

[Français](#)

## Occupational Health and Safety Act

### R.R.O. 1990, REGULATION 836

*Amended to O. Reg. 102/04*

#### DESIGNATED SUBSTANCE — ARSENIC

**Notice of Currency:**\* This document is up to date.

\*This notice is usually current to within two business days of accessing this document. For more current amendment information, see the [Table of Regulations – Legislative History Overview](#).

*This is the English version of a bilingual regulation.*

**1.** In this Regulation,

“arsenic” means arsenic in its elemental form and arsenic in inorganic compounds, except arsine, and includes arsenic in organic form only where both inorganic and organic compounds of arsenic are present; (“arsenic”)

“control program” means an arsenic control program required by this Regulation; (“programme de contrôle”)

“joint health and safety committee” includes a joint health and safety committee established under section 9 of the Act, or a committee of like nature or an arrangement, program or system in which workers participate that conforms to subsection 9 (4) of the Act. (“comité mixte sur la santé et la sécurité”) R.R.O. 1990, Reg. 836, s. 1; O. Reg. 508/92, s. 2.

**2.** Arsenic is prescribed as a designated substance. R.R.O. 1990, Reg. 836, s. 2.

**3. (1)** Subject to subsection (3), this Regulation applies to every employer and worker at a workplace where arsenic is produced, processed, used, handled or stored or is a waste product or by-product of a process and at which a worker is likely to inhale, ingest, absorb or come into contact with arsenic. R.R.O. 1990, Reg. 836, s. 3 (1).

**(2)** An employer to whom this Regulation applies shall take every precaution reasonable in the circumstances to ensure that every worker who is not an employee of the employer but who is working in the workplace of the employer and is exposed to arsenic and whose health is likely to be affected thereby is protected and the worker shall comply with the requirements of the employer. R.R.O. 1990, Reg. 836, s. 3 (2).

**(3)** Subsection (2) and sections 4 to 16 of this Regulation do not apply to,

- (a) an employer or to the workers of an employer who primarily carries on the business of construction; or
- (b) mining operations, including concentrating, milling, washing, crushing, grinding, sifting or conveying of a metallic or non-metallic mineral or mineral-bearing substance or rock unless such operations are carried on in a plant where smelting, roasting or refining is carried on or unless such operations are carried on, in or at a

place that is contiguous with a plant where smelting, roasting or refining is carried on.  
R.R.O. 1990, Reg. 836, s. 3 (3).

**4. (1)** Every employer shall take all necessary measures and procedures by means of engineering controls, work practices and hygiene practices and facilities to ensure that the time-weighted average exposure of a worker to airborne arsenic is reduced to the lowest practical level and in any case shall not exceed 10 micrograms arsenic per cubic metre of air. R.R.O. 1990, Reg. 836, s. 4 (1).

**(2)** Despite subsection (1), an employer shall ensure that the exposure of a worker to arsenic shall not exceed a short-term exposure concentration measured over fifteen minutes of 50 micrograms arsenic per cubic metre of air. R.R.O. 1990, Reg. 836, s. 4 (2).

**(3)** Subject to section 5, every employer shall comply with subsections (1) and (2) without requiring a worker to wear and use respiratory equipment. R.R.O. 1990, Reg. 836, s. 4 (3).

**(4)** The time-weighted average exposure of a worker to airborne arsenic shall be calculated in accordance with the Schedule and the result of the calculation of the exposure may be certified by an inspector. R.R.O. 1990, Reg. 836, s. 4 (4).

**(5)** Every worker shall work in compliance with the work practices and hygiene practices in accordance with the provisions of the control program. R.R.O. 1990, Reg. 836, s. 4 (5).

**(6)** On a prosecution for a failure to comply with subsection (1) or (2), it shall be a defence for an employer to prove that the employer has complied with the relevant subsection and that the breach occurred solely because a worker failed to work in compliance with the work practices and hygiene practices in accordance with the provisions of the control program and the employer has taken every precaution reasonable in the circumstances to require the worker to do so. R.R.O. 1990, Reg. 836, s. 4 (6).

**5. (1)** Where the strict duty imposed by subsection 4 (1) or (2) cannot be complied with because,

(a) an emergency exists; or

(b) the measures and procedures necessary to control the exposure of a worker to airborne arsenic,

(i) do not exist or are not available,

(ii) are not reasonable or practical for the length of time or frequency of exposure or the nature of the process, operation or work, or

(iii) are not effective because of a temporary breakdown of equipment,

the employer shall provide a worker with respiratory equipment which shall be used by the worker. R.R.O. 1990, Reg. 836, s. 5 (1).

**(2)** Where a worker is exposed to airborne arsenic, the worker may request a respirator regardless of the level of exposure and the employer shall provide it. R.R.O. 1990, Reg. 836, s. 5 (2).

**(3)** Where respiratory equipment is provided by an employer and used by a worker, the respiratory equipment,

(a) shall be appropriate in the circumstances for the concentration of airborne arsenic;

- (b) shall meet or exceed the requirements set out in the *Code for Respiratory Equipment for Arsenic* dated the 22nd day of March, 1986, and issued by the Ministry; and
- (c) shall be used in accordance with the requirements of the Code. R.R.O. 1990, Reg. 836, s. 5 (3).

(4) The employer shall provide training and instruction to a worker in the proper care and use of respiratory equipment provided by the employer. R.R.O. 1990, Reg. 836, s. 5 (4).

6. (1) Every employer to whom this Regulation applies shall cause an assessment to be made in writing of the exposure or likelihood of exposure in a workplace of a worker to the inhalation, ingestion, absorption or contact with arsenic. R.R.O. 1990, Reg. 836, s. 6 (1).

(2) In causing the assessment to be made, the employer shall consider and take into account such matters as,

- (a) the methods and procedures used or to be used in the processing, use, handling or storage of arsenic;
- (b) the extent and potential extent of the exposure of a worker to the inhalation, ingestion, absorption or contact with arsenic; and
- (c) the measures and procedures necessary to control such exposure by means of engineering controls, work practices and hygiene practices and facilities. R.R.O. 1990, Reg. 836, s. 6 (2).

(3) In causing the assessment to be made, the employer shall consult with the joint health and safety committee and the committee may make recommendations with respect to the assessment. R.R.O. 1990, Reg. 836, s. 6 (3).

(4) A copy of the assessment made by an employer shall be given by the employer to each member of the joint health and safety committee. R.R.O. 1990, Reg. 836, s. 6 (4).

7. (1) Where the assessment discloses or would disclose, if made in conformity with section 6, that a worker is likely to inhale, ingest, absorb or come into contact with arsenic and that the health of a worker may be affected thereby, the employer shall develop, establish, put into effect and maintain measures and procedures to control the exposure of the worker to arsenic and shall incorporate the same into an arsenic control program. R.R.O. 1990, Reg. 836, s. 7 (1).

(2) A control program shall include provisions for,

- (a) engineering controls, work practices and hygiene practices and facilities to control the exposure of a worker to arsenic;
- (b) methods and procedures to monitor the concentrations of airborne arsenic in the workplace and the exposure of a worker thereto;
- (c) personal records of the exposure of a worker to arsenic at the workplace, including the time-weighted average exposure of the worker and of the concentrations of arsenic and the times in which such concentrations were taken to be representative of the exposure of the worker and used in calculating the average exposure, to be maintained by the employer; and
- (d) a training program for supervisors and workers on the health effects of arsenic and

the measures and procedures required under the control program. R.R.O. 1990, Reg. 836, s. 7 (2).

**(3)** In developing the measures and procedures mentioned in subsection (1) and the control program, the employer shall consult with the joint health and safety committee and the committee may make recommendations with respect thereto. R.R.O. 1990, Reg. 836, s. 7 (3).

**8. (1)** Where engineering controls come into existence through the development of knowledge and technology and would, if adopted and implemented by an employer, reduce the exposure of a worker to or below the time-weighted average exposure limit prescribed by this Regulation, the employer shall adopt and implement the engineering controls where it is reasonable or practical so to do. R.R.O. 1990, Reg. 836, s. 8 (1).

**(2)** Where a change is made in a process involving arsenic or in the methods and procedures in the use, handling or storage of arsenic and the change could result in a significant difference in the exposure of a worker to the inhalation, ingestion, absorption or contact with arsenic, the employer shall cause a further assessment to be made forthwith and the provisions of sections 6 and 7 apply to the further assessment. R.R.O. 1990, Reg. 836, s. 8 (2).

**9. (1)** Where disputes arise between an employer and a joint health and safety committee as to an assessment required under section 6 or 8 or as to the measures and procedures mentioned in subsection 7 (1) or the control program or its provisions required under section 7 or 8, the employer, a member of the joint health and safety committee or the committee may notify an inspector thereof who shall investigate and give a decision in writing to the employer and to the member or committee. R.R.O. 1990, Reg. 836, s. 9 (1).

**(2)** Nothing in subsection (1) applies so as to affect the power of an inspector to issue an order for a contravention of this Regulation. R.R.O. 1990, Reg. 836, s. 9 (2).

**10. (1)** A copy of the control program put into effect by the employer shall be given by the employer to each member of the joint health and safety committee and the employer shall acquaint every worker affected by the control program with its provisions. R.R.O. 1990, Reg. 836, s. 10 (1).

**(2)** A copy of the control program put into effect by the employer shall be made available by the employer in English and in the majority language of the workplace. R.R.O. 1990, Reg. 836, s. 10 (2).

**11.** Subject to section 16, the procedures for monitoring, sampling and determining the concentrations of airborne arsenic in the atmosphere of a workplace and the exposure of a worker thereto shall be those set out in the Code for Measuring Airborne Arsenic dated the 22nd day of March, 1986, and issued by the Ministry. R.R.O. 1990, Reg. 836, s. 11.

**12.** The results of the monitoring of concentrations of airborne arsenic in the workplace and the exposure of a worker thereto as provided by the control program shall be,

- (a) posted forthwith by the employer, as soon as the results are available, in a conspicuous place or places at the workplace where they are most likely to come to the attention of the workers affected thereby, and the employer shall keep the results posted for a period of at least fourteen days;

- (b) furnished to the joint health and safety committee; and
- (c) kept by the employer for a period of at least five years. R.R.O. 1990, Reg. 836, s. 12.

**13. (1)** The records of the exposures of each worker to airborne arsenic at the workplace to be maintained as provided by the control program shall identify the worker, including the worker's date of birth, the worker's jobs or occupations at the workplace, the results of monitoring for exposure to airborne arsenic in the worker's work area and the use by the worker of respiratory equipment and its type. R.R.O. 1990, Reg. 836, s. 13 (1).

**(2)** The records of a worker referred to in subsection (1) shall be kept in a secure place by the employer or, where the employer is no longer able to keep the records, the records shall be forwarded to the Provincial Physician, Ministry of Labour to be kept for the longer of,

- (a) forty years from the time such records were first made with respect to the worker; and
- (b) twenty years from the time the last of such records were made with respect to the worker. R.R.O. 1990, Reg. 836, s. 13 (2); O. Reg. 508/92, s. 1.

**14. (1)** Where, as a result of exposure to arsenic,

- (a) a worker or the worker's physician has reason to believe that the worker's health has been affected by the inhalation, ingestion, absorption or contact with arsenic and the worker or the worker's physician so advises the employer; or
- (b) the employer believes that a worker has inhaled, ingested, absorbed or come into contact with arsenic, and has reason to believe that the worker's health is likely to be affected thereby and has so informed the worker,

the worker shall, at the expense of the employer, undergo a medical examination and clinical tests to determine whether the worker is fit, fit with limitations or unfit for work in arsenic exposure. R.R.O. 1990, Reg. 836, s. 14 (1).

**(2)** A physician examining a worker under this section shall be entitled to receive a copy of the records of the exposure of the worker to airborne arsenic from the employer or, if the records are under the control of the Provincial Physician, Ministry of Labour, from the Provincial Physician, Ministry of Labour. R.R.O. 1990, Reg. 836, s. 14 (2); O. Reg. 508/92, s. 1.

**(3)** Where a dispute arises between an employer and a worker as to the medical examination or the clinical tests required under subsection (1), the employer or the worker may notify an inspector thereof who shall investigate and give a decision in writing to the employer and the worker. R.R.O. 1990, Reg. 836, s. 14 (3).

**15. (1)** A physician conducting a medical examination or clinical tests under section 14 shall advise the employer, who shall act thereon, and the worker whether the worker is fit or, because of a condition resulting from exposure to arsenic, is fit with limitations or unfit for work in arsenic exposure without giving or disclosing to the employer the records or results of the examination or tests. R.R.O. 1990, Reg. 836, s. 15 (1).

**(2)** Where a worker is removed from arsenic exposure because a medical examination or

clinical test under section 14 discloses that the worker may have or has a condition resulting from exposure to arsenic and suffers a loss of earnings occasioned thereby, the worker is entitled to compensation for the loss in the manner and to the extent provided by the Workplace Safety and Insurance Act, 1997. R.R.O. 1990, Reg. 836, s. 15 (2); O. Reg. 102/04, s. 1.

(3) Upon advising the employer and the worker that a worker, because of a condition resulting from exposure to arsenic, is fit with limitations or unfit for work in arsenic exposure, the physician shall advise in writing upon a confidential basis the joint health and safety committee thereof and in giving such advice shall indicate his or her opinion as to the interpretation to be placed thereon. R.R.O. 1990, Reg. 836, s. 15 (3).

(4) Where the physician advises the employer that a worker, because of a condition resulting from exposure to arsenic, is fit with limitations or is unfit for work in arsenic exposure, the physician shall forthwith communicate the advice to the Provincial Physician, Ministry of Labour. R.R.O. 1990, Reg. 836, s. 15 (4); O. Reg. 508/92, s. 3.

16. For the purposes of this Regulation, the methods and procedures that may be used or adopted may vary from the Codes issued by the Ministry if the protection afforded thereby or the factors of accuracy and precision used or adopted are equal to or exceed the protection or the factors of accuracy and precision in the Codes issued by the Ministry. R.R.O. 1990, Reg. 836, s. 16.

## SCHEDULE

The time-weighted average exposure of a worker to airborne arsenic shall be calculated for a forty-hour week and an eight-hour day as follows:

1. The average concentrations of arsenic to which a worker is exposed shall be determined from analyses of air samples taken as being representative of the exposure of the worker to arsenic during work operations as set out in the Code mentioned in section 11.
2. The results of the analyses are the concentrations of arsenic expressed as micrograms arsenic per cubic metre of air.
3. The concentrations shall be multiplied by the time in hours to which the worker is taken to be exposed to such concentrations.
4. The weekly exposure shall be calculated as follows:

$$C_1T_1 + C_2T_2 + \dots + C_nT_n = \text{cumulative weekly exposure}$$

where,

$C_1$  is the concentration found in an air sample, and

$T_1$  is the total time in hours to which the worker is taken to be exposed to concentration  $C_1$  in a week.

5. The weekly time-weighted average exposure shall be calculated by dividing the cumulative weekly exposure by 40.
6. The daily exposure shall be calculated as follows:

$$C_1T_1 + C_2T_2 + \dots + C_nT_n = \text{cumulative daily exposure}$$

where,

$C_1$  is the concentration found in an air sample, and

$T_1$  is the total time in hours to which the worker is taken to be exposed to concentration  $C_1$  in a day.

7. The daily time-weighted average exposure shall be calculated by dividing the cumulative daily exposure by 8.

R.R.O. 1990, Reg. 836, Sched.

[Back to top](#)

[Français](#)