVELS?

The amendment requires that when there are significant changes in machinery or production processes that may result in increased noise levels, remonitoring must be conducted to determine whether additional employees need to be included in the hearing conservation program. Many companies choose to remonitor periodically (once every year or two) to ensure that all exposed employees are included in their hearing conservation programs.

WHERE CAN EQUIPMENT AND TECHNICAL ADVICE BE OBTAINED?

Noise monitoring equipment may be either purchased or rented. Sound level meters cost about $500 to $1,000, while dosimeters range in price from about $750 to $1,500. Smaller companies may find it more economical to rent equipment rather than to purchase it. Names of equipment suppliers may be found in the telephone book (Yellow Pages) under headings such as: "Safety Equipment," "Industrial Hygiene," or "Engineers-Acoustical." In addition to providing information on obtaining noise monitoring equipment, many companies and individuals included under such listings can provide professional advice on how to conduct a valid noise monitoring program. Some audiological testing firms and industrial hygiene firms also provide noise monitoring services. Universities with audiology, industrial hygiene, or acoustical engineering departments may also provide information or may be able to help employers meet their obligations under this amendment.

Free, on-site assistance may be obtained from OSHA-supported state and private consultation organizations. These safety and health consultative entities generally give priority to the needs of small businesses.

1910.95 App H - Availability of referenced documents

Paragraphs (c) through (o) of 29 CFR 1910.95 and the accompanying appendices contain provisions which incorporate publications by reference. Generally, the publications provide criteria for instruments to be used in monitoring and audiometric testing. These criteria are intended to be mandatory when so indicated in the applicable paragraphs of 1910.95 and appendices.

It should be noted that OSHA does not require that employers purchase a copy of the referenced publications. Employers, however, may desire to obtain a copy of the referenced publications for their own information.

The designation of the paragraph of the standard in which the referenced publications appear, the titles of the publications, and the availability of the publications are as follows:

Paragraph designation	Referenced publication	Available from --
Appendix B	"List of Personal Hearing Protectors and Attenuation Data," HEW Pub. No. 76-120, 1975. NTIS-PB267461.	National Technical Information Service, Port Royal Road, Springfield, VA 22161.

Appendix D ..... "Specification for Sound Level Meters," S1.4-1971 (R1976).	American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
1910.95(k)(2),	
Appendix E ... "Specifications for Audiometers," S3.6-1969. 1430	American National Standards Institute, Inc., Broadway, New York, NY 10018.
Appendix D ..... "Specification for Octave, Half-Octave and Third-Octave Band Filter Sets," S1.11-1971 (R1976).	Back Numbers Department, Dept. STD, American Institute ofPhysics, 333 E. 45th St., New York, NY 10017; American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

The referenced publications (or a microfiche of the publications) are available for review at many universities and public libraries throughout the country. These publications may also be examined at the OSHA Technical Data Center, Room N2439, United States Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210, (202) 219-7500 or at any OSHA Regional Office (see telephone directories under United States Government - Labor Department).

1910.95 App I - Definitions

These definitions apply to the following terms as used in paragraphs (c) through (n) of 29 CFR 1910.95.

Action level - An 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.
Audiogram - A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.
Audiologist - A professional, specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.
Baseline audiogram - The audiogram against which future audiograms are compared.
Criterion sound level - A sound level of 90 decibels.
Decibel (dB) - Unit of measurement of sound level.
Hertz (Hz) - Unit of measurement of frequency, numerically equal to cycles per second.
Medical pathology - A disorder or disease. For purposes of this regulation, a condition or disease affecting the ear, which should be treated by a physician specialist.
Noise dose - The ratio, expressed as a percentage, of (1) the time integral, over a stated time or event, of the 0.6 power of the measured SLOW exponential time-averaged, squared A-weighted sound pressure and (2) the product of the criterion duration (8 hours) and the 0.6 power of the squared sound pressure corresponding to the criterion sound level (90 dB).
Noise dosimeter - An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.
Otolaryngologist - A physician specializing in diagnosis and treatment of disorders of the ear, nose and throat.
Representative exposure - Measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employers deem to be representative of the exposures of other employees in the workplace.
Sound level - Ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals. Unit: decibels (dB). For use with this regulation, SLOW time response, in accordance with ANSI S1.4-1971 (R1976), is required.
Sound level meter - An instrument for the measurement of sound level.
Time-weighted average sound level - That sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.

OSHA STANDARD

1910.1020

Access to employee exposure and medical records

1910.1020
Access to employee exposure and medical records..

Interpretation(s)
1910.1020 (a) "Purpose." The purpose of this section is to provide employees and their designated representatives a right of access to relevant exposure and medical records; and to provide representatives of the Assistant Secretary a right of access to these records in order to fulfill responsibilities under the Occupational Safety and Health Act. Access by employees, their representatives, and the Assistant Secretary is necessary to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational disease. Each employer is responsible for assuring compliance with this section, but the activities involved in complying with the access to medical records provisions can be carried out, on behalf of the employer, by the physician or other health care personnel in charge of employee medical records. Except as expressly provided, nothing in this section is intended to affect existing legal and ethical obligations concerning the maintenance and confidentiality of employee medical information, the duty to disclose information to a patient/employee or any other aspect of the medical-care relationship, or affect existing legal obligations concerning the protection of trade secret information.
1910.1020(b) "Scope and application."
1910.1020 (b)(1) This section applies to each general industry, maritime, and construction employer who makes, maintains, contracts for, or has access to employee exposure or medical records, or analyses thereof, pertaining to employees exposed to toxic substances or harmful physical agents.
1910.1020 (b)(2) This section applies to all employee exposure and medical records, and analyses thereof, of such employees, whether or not the records are mandated by specific occupational safety and health standards.
1910.1020 (b)(3) This section applies to all employee exposure and medical records, and analyses thereof, made or maintained in any manner, including on an in-house or contractual (e.g., fee-for-service) basis. Each employer shall assure that the preservation and access requirements of this section are complied with regardless of the manner in which records are made or maintained.
1910.1020 (c) "Definitions."
1910.1020 (c)(1) "Access" means the right and opportunity to examine and copy.
1910.1020 (c)(2) "Analysis using exposure or medical records" means any compilation of data or any statistical study based at least in part on information collected from individual employee exposure or medical records or information collected from health insurance claims records, provided that either the analysis has been reported to the employer or no further work is currently being done by the person responsible for preparing the analysis.
1910.1020(c)(3) "Designated representative" means any individual or organization to whom an employee gives written authorization to exercise a right of access. For the purposes of access to employee exposure records and analyses using exposure or medical records, a recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.
1910.1020 (c)(4) "Employee" means a current employee, a former employee, or an employee being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents. In the case of a deceased or legally incapacitated employee, the employee's legal representative may directly exercise all the employee's rights under this section.
1910.1020 (c)(5) "Employee exposure record" means a record containing any of the following kinds of information:
1910.1020 (c)(5)(i) Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;
1910.1020 (c)(5)(ii) Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;
1910.1020(c)(5)(iii) Material safety data sheets indicating that the material may pose a hazard to human health; or
1910.1020 (c)(5)(iv) In the absence of the above, a chemical inventory or any other record which reveals where and when used and the identity (e.g., chemical, common, or trade name) of a toxic substance or harmful physical agent.
1910.1020 (c)(6)(i) "Employee medical record" means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician, including:
1910.1020 (c)(6)(i)(A) Medical and employment questionnaires or histories (including job description and occupational exposures),
1910.1020 (c)(6)(i)(B) The results of medical examinations (pre-employment, pre-assignment, periodic, or episodic) and laboratory tests (including chest and other X-ray examinations taken for the purpose of establishing a base-line or detecting occupational illnesses and all biological monitoring not defined as an "employee exposure record"),

1910.1020 (c)(6)(i)(C) Medical opinions, diagnoses, progress notes, and recommendations,
1910.1020 (c)(6)(i)(D) First aid records,
1910.1020 (c)(6)(i)(E) Descriptions of treatments and prescriptions, and
1910.1020 (c)(6)(i)(F) Employee medical complaints.
1910.1020 (c)(6)(ii) "Employee medical record" does not include medical information in the form of:
1910.1020 (c)(6)(ii)(A) Physical specimens (e.g., blood or urine samples) which are routinely discarded as a part of normal medical practice, or
1910.1020 (c)(6)(ii)(B) Records concerning health insurance claims if maintained separately from the employer's medical program and its records, and not accessible to the employer by employee name or other direct personal identifier (e.g., social security number, payroll number, etc.), or
1910.1020 (c)(6)(ii)(C) Records created solely in preparation for litigation which are privileged from discovery under the applicable rules of procedure or evidence; or
1910.1020 (c)(6)(ii)(D) Records concerning voluntary employee assistance programs (alcohol, drug abuse, or personal counseling programs) if maintained separately from the employer's medical program and its records.
1910.1020 (c)(7) "Employer" means a current employer, a former employer, or a successor employer.
1910.1020 (c)(8) "Exposure" or "exposed" means that an employee is subjected to a toxic substance or harmful physical agent in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), and includes past exposure and potential (e.g., accidental or possible) exposure, but does not include situations where the employer can demonstrate that the toxic substance or harmful physical agent is not used, handled, stored, generated, or present in the workplace in any manner different from typical non-occupational situations.
1910.1020 (c)(9) " Health Professional" means a physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist, providing medical or other occupational health services to exposed employees.
1910.1020 (c)(10) "Record" means any item, collection, or grouping of information regardless of the form or process by which it is maintained (e.g., paper document, microfiche, microfilm, X-ray film, or automated data processing).
1910.1020 (c)(11) "Specific chemical identity" means a chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.
1910.1020 (c)(12)(i) "Specific written consent" means a written authorization containing the following:
1910.1020 (c)(12)(i)(A) The name and signature of the employee authorizing the release of medical information,
1910.1020 (c)(12)(i)(B) The date of the written authorization,
1910.1020 (c)(12)(i)(C) The name of the individual or organization that is authorized to release the medical information,
1910.1020 (c)(12)(i)(D) The name of the designated representative (individual or organization) that is authorized to receive the released information,
1910.1020 (c)(12)(i)(E) A general description of the medical information that is authorized to be released,
1910.1020 (c)(12)(i)(F) A general description of the purpose for the release of the medical information, and
1910.1020 (c)(12)(i)(G) A date or condition upon which the written authorization will expire (if less than one year).
1910.1020 (c)(12)(ii) A written authorization does not operate to authorize the release of medical information not in existence on the date of written authorization, unless the release of future information is expressly authorized, and does not operate for more than one year from the date of written authorization.
1910.1020 (c)(12)(iii) A written authorization may be revoked in writing prospectively at any time.
1910.1020 (c)(13) "Toxic substance or harmful physical agent" means any chemical substance, biological agent (bacteria, virus, fungus, etc.), or physical stress (noise, heat, cold, vibration, repetitive motion, ionizing and non-ionizing radiation, hypo - or hyperbaric pressure, etc.) which:
1910.1020 (c)(13)(i) Is listed in the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) which is incorporated by reference as specified in Sec. 1910.6; or
1910.1020 (c)(13)(ii) Has yielded positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer; or
1910.1020 (c)(13)(iii) Is the subject of a material safety data sheet kept by or known to the employer indicating that the material may pose a hazard to human health.
1910.1020 (c)(14) "Trade secret" means any confidential formula, pattern, process, device, or information or compilation of information that is used in an employer's business and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.
1910.1020 (d) "Preservation of records."
1910.1020 (d)(1) Unless a specific occupational safety and health standard provides a different period of time, each employer shall assure the preservation and retention of records as follows:

1910.1020 (d)(1)(i) "Employee medical records." The medical record for each employee shall be preserved and maintained for at least the duration of employment plus thirty (30) years, except that the following types of records need not be retained for any specified period:
1910.1020 (d)(1)(i)(A) Health insurance claims records maintained separately from the employer's medical program and its records,
1910.1020 (d)(1)(i)(B) First aid records (not including medical histories) of one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and the like which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job, if made on-site by a non-physician and if maintained separately from the employer's medical program and its records, and
1910.1020(d)(1)(i)(C) The medical records of employees who have worked for less than (1) year for the employer need not be retained beyond the term of employment if they are provided to the employee upon the termination of employment.
1910.1020 (d)(1)(ii) "Employee exposure records." Each employee exposure record shall be preserved and maintained for at least thirty (30) years, except that:
1910.1020 (d)(1)(ii)(A) Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and worksheets, need only be retained for one (1) year so long as the sampling results, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained, are retained for at least thirty (30) years; and
1910.1020 (d)(1)(ii)(B) Material safety data sheets and paragraph (c)(5)(iv) records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years(1); and

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Footnote(1) Material safety data sheets must be kept for those chemicals currently in use that are effected by the Hazard Communication Standard in accordance with 29 CFR 1910.1200(g).

1910.1020 (d)(1)(ii)(C) Biological monitoring results designated as exposure records by specific occupational safety and health standards shall be preserved and maintained as required by the specific standard.
1910.1020(d)(1)(iii) "Analyses using exposure or medical records." Each analysis using exposure or medical records shall be preserved and maintained for at least thirty (30) years.
1910.1020 (d)(2) Nothing in this section is intended to mandate the form, manner, or process by which an employer preserves a record so long as the information contained in the record is preserved and retrievable, except that chest X-ray films shall be preserved in their original state.
1910.1020 (e) "Access to records" -
1910.1020 (e)(1) "General."
1910.1020 (e)(1)(i) Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place, and manner. If the employer cannot reasonably provide access to the record within fifteen (15) working days, the employer shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available
1910.1020 (e)(1)(ii) The employer may require of the requester only such information as should be readily known to the requester and which may be necessary to locate or identify the records being requested (e.g. dates and locations where the employee worked during the time period in question).
1910.1020 (e)(1)(iii) Whenever an employee or designated representative requests a copy of a record, the employer shall assure that either:
1910.1020 (e)(1)(iii)(A) A copy of the record is provided without cost to the employee or representative,
1910.1020 (e)(1)(iii)(B) The necessary mechanical copying facilities (e.g., photocopying) are made available without cost to the employee or representative for copying the record, or
1910.1020 (e)(1)(iii)(C) The record is loaned to the employee or representative for a reasonable time to enable a copy to be made.
1910.1020 (e)(1)(iv) In the case of an original X-ray, the employer may restrict access to on-site examination or make other suitable arrangements for the temporary loan of the X-ray.
1910.1020 (e)(1)(v) Whenever a record has been previously provided without cost to an employee or designated representative, the employer may charge reasonable, non-discriminatory administrative costs (i.e., search and copying expenses but not including overhead expenses) for a request by the employee or designated representative for additional copies of the record, except that
1910.1020(e)(1)(v)(A) An employer shall not charge for an initial request for a copy of new information that has been added to a record which was previously provided; and

1910.1020 (e)(1)(v)(B) An employer shall not charge for an initial request by a recognized or certified collective bargaining agent for a copy of an employee exposure record or an analysis using exposure or medical records.
1910.1020 (e)(1)(vi) Nothing in this section is intended to preclude employees and collective bargaining agents from collectively bargaining to obtain access to information in addition to that available under this section.
1910.1020 (e)(2) "Employee and designated representative access" -
1910.1020 (e)(2)(i) "Employee exposure records."
1910.1020 (e)(2)(i)(A) Except as limited by paragraph (f) of this section, each employer shall, upon request, assure the access to each employee and designated representative to employee exposure records relevant to the employee. For the purpose of this section, an exposure record relevant to the employee consists of:
1910.1020 (e)(2)(i)(A)(1) A record which measures or monitors the amount of a toxic substance or harmful physical agent to which the employee is or has been exposed;
1910.1020 (e)(2)(i)(A)(2) In the absence of such directly relevant records, such records of other employees with past or present job duties or working conditions related to or similar to those of the employee to the extent necessary to reasonably indicate the amount and nature of the toxic substances or harmful physical agents to which the employee is or has been subjected, and
1910.1020 (e)(2)(i)(A)(3) Exposure records to the extent necessary to reasonably indicate the amount and nature of the toxic substances or harmful physical agents at workplaces or under working conditions to which the employee is being assigned or transferred.
1910.1020 (e)(2)(i)(B) Requests by designated representatives for unconsented access to employee exposure records shall be in writing and shall specify with reasonable particularity:
1910.1020 (e)(2)(i)(B)(1) The record requested to be disclosed; and
1910.1020 (e)(2)(i)(B)(2) The occupational health need for gaining access to these records.
1910.1020 (e)(2)(ii) "Employee medical records."
1910.1020 (e)(2)(ii)(A) Each employer shall, upon request, assure the access of each employee to employee medical records of which the employee is the subject, except as provided in paragraph (e)(2)(ii)(D) of this section.
1910.1020(e)(2)(ii)(B) Each employer shall, upon request, assure the access of each designated representative to the employee medical records of any employee who has given the designated representative specific written consent. Appendix A to this section contains a sample form which may be used to establish specific written consent for access to employee medical records.
1910.1020 (e)(2)(ii)(C) Whenever access to employee medical records is requested, a physician representing the employer may recommend that the employee or designated representative:
1910.1020 (e)(2)(ii)(C)(1) Consult with the physician for the purposes of reviewing and discussing the records requested,
1910.1020 (e)(2)(ii)(C)(2) Accept a summary of material facts and opinions in lieu of the records requested, or
1910.1020 (e)(2)(ii)(C)(3) Accept release of the requested records only to a physician or other designated representative.
1910.1020(e)(2)(ii)(D) Whenever an employee requests access to his or her employee medical records, and a physician representing the employer believes that direct employee access to information contained in the records regarding a specific diagnosis of a terminal illness or a psychiatric condition could be detrimental to the employee's health, the employer may inform the employee that access will only be provided to a designated representative of the employee having specific written consent, and deny the employee's request for direct access to this information only. Where a designated representative with specific written consent requests access to information so withheld, the employer shall assure the access of the designated representative to this information, even when it is known that the designated representative will give the information to the employee.
1910.1020 (e)(2)(ii)(E) A physician, nurse, or other responsible health care personnel maintaining employee medical records may delete from requested medical records the identity of a family member, personal friend, or fellow employee who has provided confidential information concerning an employee's health status.
1910.1020 (e)(2)(iii) Analyses using exposure or medical records.
1910.1020 (e)(2)(iii)(A) Each employer shall, upon request, assure the access of each employee and designated representative to each analysis using exposure or medical records concerning the employee's working conditions or workplace.
1910.1020(e)(2)(iii)(B) Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), the employer shall assure that personal identifiers are removed before access is provided. If the employer can demonstrate that removal of personal identifiers from an analysis is not feasible, access to the personally identifiable portions of the analysis need not be provided.
1910.1020 (e)(3) "OSHA access."

1910.1020 (e)(3)(i) Each employer shall, upon request, and without derogation of any rights under the Constitution or the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 "et
that the employer chooses to exercise, assure the prompt access of representatives of the Assistant Secretary of Labor for Occupational Safety and Health to employee exposure and medical records and to analyses using exposure or medical records. Rules of agency practice and procedure governing OSHA access to employee medical records are contained in 29 CFR 1913.10.
1910.1020 (e)(3)(ii) Whenever OSHA seeks access to personally identifiable employee medical information by presenting to the employer a written access order pursuant to 29 CFR 1913.10(d), the employer shall prominently post a copy of the written access order and its accompanying cover letter for at least fifteen (15) working days.
1910.1020(f) "Trade secrets."
1910.1020 (f)(1) Except as provided in paragraph (f)(2) of this section, nothing in this section precludes an employer from deleting from records requested by a health professional, employee, or designated representative any trade secret data which discloses manufacturing processes, or discloses the percentage of a chemical substance in mixture, as long as the health professional, employee, or designated representative is notified that information has been deleted. Whenever deletion of trade secret information substantially impairs evaluation of the place where or the time when exposure to a toxic substance or harmful physical agent occurred, the employer shall provide alternative information which is sufficient to permit the requesting party to identify where and when exposure occurred.
1910.1020 (f)(2) The employer may withhold the specific chemical identity, including the chemical name and other specific identification of a toxic substance from a disclosable record provided that:
1910.1020 (f)(2)(i) The claim that the information withheld is a trade secret can be supported;
1910.1020 (f)(2)(ii) All other available information on the properties and effects of the toxic substance is disclosed;
1910.1020 (f)(2)(iii) The employer informs the requesting party that the specific chemical identity is being withheld as a trade secret; and
1910.1020 (f)(2)(iv) The specific chemical identity is made available to health professionals, employees and designated representatives in accordance with the specific applicable provisions of this paragraph.
1910.1020 (f)(3) Where a treating physician or nurse determines that a medical emergency exists and the specific chemical identity of a toxic substance is necessary for emergency or first-aid treatment, the employer shall immediately disclose the specific chemical identity of a trade secret chemical to the treating physician or nurse, regardless of the existence of a written statement of need or a confidentiality agreement. The employer may require a written statement of need and confidentiality agreement, in accordance with the provisions of paragraphs (f)(4) and (f)(5), as soon as circumstances permit.
1910.1020 (f)(4) In non-emergency situations, an employer shall, upon request, disclose a specific chemical identity, otherwise permitted to be withheld under paragraph (f)(2) of this section, to a health professional, employee, or designated representative if:
1910.1020 (f)(4)(i) The request is in writing;
1910.1020 (f)(4)(ii) The request describes with reasonable detail one or more of the following occupational health needs for the information:
1910.1020 (f)(4)(ii)(A) To assess the hazards of the chemicals to which employees will be exposed;
1910.1020 (f)(4)(ii)(B) To conduct or assess sampling of the workplace atmosphere to determine employee exposure levels;
1910.1020 (f)(4)(ii)(C) To conduct pre-assignment or periodic medical surveillance of exposed employees;
1910.1020 (f)(4)(ii)(D) To provide medical treatment to exposed employees;
1910.1020 (f)(4)(ii)(E) To select or assess appropriate personal protective equipment for exposed employees;
1910.1020 (f)(4)(ii)(F) To design or assess engineering controls or other protective measures for exposed employees; and
1910.1020 (f)(4)(ii)(G) To conduct studies to determine the health effects of exposure.
1910.1020 (f)(4)(iii) The request explains in detail why the disclosure of the specific chemical identity is essential and that, in lieu thereof, the disclosure of the following information would not enable the health professional, employee or designated representative to provide the occupational health services described in paragraph (f)(4)(ii) of this section;
1910.1020 (f)(4)(iii)(A) The properties and effects of the chemical;
1910.1020 (f)(4)(iii)(B) Measures for controlling workers' exposure to the chemical;
1910.1020 (f)(4)(iii)(C) Methods of monitoring and analyzing worker exposure to the chemical; and
1910.1020 (f)(4)(iii)(D) Methods of diagnosing and treating harmful exposures to the chemical;
1910.1020 (f)(4)(iv) The request includes a description of the procedures to be used to maintain the confidentiality of the disclosed information; and
1910.1020(f)(4)(v) The health professional, employee, or designated representative and the employer or contractor of the services of the health professional or designated representative agree in a written confidentiality agreement that the

health professional, employee or designated representative will not use the trade secret information for any purpose other than the health need(s) asserted and agree not to release the information under any circumstances other than to OSHA, as provided in paragraph (f)(9) of this section, except as authorized by the terms of the agreement or by the employer.
1910.1020 (f)(5) The confidentiality agreement authorized by paragraph (f)(4)(iv) of this section:
1910.1020 (f)(5)(i) May restrict the use of the information to the health purposes indicated in the written statement of need;
1910.1020 (f)(5)(ii) May provide for appropriate legal remedies in the event of a breach of the agreement, including stipulation of a reasonable pre-estimate of likely damages; and,
1910.1020 (f)(5)(iii) May not include requirements for the posting of a penalty bond.
1910.1020 (f)(6) Nothing in this section is meant to preclude the parties from pursuing non-contractual remedies to the extent permitted by law.
1910.1020 (f)(7) If the health professional, employee or designated representative receiving the trade secret information decides that there is a need to disclose it to OSHA, the employer who provided the information shall be informed by the health professional prior to, or at the same time as, such disclosure.
1910.1020 (f)(8) If the employer denies a written request for disclosure of a specific chemical identity, the denial must:
1910.1020 (f)(8)(i) Be provided to the health professional, employee or designated representative within thirty days of the request;
1910.1020 (f)(8)(ii) Be in writing;
1910.1020 (f)(8)(iii) Include evidence to support the claim that the specific chemical identity is a trade secret;
1910.1020 (f)(8)(iv) State the specific reasons why the request is being denied; and,
1910.1020 (f)(8)(v) Explain in detail how alternative information may satisfy the specific medical or occupational health need without revealing the specific chemical identity.
1910.1020 (f)(9) The health professional, employee, or designated representative whose request for information is denied under paragraph (f)(4) of this section may refer the request and the written denial of the request to OSHA for consideration.
1910.1020 (f)(10) When a health professional, employee, or designated representative refers a denial to OSHA under paragraph **1910.1020** (f)(9) of this section, OSHA shall consider the evidence to determine if:
1910.1020(f)(10)(i) The employer has supported the claim that the specific chemical identity is a trade secret;
1910.1020 (f)(10)(ii) The health professional employee, or designated representative has supported the claim that there is a medical or occupational health need for the information; and
1910.1020 (f)(10)(iii) The health professional, employee or designated representative has demonstrated adequate means to protect the confidentiality.
1910.1020 (f)(11) (i) If OSHA determines that the specific chemical identity requested under paragraph (f)(4) of this section is not a "bona fide" trade secret, or that it is a trade secret but the requesting health professional, employee or designated representatives has a legitimate medical or occupational health need for the information, has executed a written confidentiality agreement, and has shown adequate means for complying with the terms of such agreement, the employer will be subject to citation by OSHA.
1910.1020 (f)(11)(ii) If an employer demonstrates to OSHA that the execution of a confidentiality agreement would not provide sufficient protection against the potential harm from the unauthorized disclosure of a trade secret specific chemical identity, the Assistant Secretary may issue such orders or impose such additional limitations or conditions upon the disclosure of the requested chemical information as may be appropriate to assure that the occupational health needs are met without an undue risk of harm to the employer.
1910.1020 (f)(12) Notwithstanding the existence of a trade secret claim, an employer shall, upon request, disclose to the Assistant Secretary any information which this section requires the employer to make available. Where there is a trade secret claim, such claim shall be made no later than at the time the information is provided to the Assistant Secretary so that suitable determinations of trade secret status can be made and the necessary protections can be implemented.
1910.1020 (f)(13) Nothing in this paragraph shall be construed as requiring the disclosure under any circumstances of process or percentage of mixture information which is a trade secret.
1910.1020 (g) "Employee information."
(g)(1) Upon an employee's first entering into employment, and at least annually thereafter, each employer shall inform current employees covered by this section of the following:
1910.1020 (g)(1)(i) The existence, location, and availability of any records covered by this section;
1910.1020 (g)(1)(ii) The person responsible for maintaining and providing access to records; and
1910.1020(g)(1)(iii) Each employee's rights of access to these records.
1910.1020 (g)(2) Each employer shall keep a copy of this section and its appendices, and make copies readily available, upon request, to employees. The employer shall also distribute to current employees any informational materials

concerning this section which are made available to the employer by the Assistant Secretary of Labor for Occupational Safety and Health.
1910.1020 (h) "Transfer of records."
1910.1020 (h)(1) Whenever an employer is ceasing to do business, the employer shall transfer all records subject to this section to the successor employer. The successor employer shall receive and maintain these records.
1910.1020 (h)(2) Whenever an employer is ceasing to do business and there is no successor employer to receive and maintain the records subject to this standard, the employer shall notify affected current employees of their rights of access to records at least three (3) months prior to the cessation of the employer's business.
1910.1020 (h)(3) Whenever an employer either is ceasing to do business and there is no successor employer to receive and maintain the records, or intends to dispose of any records required to be preserved for at least thirty (30) years, the employer shall:
1910.1020(h)(3)(i) Transfer the records to the Director of the National Institute for Occupational Safety and Health (NIOSH) if so required by a specific occupational safety and health standard; or
1910.1020 (h)(3)(ii) Notify the Director of NIOSH in writing of the impending disposal of records at least three(3) months prior to the disposal of the records.
1910.1020 (h)(4) Where an employer regularly disposes of records required to be preserved for at least thirty (30) years, the employer may, with at least (3) months notice, notify the Director of NIOSH on an annual basis of the records intended to be disposed of in the coming year.

1910.1020 App A - Sample authorization letter for the release of employee medical record information to a designated representative (Non-mandatory)

I, _____, (full name of worker/patient) hereby authorize _____ (individual or organization holding the medical records) to release to _____ (individual or organization authorized to receive the medical information), the following medical information from my personal medical records:

_____
_____

(Describe generally the information desired to be released).

I give my permission for this medical information to be used for the following purpose:

_____
_____

but I do not give permission for any other use or re-disclosure of this information.

(Note: Several extra lines are provided below so that you can place additional restrictions on this authorization letter if you want to. You may, however, leave these lines blank. On the other hand, you may want to (1) specify a particular expiration date for this letter (if less than one year); (2) describe medical information to be created in the future that you intend to be covered by this authorization letter; or (3) describe portions of the medical information in your records which you do not intend to be released as a result of this letter.)

_____
_____
_____
_____

Full name of Employee or Legal Representative

_____

Signature of Employee or Legal Representative

_____

Date of Signature

1910.1020 App B - Availability of NIOSH Registry of Toxic Ee\ffects of Chemical Substances (RTECS)(Non-mandatory)

The final standard, 29 CFR **1910.1020**, applies to all employee exposure and medical records, and analyses thereof, of employees exposed to toxic substances or harmful physical agents (paragraph (b)(2)). The term "toxic substance or harmful physical agent" is defined by paragraph (c)(13) to encompass chemical substances, biological agents, and physical stresses for which there is evidence of harmful health effects. The regulation uses the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) as one of the chief sources of information as to whether evidence of harmful health effects exists. If a substance is listed in the latest printed RTECS, the regulation applies to exposure and medical records (and analyses of these records) relevant to employees exposed to the substance.

It is appropriate to note that the final regulation does not require that employers purchase a copy of RTECS, and many employers need not consult RTECS to ascertain whether their employee exposure or medical records are subject to the rule. Employers who do not currently have the latest printed edition of the NIOSH RTECS, however, may desire to obtain a copy. The RTECS is issued in an annual printed edition as mandated by section 20(a)(6) of the Occupational Safety and Health Act (29 U.S.C. 669(a)(6)).

The introduction to the 1980 printed edition describes the RTECS as follows:
"The 1980 edition of the Registry of Toxic Effects of Chemical Substances, formerly known as the Toxic Substances list, is the ninth revision prepared in compliance with the requirements of Section 20(a)(6) of the Occupational Safety and Health Act of 1970 (Public Law 91-596). The original list was completed on June 28, 1971, and has been updated annually in book format. Beginning in October 1977, quarterly revisions have been provided in microfiche. This edition of the Registry contains 168,096 listings of chemical substances; 45,156 are names of different chemicals with their associated toxicity data and 122,940 are synonyms. This edition includes approximately 5,900 new chemical compounds that did not appear in the 1979 Registry.(p. xi)

"The Registry's purposes are many, and it serves a variety of users. It is a single source document for basic toxicity information and for other data, such as chemical identifiers and information necessary for the preparation of safety directives and hazard evaluations for chemical substances. The various types of toxic effects linked to literature citations provide researchers and occupational health scientists with an introduction to the toxicological literature, making their own review of the toxic hazards of a given substance easier. By presenting data on the lowest reported doses that produce effects by several routes of entry in various species, the Registry furnishes valuable information to those responsible for preparing safety data sheets for chemical substances in the workplace. Chemical and production engineers can use the Registry to identify the hazards which may be associated with chemical intermediates in the development of final products, and thus can more readily select substitutes or alternate processes which may be less hazardous. Some organizations, including health agencies and chemical companies, have included the NIOSH Registry accession numbers with the listing of chemicals in their files to reference toxicity information associated with those chemicals. By including foreign language chemical names, a start has been made toward providing rapid identification of substances produced in other countries.(p xi)

"In this edition of the Registry, the editors intend to identify "all known toxic substances"
which may exist in the environment and to provide pertinent data on the toxic effects from known doses entering an organism by any route described.(p xi)

"It must be reemphasized that the entry of a substance in the Registry does not automatically mean that it must be avoided. A listing does mean, however, that the substance has the documented potential of being harmful if misused, and care must be exercised to prevent tragic consequences. Thus the Registry lists many substances that are common in everyday life and are in nearly every household in the United States. One can name a variety of such dangerous substances: prescription and non-prescription drugs; food additives; pesticide concentrates, sprays, and dusts; fungicides; herbicides, paints; glazes, dyes; bleaches and other household cleaning agents; alkalis; and various solvents and diluents. The list is extensive because chemicals have become an integral part of our existence."

The RTECS printed edition may be purchased from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 (202-783-3238).

Some employers may desire to subscribe to the quarterly update to the RTECS which is published in a microfiche edition. An annual subscription to the quarterly microfiche may be purchased from the GPO (Order the "Microfiche Edition, Registry of Toxic Effects of
Chemical Substances"). Both the printed edition and the microfiche edition of RTECS are available for review at many university and public libraries throughout the country. The latest RTECS editions may also be examined at the OSHA Technical Data Center, Room N2439 - Rear, United States Department of Labor, 200 Constitution Avenue, N.W., Washington, DC 20210 (202-523-9700), or at any OSHA Regional or Area Office (See, major city telephone directories under United States Government - Labor Department).