

# Benzene Operations Procedure

January 2023

## A. Scope and Application

(1) This section applies to all occupational exposures to benzene. Chemical Abstracts Service Registry No. 71-43-2, except as provided in paragraphs (A)(2) and (A)(3) of this section.

(2) This section does not apply to:

(i) The storage, transportation, distribution, dispensing, sale or use of gasoline, motor fuels, or other fuels containing benzene subsequent to its final discharge from bulk wholesale storage facilities, except that operations where gasoline or motor fuels are dispensed for more than 4 hours per day in an indoor location are covered by this section.

(ii) Loading and unloading operations at bulk wholesale storage facilities which use vapor control systems for all loading and unloading operations, except for the provisions of 29 CFR 1910.1200 as incorporated into this section and the emergency provisions of paragraphs (g) and (I)(4) of this section.

(iii) The storage, transportation, distribution or sale of benzene or liquid mixtures containing more than 0.1 percent benzene in intact containers or in transportation pipelines while sealed in such a manner as to contain benzene vapors or liquid, except for the provisions of 29 CFR 1910.1200 as incorporated into this section and the emergency provisions of paragraphs (G) and (I)(4) of this section.

(iv) Containers and pipelines carrying mixtures with less than 0.1 percent benzene and natural gas processing plants processing gas with less than 0.1 percent benzene.

(v) Work operations where the only exposure to benzene is from liquid mixtures containing 0.5 percent or less of benzene by volume, or the vapors released from such liquids until September 12, 1988; work operations where the only exposure to benzene is from liquid mixtures containing 0.3 percent or less of benzene by volume or the vapors released from such liquids from September 12, 1988, to September 12, 1989; and work operations where the only exposure to benzene is from liquid mixtures containing 0.1 percent or less of benzene by volume or the vapors released from such liquids after September 12, 1989; except that tire building machine operators using solvents with more than 0.1 percent benzene are covered by paragraph (I) of this section.

(vi) Oil and gas drilling, production, and servicing operations.

(vii) Coke oven batteries.

(3) The cleaning and repair of barges and tankers which have contained benzene are excluded from paragraph (F) methods of compliance, paragraph (E)(1) exposure monitoring – general, and paragraph (E)(6) accuracy of monitoring. Engineering and work practice controls shall be used to keep exposures below 10 ppm unless it is proven to be not feasible.

## B. Definitions

"Action level" means an airborne concentration of benzene of 0.5 ppm calculated as an 8-hour time-weighted average.

"Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

"Authorized person" means any person specifically authorized by IPS★ITCS whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under paragraph (L) of this section, or any other person authorized by the Act or regulations issued under the Act.

"Benzene" (C<sub>6</sub> H<sub>6</sub>) (CAS Registry No. 71-43-2) means liquefied or gaseous benzene. It includes benzene contained in liquid mixtures and the benzene vapors released by these liquids. It does not include trace amounts of unreacted benzene contained in solid materials.

"Bulk wholesale storage facility" means a bulk terminal or bulk plant where fuel is stored prior to its delivery to wholesale customers.

"Container" means any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or the like, but does not include piping systems.

"Day" means any part of a calendar day.

"Director" means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

"Emergency" means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which may or does result in an unexpected significant release of benzene.

"Employee exposure" means exposure to airborne benzene which would occur if the employee was not using respiratory protective equipment.

"Regulated area" means any area where airborne concentrations of benzene exceed or can reasonably be expected to exceed, the permissible exposure limits, either the 8-hour time weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

"Vapor control system" means any equipment used for containing the total vapors displaced during the loading of gasoline, motor fuel or other fuel tank trucks and the displacing of these vapors through a vapor processing system or balancing the vapor with the storage tank. This equipment also includes systems containing the vapors displaced from the storage tank during the unloading of the tank truck which balance the vapors back to the tank truck.

### **C. Permissible Exposure Limits (PEL)**

(1) Time-weighted average limit (TWA). IPS★ITCS shall assure that no employee is exposed to an airborne concentration of benzene more than one part of benzene per million parts of air (1 ppm) as an 8-hour time-weighted average.

(2) Short-term exposure limit (STEL). IPS★ITCS shall assure that no employee is exposed to an airborne concentration of benzene more than five (5) ppm as averaged over any 15-minute period.

### **D. Regulated Areas**

(1) IPS★ITCS shall establish a regulated area wherever the airborne concentration of benzene exceeds or can reasonably be expected to exceed the permissible exposure limits, either the 8-hour time weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

(2) Access to regulated areas shall be limited to authorized persons.

(3) Regulated areas shall be determined from the rest of the workplace in any manner that minimizes the number of employees exposed to benzene within the regulated area.

### **E. Exposure Monitoring**

(1) General.

(i) Determinations of employee exposure shall be made from breathing zone air samples that are representative of each employee's average exposure to airborne benzene.

(ii) Representative 8-hour TWA employee exposures shall be determined on the basis of one sample or samples representing the full shift exposure for each job classification in each work area.

(iii) Determinations of compliance with the STEL shall be made from 15 minute employee breathing zone samples measured at operations where there is reason to believe exposures are high, such as where tanks are opened, filled, unloaded or gauged; where containers or process equipment are opened and where benzene is used for cleaning or as a solvent in an uncontrolled situation. IPS★ITCS may use objective data, such as measurements from brief period measuring devices, to determine where STEL monitoring is needed.

(iv) Except for initial monitoring as required under paragraph (E)(2) of this section, where IPS★ITCS can document that one shift will consistently have higher employee exposures for an operation, IPS★ITCS shall only be required to determine representative employee exposure for that operation during the shift on which the highest exposure is expected.

(2) Initial monitoring.

(i) Each Company who has a place of employment covered under paragraph (A)(1) of this section shall monitor each of these workplaces and work operations to determine accurately the airborne concentrations of benzene to which employees may be exposed.

(ii) The initial monitoring required under paragraph (E)(2)(i) of this section shall be completed by 60 days after the effective date of this standard or within 30 days of the introduction of benzene into the workplace. Where IPS★ITCS has monitored within one year prior to the effective date of this standard and the monitoring satisfies all other requirements of this section, the Company may rely on such earlier monitoring results to satisfy the requirements of paragraph (E)(2)(i) of this section.

(3) Periodic monitoring and monitoring frequency.

(i) If the monitoring required by paragraph (E)(2)(i) of this section reveals employee exposure at or above the action level but at or below the TWA, IPS★ITCS shall repeat such monitoring for each such employee at least every year.

(ii) If the monitoring required by paragraph (E)(2)(i) of this section reveals employee exposure above the TWA, IPS★ITCS shall repeat such monitoring for each such employee at least every six (6) months.

(iii) IPS★ITCS may alter the monitoring schedule from every six months to annually for any employee for whom two consecutive measurements taken at least 7 days apart indicate that the employee exposure has decreased to the TWA or below but is at or above the action level.

(iv) Monitoring for the STEL shall be repeated as necessary to evaluate exposures of employees subject to short term exposures.

(4) Termination of monitoring.

(i) If the initial monitoring required by paragraph (E)(2)(i) of this section reveals employee exposure to be below the action level IPS★ITCS may discontinue the monitoring for that employee, except as otherwise required by paragraph (E)(5) of this section.

(ii) If the periodic monitoring required by paragraph (E)(3) of this section reveals that employee exposures, as indicated by at least two consecutive measurements taken at least 7 days apart, are below the action level IPS★ITCS may discontinue the monitoring for that employee, except as otherwise required by paragraph (E)(5).

(5) Additional monitoring.

(i) IPS★ITCS shall institute the exposure monitoring required under paragraphs (E)(2) and (E)(3) of this section when there has been a change in the production, process, control equipment, personnel or work practices which may result in new or additional exposures to benzene, or when IPS★ITCS has any reason to suspect a change which may result in new or additional exposures.

(ii) Whenever spills, leaks, ruptures, or other breakdowns occur that may lead to employee exposure, IPS★ITCS shall monitor (using area or personal sampling) after the cleanup of the spill or repair of the leak, rupture or other breakdown to ensure that exposures have returned to the level that existed prior to the incident.

(6) Accuracy of monitoring. Monitoring shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for airborne concentrations of benzene.

(7) Employee notification of monitoring results.

(i) IPS★ITCS shall, within 15-working days after the receipt of the results of any monitoring performed under this standard, notify each employee of these results in writing either individually or by posting of results in an appropriate location that is accessible to affected employees.

(ii) Whenever the PELs are exceeded, the written notification required by paragraph (E)(7)(i) of this section shall contain the corrective action being taken by IPS★ITCS to reduce the employee exposure to or below the PEL or shall refer to a document available to the employee which states the corrective actions to be taken.

## **F. Methods Of Compliance**

(1) Engineering controls and work practices.

(i) IPS★ITCS shall institute engineering controls and work practices to reduce and maintain employee exposure to benzene at or below the permissible exposure limits, except to the extent that IPS★ITCS can establish that these controls are not feasible or where the provisions of paragraph (F)(1)(iii) or (G)(1) of this section apply.

(ii) Wherever the feasible engineering controls and work practices which can be instituted are not sufficient to reduce employee exposure to or below the PELs, IPS★ITCS shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (G) of this section.

(iii) Where IPS★ITCS can document that benzene is used in a workplace less than a total of 30 days per year, IPS★ITCS shall use engineering controls, work practice controls or respiratory protection or any combination of these controls to reduce employee exposure to benzene to or below the PELs, except that IPS★ITCS shall use engineering and work practice controls, if feasible, to reduce exposure to or below 10 ppm as an 8-hour TWA.

(2) Compliance program.

(i) When any exposures are over the PEL, IPS★ITCS shall establish and implement a written program to reduce employee exposure to or below the PEL primarily by means of engineering and work practice controls, as

required by paragraph (F)(1) of this section.

(ii) The written program shall include a schedule for development and implementation of the engineering and work practice controls. These plans shall be reviewed and revised as appropriate based on the most recent exposure monitoring data, to reflect the current status of the program.

(iii) Written compliance programs shall be furnished upon request for examination and copying to the Assistant Secretary, the Director, affected employees and designated employee representatives.

## **G. Respiratory Protection**

(1) General. For employees who use respirators required by this section, IPS★ITCS must provide respirators that comply with the requirements of this paragraph. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering and work-practice controls.

(ii) Work operations for which IPS★ITCS establishes that compliance with either the TWA or STEL through the use of engineering and work-practice controls is not feasible; for example, some maintenance and repair activities, vessel cleaning, or other operations for which engineering, and work-practice controls are infeasible because exposures are intermittent and limited in duration.

(iii) Work operations for which feasible engineering and work-practice controls are not yet sufficient or are not required under paragraph (F)(1)(iii) of this section, to reduce employee exposure to or below the PELs.

(iv) Emergencies.

(2) Respirator program.

(i) IPS★ITCS must implement a respiratory protection program in accordance with 29 CFR 1910.134(b) through (d) (except (d)(1)(iii), (d)(3)(iii)(b)(1), and (2)), and (f) through (m).

(ii) For air-purifying respirators, IPS★ITCS must replace the air-purifying element at the expiration of its service life or at the beginning of each shift in which such elements are used, whichever comes first.

(iii) If NIOSH approves an air-purifying element with an end-of-service-life indicator for benzene, such an element may be used until the indicator shows no further useful life.

(3) Respirator selection.

(i) IPS★ITCS must select the appropriate respirator from Table 1 of this section.

- (ii) Any employees who cannot use a negative-pressure respirator must be allowed to use a respirator with less breathing resistance, such as a powered air purifying respirator or supplied-air respirator.

**Table 1. Respiratory Protection for Benzene**

Airborne concentration of Benzene or condition of use	Respirator type
Less than or equal to 10 ppm	(1) Half-mask air-purifying respirator with organic vapor cartridge.
Less than or equal to 50 ppm	(1) Full facepiece respirator with organic vapor cartridges. (1) Full facepiece gas mask with chin style canister. <sup>1</sup>
Less than or equal to 100 ppm	(1) Full facepiece powered air-purifying respirator with organic vapor canister. <sup>1</sup>
Less than or equal to 1,000 ppm	(1) Supplied air respirator with full facepiece in positive-pressure mode.
Greater than 1,000 ppm or unknown concentration	(1) Self-contained breathing apparatus with full facepiece in positive pressure mode. (2) Full facepiece positive-pressure supplied-air respirator with auxiliary self-contained air supply.
Escape	(1) Any organic vapor gas mask; or (2) Any self-contained breathing apparatus with full facepiece.
Firefighting	(1) Full facepiece self-contained breathing apparatus in positive pressure mode.

Canisters must have a minimum service life of four (4) hours when tested at 150 ppm benzene, at a flow rate of 64 LPM, 25° C, and 85% relative humidity for non-powered air purifying respirators. The flow rate shall be 115 LPM and 170 LPM respectively for tight fitting and loose-fitting powered air-purifying respirators.

## H. Protective Clothing and Equipment

### (1) General

- (i) Personal protective clothing and equipment shall be worn where appropriate to prevent eye contact and limit dermal exposure to liquid benzene.
- (ii) Protective clothing and equipment shall be provided by IPS★ITCS at no cost to the employee and IPS★ITCS shall assure its use where appropriate.
- (iii) Eye and face protection shall meet the requirements of 29 CFR 1910.133.

## I. Medical Surveillance

### (1) General

- (i) IPS★ITCS shall make available a medical surveillance program for employees who are or may be exposed to benzene at or above the action level



30 or more days per year; for employees who are or may be exposed to benzene at or above the PELs 10 or more days per year; for employees who have been exposed to more than 10 ppm of benzene for 30 or more days in a year prior to the effective date of the standard when employed by their

current Company and for employees involved in the tire building operations called tire building machine operators, who use solvents containing greater than 0.1 percent benzene.

(ii) IPS★ITCS shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory.

(iii) IPS★ITCS shall assure that persons other than licensed physicians who administer the pulmonary function testing required by this section shall complete a training course in spirometry sponsored by an appropriate governmental, academic, or professional institution.

(iv) IPS★ITCS shall assure that all examinations and procedures are provided without cost to the employee and at a reasonable time and place.

(2) Initial examination

(i) Within 60 days of the effective date of this standard, or before the time of initial assignment, IPS★ITCS shall provide each employee covered by paragraph (1)(1)(i) of this section with a medical examination including the following elements:

(A) A detailed occupational history which includes:

(1) Past work exposure to benzene or any other hematological toxins,

(2) A family history of blood dyscrasias including hematological neoplasms.

(3) A history of blood dyscrasias including genetic hemoglobin abnormalities, bleeding abnormalities, abnormal function of formed blood elements.

(4) A history of renal or liver dysfunction.

(5) A history of medicinal drugs routinely taken.

(6) A history of previous exposure to ionizing radiation and

(7) Exposure to marrow toxins outside of the current work situation.

(B) A complete physical examination

(C) Laboratory tests. A complete blood count including a leukocyte count with differential, a quantitative thrombocyte count, hematocrit, hemoglobin, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC). The results of these tests shall be reviewed by the examining physician.

(D) Additional tests as necessary in the opinion of the examining physician, based on alterations to the components of the blood or other signs which may be related to benzene exposure; and

(E) For all workers required to wear respirators for at least 30 days a year, the physical examination shall pay special attention to the cardiopulmonary system and shall include a pulmonary function test.

(ii) No initial medical examination is required to satisfy the requirements of paragraph (i)(2)(i) of this section if adequate records show that the employee has been examined in accordance with the procedures of paragraph (1)(2)(i) of this section within the twelve months prior to the effective date of this standard.

### (3) Periodic examinations

(i) IPS★ITCS shall provide each employee covered under paragraph (1)(1)(i) of this section with a medical examination annually following the previous examination. These periodic examinations shall include at least the following elements:

(A) A brief history regarding any new exposure to potential marrow toxins, changes in medicinal drug use, and the appearance of physical signs relating to blood disorders:

(B) A complete blood count including a leukocyte count with differential, quantitative thrombocyte count, hemoglobin, hematocrite, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC); and

(C) Appropriate additional tests as necessary, in the opinion of the examining physician, in consequence of alterations in the components of the blood or other signs which may be related to benzene exposure.

(ii) Where the employee develops signs and symptoms commonly associated with toxic exposure to benzene, IPS★ITCS shall provide the employee with an additional medical examination which shall include those elements considered appropriate by the examining physician.

(iii) For persons required to use respirators for at least 30 days a year, a pulmonary function test shall be performed every three (3) years. A specific evaluation of the cardiopulmonary system shall be made at the time of the pulmonary function test.

#### (4) Emergency examinations

(i) In addition to the surveillance required by (I)(1)(i), if an employee is exposed to benzene in an emergency situation, IPS★ITCS shall have the employee provide a urine sample at the end of the employee's shift and have a urinary phenol test performed on the sample within 72 hours. The urine specific gravity shall be corrected to 1.024.

(ii) If the result of the urinary phenol test is below 75 mg phenol/L of urine, no further testing is required.

(iii) If the result of the urinary phenol test is equal to or greater than 75 mg phenol/L of urine, IPS★ITCS shall provide the employee with a complete blood count including an erythrocyte count, leukocyte count with differential and thrombocyte count at monthly intervals for a duration of three (3) months following the emergency exposure.

(iv) If any of the conditions specified in paragraph (I)(5)(i) of this section exists, then the further requirements of paragraph (I)(5) of this section shall be met and IPS★ITCS shall, in addition, provide the employees with periodic examinations if directed by the physician.

#### (5) Additional examinations and referrals

(i) Where the results of the complete blood count required for the initial and periodic examinations indicate any of the following abnormal conditions exist, then the blood count shall be repeated within 2 weeks.

(A) The hemoglobin level or the hematocrit falls below the normal limit (outside the 95% confidence interval (C.I.)) as determined by the laboratory for the particular geographic area and/or these indices show a persistent downward trend from the individual's pre-exposure norms; provided these findings cannot be explained by other medical reasons.

(B) The thrombocyte (platelet) count varies more than 20 percent below the employee's most recent values or falls outside the normal limit (95% C.I.) as determined by the laboratory.

(C) The leukocyte count is below 4,000 per mm<sup>3</sup> or there is an abnormal differential count.

(ii) If the abnormality persists, the examining physician shall refer the employee to a hematologist or an internist for further evaluation unless the physician has good reason to believe such referral is unnecessary.

(iii) IPS★ITCS shall provide the hematologist or internist with the information required to be provided to the physician under paragraph (I)(6) of this section and the medical record required to be maintained by paragraph (K)(2)(ii) of this section.

(iv) The hematologist's or internist's evaluation shall include a determination as to the need for additional tests, and IPS★ITCS shall assure that these tests are provided.

(6) Information provided to the physician. IPS★ITCS shall provide the following information to the examining physician:

(i) A copy of this regulation and its appendices.

(ii) A description of the affected employee's duties as they relate to the employee's exposure.

(iii) The employee's actual or representative exposure level:

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous employment-related medical examinations of the affected employee which is not otherwise available to the examining physician.

(7) Physician's written opinions

(i) For each examination under this section, IPS★ITCS shall obtain and provide the employee with a copy of the examining physician's written opinion within 15 days of the examination. The written opinion shall be limited to the following information:

(A) The occupationally pertinent results of the medical examination and tests.

(B) The physician's opinion concerning whether the employee has any detected medical conditions which would place the employee's health at greater than normal risk of material impairment from exposure to benzene.

(C) The physician's recommended limitations upon the employee's exposure to benzene or upon the employee's use of protective clothing or equipment and respirators.

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions resulting from benzene exposure which require further explanation or treatment.

(ii) The written opinion obtained by IPS★ITCS shall not reveal specific records, findings and diagnoses that have no bearing on the employee's ability to work in a benzene-exposed workplace.

(8) Medical removal plan

(i) When a physician makes a referral to a hematologist/internist as required under paragraph (1)(5)(ii) of this section, the employee shall be removed from

areas where exposures may exceed the action level until such time as the physician makes a determination under paragraph (I)(8)(ii) of this section.

(ii) Following the examination and evaluation by the hematologist/internist, a decision to remove an employee from areas where benzene exposure is above the action level or to allow the employee to return to areas where benzene exposure is above the action level shall be made by the physician in consultation with the hematologist/internist. This decision shall be communicated in writing to IPS★ITCS and employee. In the case of removal, the physician shall state the required probable duration of removal from occupational exposure to benzene above the action level and the requirements for future medical examinations to review the decision.

(iii) For any employee who is removed pursuant to paragraph (I)(8)(ii) of this section, IPS★ITCS shall provide a follow-up examination. The physician, in consultation with the hematologist/internist, shall decide within 6 months of the date the employee was removed as to whether the employee shall be returned to the usual job or whether the employee should be removed permanently.

(iv) Whenever an employee is temporarily removed from benzene exposure pursuant to paragraph (I)(8)(i) or (I)(8)(ii) of this section, IPS★ITCS shall transfer the employee to a comparable job for which the employee is qualified (or can be trained for in a short period) and where benzene exposures are as low as possible, but in no event higher than the action level. IPS★ITCS shall maintain the employee's current wage rate, seniority, and other benefits. If there is no such job available, IPS★ITCS shall provide medical removal protection benefits until such a job becomes available or for 6 months, whichever comes first.

(v) Whenever an employee is removed permanently from benzene exposure based on a physician's recommendation pursuant to paragraph (I)(8)(iii) of this section, the employee shall be given the opportunity to transfer to another position which is available or later becomes available for which the employee is qualified (or can be trained for in a short period) and where benzene exposures are as low as possible but in no event higher than the action level. IPS★ITCS shall assure that such employee suffers no reduction in current wage rate, seniority or other benefits as a result of the transfer.

(9) Medical removal protection benefits.

(i) IPS★ITCS shall provide to an employee 6 months of medical removal protection benefits immediately following each occasion an employee is removed from exposure to benzene because of hematological findings pursuant to paragraphs (I)(8)(i) and (ii) of this section, unless the employee has been transferred to a comparable job where benzene exposures are below the action level.

(ii) For the purposes of this section, the requirement that a Company provides medical removal protection benefits means that IPS★ITCS shall maintain the current wage rate, seniority and other benefits of an employee as though the employee had not been removed.

(iii) IPS★ITCS' obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or Company-funded compensation program, or from employment with another Company made possible by virtue of the employee's removal.

## **J. Communication Of Benzene Hazards to Employees**

### (1) Signs and labels.

(i) IPS★ITCS shall post signs at entrances to regulated areas. The signs shall bear the following legend:

**DANGER  
BENZENE  
CANCER HAZARD  
FLAMMABLE – NO SMOKING  
AUTHORIZED PERSONNEL ONLY  
RESPIRATOR REQUIRED**

**NOTE: *Pipe labeling is required by IPS★ITCS***

(ii) IPS★ITCS shall ensure that labels or other appropriate forms of warning are provided for containers of benzene within the workplace. There is no requirement to label pipes. The labels shall comply with the requirements of CFR 1910.1200(f) and in addition shall include the following legend:

**DANGER  
CONTAINS BENZENE  
CANCER HAZARD**

### (2) Safety data sheets.

(i) IPS★ITCS shall obtain or develop, and shall provide access to their employees, a safety data sheet (SDS) which addresses benzene and complies with 29 CFR 1910.1200.

(ii) Companies who are manufacturers or importers shall:

(A) Comply with paragraph (a) of this section, and

(B) Comply with the requirement in OSHA's Hazard Communication Standard, 29 CFR 1910.1200, that they deliver to downstream Companies a MSDS which addresses benzene.

### (3) Information and training.

(i) IPS★ITCS shall provide employees with information and training at the time of their initial assignment to a work area where benzene is present. If exposures are above the action level, employees shall be provided with information and training at least annually thereafter.

(ii) The training program shall be in accordance with the requirements of 29 CFR 1910.1200(h)(1) and (2) and shall include specific information on benzene for each category of information included in that section.

(iii) In addition to the information required under 29 CFR 1910.1200, IPS★ITCS shall:

(A) Provide employees with an explanation of the contents of this section and indicate to them where the standard is available; and

(B) Describe the medical surveillance program required under paragraph (l) of this section.

## **K Recordkeeping**

(1) Exposure measurements.

(i) IPS★ITCS shall establish and maintain an accurate record of all measurements required by paragraph (E) of this section, in accordance with 29 CFR 1910.20.

(ii) This record shall include:

(A) The dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures.

(B) A description of the sampling and analytical methods used.

(C) A description of the type of respiratory protective devices worn, if any; and

(D) The name, social security number, job classification and exposure levels of the employee monitored and all other employees whose exposure the measurement is intended to represent.

(iii) IPS★ITCS shall maintain this record for at least 30 years, in accordance with 29 CFR 1910.20.

(2) Medical surveillance.

(i) IPS★ITCS shall establish and maintain an accurate record for each employee subject to medical surveillance required by paragraph (i) of this section, in accordance with 29 CFR 1910.20.

(ii) This record shall include:

(A) The name and social security number of the employee.

(B) IPS★ITCS' copy of the physician's written opinion on the initial, periodic, and special examinations, including results of medical examinations and all tests, opinions, and recommendations.

(C) Any employee medical complaints related to exposure to benzene.

(D) A copy of the information provided to the physician as required by paragraphs (i)(6)(ii) through (v) of this section; and

(E) A copy of the employee's medical and work history related to exposure to benzene or any other hematologic toxins.

(iii) IPS★ITCS shall maintain this record for at least the duration of employment plus 30 years, in accordance with 29 CFR 1910.20.

(3) Availability.

(i) IPS★ITCS shall assure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee exposure monitoring records required by this paragraph shall be provided upon request for examination and copying to employees, employee representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a) through (e) and (g) through (i).

(iii) Employee medical records required by this paragraph shall be provided upon request for examination and copying, to the subject employee, to anyone having the specific written consent of the subject employee, and to the Assistant Secretary in accordance with 29 CFR 1910.20.

(4) Transfer of records.

(i) IPS★ITCS shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.20(h).

(ii) If IPS★ITCS ceases to do business and there is no successor Company to receive and retain the records for the prescribed period, IPS★ITCS shall notify the Director, at least three (3) months prior to disposal, and transmit them to the Director if required by the Director within that period.

## L. Observation Of Monitoring

(1) Employee observation. IPS★ITCS shall provide affected employees, or their designated representatives, an opportunity to observe the measuring or monitoring of employee exposure to benzene conducted pursuant to paragraph (e) of this section.

(2) Observation procedures. When observation of the measuring or monitoring of employee exposure to benzene requires entry into areas where the use of protective clothing and equipment or respirators is required, IPS★ITCS shall provide the observer with personal protective clothing and equipment or respirators required to be worn by employees working in the area, assure the use of such clothing and



equipment or respirators and require the observer to comply with all other applicable safety and health procedures.



# Competency Assessment

No.	Questionnaire	C/NYC
Q1		
A1		
Q2		
A2		
Q3		
A3		
Q4		
A4		
Q5		
A5		

Enclosed Attachments	
Risk Assessment	<input checked="" type="checkbox"/>
Environmental Aspect and Impact	<input checked="" type="checkbox"/>
Training and Competency	<input checked="" type="checkbox"/>
Measure and Evaluation Tools	<input checked="" type="checkbox"/>

# Competency Checklist

To be filled out by Trainer and signed by Employee, Assessor and Supervisor before being returned to the HSEQT Manager for recording purposes.

Procedure	Competency	Date	Competent YES / NO	Employee Signature

(Please tick appropriate box)

This employee is competent in performing the job.


This employee has not attained the competency level.

\*

\* *If the employee has not attained all competency levels, the General Manager must assess the action to be taken, provide an extension of training or alternative action as listed below.*

Alternate action to be taken: \_\_\_\_\_

Signed By	Employee:	_____	Date:	_____
	Trainer:	_____	Date:	_____
	Assessor:	_____	Date:	_____
	Regional Manager:	_____	Date:	_____

# Environmental Aspects and Impacts

## Identified Environmental Aspects and Impacts

The following table is a summary of the likely environmental aspects and impacts that may be identified during site inspections. The significance of each impact needs to be assessed using the Risk Assessment Model.

Activity	Aspect	Impact
<b>Purchasing &amp; Administrative Work</b>	Consumption of goods	Conservation of natural resources
	Consumption of energy (eg. Electrical equipment and facilities)	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of waste (eg. Paper)	Consumption of space for waste disposal; Habitat loss
<b>Climate Control</b>	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of noise	Disturbance to community; Habitat loss
<b>Cleaning of – offices / vehicles</b>	Storage, use and release of chemicals	Contamination of air, water or soil; Risk to human health
<b>Transport (Fleet vehicles / staff travel)</b>	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Loss of habitat at all stages of generation; Light pollution
	Consumption of goods (eg. Oil)	Consumption of natural resources; Generation of waste; Habitat loss; Biodiversity impacts
	Generation of waste (eg. Oil)	Consumption of space for waste disposal; Potential contamination of water or soil; Habitat loss
	Exhaust emission	Release of greenhouse gases and atmospheric pollution
	Use of dangerous goods (eg. Batteries)	Potential contamination of air, water or soil; Risk to human health
	Generation of noise	Disturbance to community; Habitat degradation
<b>Operations</b>		

Sample only.  
To be filled in

# Risk Assessment

Risk Assessment // insert name here

<p><b>Step No:</b> Logical sequence</p>	<p><b>Sequence of Basic Job Steps documented in the Procedure, Work Instruction and project plans. Break down Job into steps.</b></p> <p>Each step should be logical and accomplish a major task.</p>	<p><b>Potential Safety &amp; Environmental Hazards/Impacts at the site of the Job</b></p> <p>Identify the actual and potential health and safety hazards and the environmental impacts associated with each step of the job.</p>	<p><b>Risk Rating</b></p> <p>Refer to the risk matrix or HSEQT.PRO. Risk Mgt</p>	<p><b>Recommended Corrective Action or Procedure</b></p> <p><i>Determine the corrective actions necessary to reduce the risk to as low as reasonably practical (ALARP) refer to HSEQ.PRO.Risk Mgt. The risk must be reduced or controlled to ALARP before work commences.</i></p> <p>Document who is responsible for implementing the controls to manage each hazard identified.</p>	<p><b>Risk Rating</b> refer to the risk matrix or HSEQT.PRO.Risk Mgt</p>
1.					
2.					
3.					
4.					
5.					

# Audit



<b>Process:</b> insert// <b>Procedure:</b> Insert //		Date:	Audited by:	
		Location of Audit:	Area Mgr/Supervisor:	
Item	Question	Evidence Sited	Comments	Conformance Score 0,3,5
1.				
2.				
3.				
4.				
5.				
6.				
7.				
AUDITOR'S SIGNATURE:		CONFORMANCE SCORE:     / 25		0 – Non-Conformance 3 – Continuous Improvement Opportunity 5 – Total Conformance
SAFETY REP'S SIGNATURE:		CONFORMANCE %:		