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  - (c) the container in which the substance is kept:
    - (i) subject to sections 319 to 324, is clearly labelled with the name, harmful characteristics and precautions to be taken for the safe storage of the substance or substances;
    - (ii) subject to section 365, is designed, constructed and maintained to contain the substance securely and to be resistant to the substance and any other substances to which the container may be exposed;
    - (iii) is sealed or covered; and
    - (iv) is stored in a manner to protect the container from falls or damage.
- (2) Where two or more chemical substances, when combined, produce a toxic, corrosive or explosive reaction, an employer, contractor or owner shall ensure that the substances are effectively separated and stored to prevent the substances from combining.

4 Oct 96 cO-1.1 Reg 1 s314.

PART XXII  
**Controlled Products — Workplace Hazardous  
Materials Information System**

**Interpretation**

**315** In this Part:

- (a) **“bulk shipment”** means a shipment of a controlled product that is contained without intermediate packaging in:
  - (i) a container with a water capacity of more than 454 litres;
  - (ii) a freight container, road vehicle, railway vehicle or portable tank, a freight container on a road vehicle, railway vehicle, ship or aircraft or a portable tank carried on a road vehicle, railway vehicle, ship or aircraft;
  - (iii) the hold of a ship; or
  - (iv) a pipeline;
- (b) **“container”** includes a bag, barrel, bottle, box, can, cylinder, drum, storage tank or similar package or receptacle;
- (c) **“Controlled Products Regulations”** means the *Controlled Products Regulations* (Canada), SOR/88-66;

- (d) **“fugitive emission”** means a gas, liquid, solid, vapour, fume or dust that escapes from any process or emission control equipment or from a product;
- (e) **“hazard information”** means information on the proper and safe use, storage and handling of a controlled product, and includes information relating to the product’s toxicological properties;
- (f) **“hazardous waste”** means a controlled product that is intended for disposal or is sold for recycling or recovery;
- (g) **“laboratory sample”** means a sample of a controlled product that is intended solely to be tested in a laboratory but does not include a controlled product that is to be used:
- (i) by the laboratory for testing other products, materials or substances;  
or
  - (ii) for educational or demonstration purposes;
- (h) **“manufactured article”** means an article that is formed to a specific shape or design during manufacture, the intended use of which when in that form is dependent, in whole or in part, on its shape or design and that, under normal conditions of use, will not release or otherwise cause a person to be exposed to a controlled product;
- (i) **“product identifier”** means, with respect to a controlled product, the brand name, code name or code number specified by a supplier or the chemical name, common name, generic name or trade name;
- (j) **“readily available”** means present in an appropriate place in the form of a paper copy that can be handled by a worker;
- (k) **“risk phrase”** means, with respect to a controlled product or a class, division or sub-division of controlled products, a statement identifying a hazard that may arise from the nature of the controlled product or the class, division or sub-division of controlled products;
- (l) **“supplier”** means a supplier as defined in the *Hazardous Products Act* (Canada);
- (m) **“supplier identifier”** means, with respect to a controlled product, the name of the supplier of the controlled product;
- (n) **“supplier label”** means a label provided by a supplier that discloses the information and displays the hazard symbols mentioned in paragraph 13(b) of the *Hazardous Products Act* (Canada);
- (o) **“supplier material safety data sheet”** means a material safety data sheet provided by a supplier that discloses the information mentioned in subparagraphs 13(a)(i) to (v) of the *Hazardous Products Act* (Canada);
- (p) **“workplace label”** means a legible label that discloses:
- (i) a product identifier that is identical to that found on the material safety data sheet of the corresponding controlled product;

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- (ii) all necessary information for the safe handling of the controlled product; and
- (iii) the fact that a material safety data sheet, if supplied or produced, is available.

4 Oct 96 cO-1.1 Reg 1 s315.

**Certain products exempted**

**316(1)** The provisions of this Part with respect to a supplier label and a material safety data sheet do not apply to a controlled product that is:

- (a) an explosive within the meaning of the *Explosives Act* (Canada);
  - (b) a cosmetic, device, drug or food within the meaning of the *Food and Drug Act* (Canada);
  - (c) a control product within the meaning of the *Pest Control Products Act* (Canada);
  - (d) a prescribed substance within the meaning of the *Atomic Energy Control Act* (Canada); or
  - (e) a product, material or substance that is packaged as a consumer product in a quantity normally used by the public.
- (2) This Part does not apply to a controlled product that:
- (a) is a wood or a product made of wood;
  - (b) is a tobacco or a product made of tobacco;
  - (c) is a manufactured article; or
  - (d) is being transported or handled pursuant to *The Dangerous Goods Transportation Act* and the *Transportation of Dangerous Goods Act* (Canada).
- (3) Subject to subsection (4), this Part does not apply to hazardous waste.
- (4) An employer shall ensure the safe storage and handling of hazardous waste generated at a place of employment through a combination of identification of the hazardous waste and worker training.
- (5) The worker training mentioned in subsection (4) must include all hazard information of which the employer is aware, or ought to be aware, concerning the hazardous waste.

4 Oct 96 cO-1.1 Reg 1 s316.

**Restriction on use of controlled products**

**317(1)** Subject to subsection (2), an employer shall ensure that a controlled product is not used, stored or handled in a place of employment unless all the applicable requirements of this Part with respect to labels, identifiers, material safety data sheets and worker training are complied with.

- (2) An employer may store a controlled product in a place of employment while actively seeking information required pursuant to this Part.

4 Oct 96 cO-1.1 Reg 1 s318.

**Worker training**

**318(1)** An employer shall ensure that a worker who works with, or in proximity to, a controlled product is informed about:

- (a) all hazard information received by the employer from a supplier concerning that controlled product; and
- (b) any further hazard information of which the employer is aware, or ought to be aware, concerning the use, storage and handling of that controlled product.

(2) Where a controlled product is produced in a place of employment, an employer shall ensure that a worker who works with, or in proximity to, that controlled product is informed about all hazard information of which the employer is aware, or ought to be aware, concerning the use, storage and handling of that controlled product.

(3) An employer shall ensure that a worker who works with, or in proximity to, a controlled product is trained in:

- (a) the content required on a supplier label and workplace label for the controlled product and the purpose and significance of the information contained on those labels;
- (b) the content required on a material safety data sheet for the controlled product and the purpose and significance of the information contained on the material safety data sheet;
- (c) all necessary procedures for the safe use, storage, handling and disposal of the controlled product;
- (d) all necessary procedures to be followed where fugitive emissions are present; and
- (e) all necessary procedures to be followed in case of an emergency involving a controlled product.

(4) An employer shall ensure that the training required by subsection (3) is developed:

- (a) for that employer's place of employment; and
- (b) in consultation with the committee, if there is a committee.

(5) An employer shall ensure that:

- (a) the training required by subsection (3) results in a worker being able to apply the information as needed to protect the health and safety of that worker or any other worker; and
- (b) the necessary procedures mentioned in clauses (3)(c) to (e) are implemented.

(6) An employer, in consultation with the committee, the representative or, where there is no committee or representative, the workers, shall review the training provided to workers concerning controlled products at least annually, or more frequently if there is a change in work conditions or available hazard information.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Supplier label**

**319(1)** An employer shall ensure that a controlled product or the container of a controlled product that is received from a supplier at a place of employment is labelled with a supplier label.

(2) Subject to section 42 of the Act, no employer shall remove, deface, modify or alter the supplier label on the container of a controlled product as long as any amount of the controlled product remains at the place of employment in the container in which it was received from the supplier.

(3) Where a label applied to a controlled product or a container of a controlled product becomes illegible or is accidentally removed from the controlled product or container, an employer shall replace the label with either a supplier label or a workplace label.

(4) Where an employer receives a controlled product in a multi-container shipment in which the individual containers have not been labelled by the supplier, the employer shall affix to each container a label that meets the requirements of the *Controlled Products Regulations*.

(5) Where a controlled product imported pursuant to section 23 of the *Controlled Products Regulations* is received at a place of employment without a supplier label, an employer shall affix a label that meets the requirements of the *Controlled Products Regulations*.

(6) An employer who receives a controlled product transported as a bulk shipment shall affix to the container of the controlled product or to the controlled product at the place of employment:

- (a) a supplier label; or
- (b) where, pursuant to section 15 of the *Controlled Products Regulations*, the supplier is not required to label a controlled product transported as a bulk shipment, a workplace label.

4 Oct 96 cO-1.1 Reg 1 s319.

**Workplace label for employer-produced products**

**320(1)** Subject to subsections (2) and (3), where a controlled product is produced at a place of employment, an employer shall ensure that a workplace label is applied to the controlled product or the container of the controlled product.

(2) Subsection (1) does not apply to the production of fugitive emissions.

(3) Subsection (1) does not apply to a controlled product in a container that:

- (a) is intended to contain the controlled product for sale or disposition; and
- (b) is or is about to be appropriately labelled within the normal course of business and without undue delay.

4 Oct 96 cO-1.1 Reg 1 s320.



**Workplace label for decanted products**

**321(1)** Subject to subsection (2), where a controlled product at a place of employment is in a container other than the container in which the controlled product was received from a supplier, an employer shall ensure that a workplace label is applied to the container.

(2) Subsection (1) does not apply to a portable container that is filled directly from a container that has a supplier label or workplace label applied to it if all of the controlled product in the portable container is required for immediate use or:

- (a) the controlled product is:
  - (i) under the control of, and used exclusively by, the worker who filled the portable container; and
  - (ii) used only during the shift in which the portable container was filled; and
- (b) the content of the container is clearly identified.

4 Oct 96 cO-1.1 Reg 1 s321.

**Identification of controlled products in piping systems and vessels**

**322** Notwithstanding sections 319 to 321, an employer shall ensure the safe use, storage and handling of a controlled product in a place of employment through worker training and the use of colour coding, labels, placards or any other mode of identification where the controlled product is contained or transferred in or on:

- (a) a pipe;
- (b) a piping system, including valves;
- (c) a process vessel;
- (d) a reaction vessel; or
- (e) a tank car, tank truck, ore car, conveyor belt or similar conveyance.

4 Oct 96 cO-1.1 Reg 1 s322.

**Placard identifiers**

**323(1)** Notwithstanding sections 319 to 321, an employer shall post a placard in accordance with subsection (2) where a controlled product:

- (a) is not in a container;
- (b) is in a container or form intended for export; or
- (c) is in a container that is intended to contain the controlled product for sale or disposition, and the container is not yet labelled but is to be labelled pursuant to section 320.

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- (2) A placard required by subsection (1):
- (a) must disclose the information required for a workplace label; and
  - (b) must be of an appropriate size and must be placed in an appropriate location to make the information on it conspicuous and clearly legible to workers.
- (3) An employer who complies with subsections (1) and (2) is deemed to have complied with sections 319 to 321.

4 Oct 96 cO-1.1 Reg 1 s323.

**Laboratory and sample labels**

**324(1)** Where a quantity of less than 10 kilograms of a controlled product packaged in a container originates from a laboratory supply house and is intended by the employer solely for use in a laboratory, a label supplied by the supplier and affixed to the container is deemed to be a supplier label for the purposes of section 319 if the label discloses:

- (a) a product identifier;
  - (b) where applicable, the fact that a material safety data sheet is available; and
  - (c) all necessary risk phrases, precautionary measures and first aid measures that apply to the product.
- (2) Where a sample of a product described in subsection (3) that is a controlled product or a product that a supplier or an employer has reason to believe may be a controlled product, a label provided by the supplier and affixed to the container received at the place of employment is deemed to be a supplier label for the purposes of section 319 if it meets the requirements of subsection (4).
- (3) Subsection (2) applies to a product that:
- (a) is contained in a container that contains less than 10 kilograms of the product;
  - (b) is intended by the supplier or the employer solely for analysis, testing or evaluation in a laboratory; and
  - (c) is one with respect to which the supplier is exempted pursuant to section 9 of the *Controlled Products Regulations* from the requirement to provide a material safety data sheet.
- (4) A label mentioned in subsection (2) must:
- (a) disclose the product identifier;
  - (b) disclose the chemical identity or generic chemical identity of any ingredient of the controlled product mentioned in any of subparagraphs 13(a)(i) to (v) of the *Hazardous Products Act* (Canada), if known to the supplier or the employer;

- (c) disclose the supplier identifier;
  - (d) contain the statement “Hazardous Laboratory Sample – For hazard information or in an emergency call [*insert telephone number mentioned in clause (e)*]”; and
  - (e) contain an emergency telephone number of the supplier that will enable:
    - (i) a user of the controlled product to obtain hazard information with respect to the controlled product; and
    - (ii) a physician or nurse to obtain, for the purpose of making a medical diagnosis of or rendering treatment to a person in an emergency, any information with respect to the controlled product that is mentioned in paragraph 13(a) of the *Hazardous Products Act* (Canada) and is in the possession of the supplier.
- (5) An employer is exempt from section 321 if the employer complies with subsection (6) with respect to a controlled product mentioned in subsection (1) or (2) that:
- (a) is manufactured by the employer; or
  - (b) in the case of a controlled product received from a supplier, is in a container other than the container in which it was received.
- (6) For the purposes of subsection (5), an employer shall:
- (a) identify the controlled product through a combination of:
    - (i) any mode of identification that is visible to workers at the place of employment; and
    - (ii) worker training; and
  - (b) ensure that the mode of identification and worker training used enables the workers to readily identify and obtain either:
    - (i) the information required on a material safety data sheet or label; or
    - (ii) a document disclosing the information mentioned in clauses (4)(a) to (e) with respect to the controlled product or the sample.
- (7) Where a controlled product is produced in a laboratory, an employer is exempt from section 321 if:
- (a) the controlled product is intended by the employer solely for evaluation, analysis or testing for research and development as defined in the *Controlled Products Regulations*;
  - (b) the controlled product is not removed from the laboratory;
  - (c) the controlled product is clearly identified through a combination of:
    - (i) any mode of identification that is visible to workers at the place of employment; and
    - (ii) worker training; and

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- (d) the employer ensures that the mode of identification and worker training used enables workers to readily identify the controlled product and obtain:
  - (i) the information required on a material safety data sheet, if one has been produced; or
  - (ii) any other information that is necessary for the safe use, storage and handling of the controlled product.

4 Oct 96 cO-1.1 Reg 1 s324.

**Supplier material safety data sheets**

**325(1)** An employer who acquires a controlled product for use at a place of employment shall obtain a supplier material safety data sheet with respect to that controlled product.

(2) Where a supplier material safety data sheet obtained pursuant to subsection (1) is more than three years old, an employer shall, if possible, obtain from the supplier an up-to-date supplier material safety data sheet with respect to that controlled product.

(3) Where an employer is unable to obtain an up-to-date supplier material safety data sheet pursuant to subsection (2), the employer shall add to the existing supplier material safety data sheet any new hazard information applicable to the controlled product on the basis of the ingredients disclosed in the existing supplier material safety data sheet.

(4) An employer may provide a material safety data sheet that is in a format different from the format provided by the supplier or that contains additional hazard information if:

- (a) subject to section 328, the material safety data sheet provided by the employer contains no less information than the supplier material safety data sheet, or any lesser information that is acceptable to the committee, the representative or, where there is no committee or representative, the workers; and

- (b) the supplier material safety data sheet is available at the place of employment and the employer's material safety data sheet indicates that fact.

(5) Where a supplier is exempted by section 9 or 10 of the *Controlled Products Regulations* from the requirement to provide a material safety data sheet for a controlled product, an employer is exempt from subsection (1).

4 Oct 96 cO-1.1 Reg 1 s325.

**Employer material safety data sheets**

**326(1)** Subject to section 328, where an employer produces a controlled product in a place of employment, the employer shall prepare a material safety data sheet with respect to the product that discloses the information required pursuant to the *Controlled Product Regulations*.

(2) For purposes of subsection (1), “**produces**” does not include the production of a fugitive emission or of intermediate products undergoing reaction within a reaction or process vessel.

(3) An employer shall update the material safety data sheet mentioned in subsection (1):

- (a) where new hazard information becomes available to the employer, as soon as is practicable but not later than 90 days after the new information becomes available; and
- (b) at least every three years.

4 Oct 96 cO-1.1 Reg 1 s326.

**Availability of material safety data sheets**

**327(1)** Subject to subsection (4), an employer shall ensure that a copy of a material safety data sheet required by section 325 or 326 is made readily available:

- (a) at a worksite to any worker who may be exposed to the controlled product; and
- (b) to the committee or the representative.

(2) Where a controlled product is received at a laboratory and the supplier has provided a material safety data sheet, an employer shall ensure that a copy of the material safety data sheet is readily available to any worker in the laboratory.

(3) Where a controlled product is received or produced at a laboratory and the employer has produced a material safety data sheet, the employer shall ensure that the material safety data sheet is readily available to any worker in the laboratory.

(4) A material safety data sheet may be made available on a computer terminal at a worksite if the employer:

- (a) takes all reasonable steps to keep the terminal in active working order;
- (b) makes the material safety data sheet readily available on the request of a worker; and
- (c) provides training in accessing computer-stored material safety data sheets:
  - (i) to workers working at a worksite where the material safety data sheet is available on the terminal; and
  - (ii) to members of the committee or to the representative.

4 Oct 96 cO-1.1 Reg 1 s327.

**Omissions from material data safety sheet**

**328** Pending the final determination of an employer's claim for an exemption pursuant to section 42 of the Act, the employer may, subject to any terms and conditions pursuant to that section, omit from a material safety data sheet required by section 325 or 326 the information that is the subject of the claim, but shall not omit any hazard information.

4 Oct 96 cO-1.1 Reg 1 s328.

**Disclosure re claim for exemption, exemption granted**

**329(1)** An employer who claims an exemption from a requirement to disclose information pursuant to section 42 of the Act shall disclose the following on the required material safety data sheet or label:

- (a) the date on which the claim for exemption was filed; and
- (b) the registry number assigned to the claim pursuant to the *Hazardous Materials Information Review Act* (Canada).

(2) Where an employer receives notice of a decision that a claim or portion of a claim mentioned in subsection (1) is valid:

- (a) subsection (1) continues to apply:
  - (i) if there is no appeal, for a period of 30 days after the expiry of the appeal period; or
  - (ii) if there is an appeal:
    - (A) for a period of 30 days after the determination of the appeal; and
    - (B) if there is a further appeal, until the final determination of that further appeal; and

(b) the employer shall, before the end of the period described in subclause (a)(i) or (ii) and throughout the period ending on the last day of the exemption period stated in the decision, disclose on the required material safety data sheet or label:

- (i) a statement that an exemption has been granted;
- (ii) the date of the decision granting the exemption; and
- (iii) the registry number assigned to the claim pursuant to the *Hazardous Materials Information Review Act* (Canada).

4 Oct 96 cO-1.1 Reg 1 s329.

**PART XXIII**  
**Asbestos**

**Interpretation**

**330** In this Part:

- (a) **“asbestos”** means the fibrous form of crocidolite, amosite, chrysotile, anthophyllite, actinolite, tremolite or a mixture containing any of those minerals;
- (b) **“asbestos dust”** means dust that consists of or contains asbestos fibres that are likely to become airborne;

- (c) **“asbestos process”** means any activity that may release asbestos dust, and includes:
- (i) the sawing, cutting or sanding of asbestos-containing materials;
  - (ii) the repair, maintenance, replacement or removal of asbestos surfaces;
  - (iii) the cleaning or disposal of asbestos materials;
  - (iv) the mixing or application of asbestos shorts, cements, grouts, putties or similar compounds;
  - (v) the storing or conveyance of materials containing asbestos; and
  - (vi) the demolition of structures containing asbestos;
- (d) **“asbestos surface”** means the surface of an object that contains asbestos;
- (e) **“friable”** means material that, when dry, is or can be crumbled, pulverized or powdered by hand pressure.

4 Oct 96 cO-1.1 Reg 1 s330.

**Application of Part**

**331** This Part applies to any place of employment or worksite where asbestos dust is likely to be released into the atmosphere and workers may be present.

4 Oct 96 cO-1.1 Reg 1 s331.

**Prohibition re crocidolite**

**332** No employer, contractor, owner, worker or self-employed person shall install crocidolite or any mixture containing crocidolite.

4 Oct 96 cO-1.1 Reg 1 s332.

**Prohibition re spraying**

**333** No employer, contractor, owner, worker or self-employed person shall spray asbestos-containing materials.

4 Oct 96 cO-1.1 Reg 1 s333.

**Identification of asbestos-containing materials**

**334(1)** Subject to subsection (3), on or before the dates set out in clauses (a) to (c), an employer, contractor or owner shall identify and keep a written record of the materials set out in those clauses that the employer, contractor or owner knows or may reasonably be expected to know are present in a place of employment and which workers may come into contact with:

- (a) all friable, exposed asbestos-containing materials, on or before July 1, 1997;
- (b) all friable, non-exposed accessible asbestos-containing materials, on or before July 1, 1998; and
- (c) all asbestos-containing pipe, boiler and duct insulating materials, on or before July 1, 1998.

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(2) Any material likely to contain asbestos is deemed to be asbestos-containing material for the purposes of this Part until the material is determined to be asbestos-free.

(3) An employer, contractor or owner shall immediately identify the presence in a place of employment of all material that is likely to contain asbestos, is damaged or in poor repair and is likely to release asbestos dust into the atmosphere at the place of employment.

(4) An employer, contractor or owner shall ensure that the identification of asbestos-containing materials pursuant to subsection (1) or the determination of asbestos-free materials pursuant to subsection (2) is performed only by a competent person.

(5) An employer, contractor or owner shall make a copy of the records mentioned in subsections (1), (3) and (5) available for reference by the committee or representative and the workers.

4 Oct 96 cO-1.1 Reg 1 s334.

**Labelling, placarding, etc.**

**335(1)** Where workers have access to asbestos-containing materials identified pursuant to subsection 334(1), an employer, contractor or owner shall ensure that:

- (a) the asbestos-containing materials are clearly and conspicuously labelled as asbestos;
- (b) the presence and location of the asbestos-containing materials are clearly indicated on a placard that is posted in a conspicuous location as close as possible to the asbestos-containing materials; or
- (c) the presence and location of the asbestos-containing materials are clearly indicated on a map or plan that is readily available to the workers.

(2) An employer, contractor or owner shall ensure that a label, placard, map or plan required by subsection (1) contains a warning of the danger to health from taking asbestos fibres into the body.

(3) An employer, contractor or owner shall provide to all employers, contractors and self-employed persons at the place of employment who may be at risk from any asbestos process all relevant information from the record kept pursuant to subsection 334(1) and any material mentioned in subsection 334(2) that is likely to be disturbed and may release asbestos dust.

4 Oct 96 cO-1.1 Reg 1 s335.

**Inspection**

**336(1)** An employer, contractor or owner shall ensure that all friable asbestos-containing material and all sprayed-on asbestos surfaces are regularly inspected by the employer, contractor or owner and are inspected at least annually by a competent person to confirm that the material is not releasing, and is not likely to release, asbestos dust into the atmosphere.

(2) An employer, contractor or owner shall keep a written record of the annual inspection mentioned in subsection (1) and make a copy of the record available for reference by the workers.

4 Oct 96 cO-1.1 Reg 1 s336.



**Asbestos processes**

**337(1)** An employer or contractor shall:

- (a) ensure that every asbestos process is carried out in a manner that prevents, to the extent that is practicable, the release into the air of asbestos dust;
- (b) in consultation with the committee, develop an asbestos control plan that protects the health and safety of all workers in the event of the dispersal of asbestos dust into the atmosphere at a place of employment or worksite; and
- (c) implement the asbestos control plan developed pursuant to clause (b).

(2) A plan developed pursuant to subsection (1) must be in writing and must include:

- (a) the emergency procedures to be used in case of an uncontrolled release of asbestos, including:
  - (i) the means to protect exposed workers;
  - (ii) the methods to confine and control the release of asbestos; and
  - (iii) the decontamination procedures to be used;
- (b) the asbestos processes that workers may undertake;
- (c) the training of workers in any asbestos process the workers may be required or permitted to undertake;
- (d) the methods to control the release of asbestos dust;
- (e) the personal protective equipment that workers may be required to use;
- (f) the decontamination procedures for:
  - (i) the worksite; and
  - (ii) the workers who undertake any asbestos process; and
- (g) the inspection and maintenance schedule for all asbestos-containing materials.

(3) An employer or contractor shall make a copy of the plan developed pursuant to subsection (1) readily available for reference by workers.

(4) Where an asbestos process is undertaken, an employer, contractor or owner shall ensure that:

- (a) the area is effectively isolated or otherwise enclosed to prevent the escape of asbestos dust to any other part of the place of employment;
- (b) a warning notice is conspicuously displayed indicating that asbestos work is in progress;
- (c) all asbestos-containing materials removed are placed in appropriate receptacles that are impervious to asbestos and that are clearly labelled "Asbestos"; and
- (d) the receptacles mentioned in clause (c) are handled and transported in a manner that will protect them from physical damage.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Asbestos surfaces**

**338** An employer, contractor or owner shall ensure that:

- (a) every asbestos surface is kept in good condition;
- (b) all repairs and sealing necessary to prevent the breaking-off of asbestos or the release of asbestos dust from an asbestos surface are done immediately;
- (c) no asbestos surface is disturbed for the purpose of maintenance, replacement, removal or repair until the surface is thoroughly wetted throughout the entire thickness; and
- (d) where it is not practicable to comply with clause (c):
  - (i) the asbestos surface is kept wet while the surface is being disturbed; or
  - (ii) effective means are used to capture, at source, any dust created by the disturbance.

4 Oct 96 cO-1.1 Reg 1 s338.

**Ventilation equipment**

**339(1)** Where exhaust ventilation equipment is used to contain asbestos dust, an employer, contractor or owner shall ensure that the equipment is:

- (a) equipped with a HEPA filter;
- (b) inspected regularly for defects;
- (c) maintained; and
- (d) certified by a competent person at least once each year as being able to function safely and effectively.

(2) Where exhaust ventilation equipment will exhaust into the interior of a place of employment that is occupied by workers, an employer, contractor or owner shall ensure that the equipment is tested in an approved manner by a competent person before beginning an asbestos process to ensure that the equipment is able to function safely and effectively.

4 Oct 96 cO-1.1 Reg 1 s339.

**Personal protective equipment**

**340(1)** Where effective local exhaust ventilation equipment is not used, an employer, contractor or owner shall ensure that each worker who may be exposed to asbestos dust resulting from an asbestos process is provided with and uses:

- (a) an approved respiratory protective device that is appropriate to the level of risk of the asbestos process and that meets the requirements of Part VII; and
- (b) approved protective clothing that, when worn, will exclude asbestos dust.

(2) An employer shall ensure that protective clothing:

- (a) is disposed of as asbestos waste after use; or
- (b) is kept, maintained and cleaned in a safe manner each time it is used.

4 Oct 96 cO-1.1 Reg 1 s340.

**Asbestos waste**

**341(1)** Subject to subsection (3), an employer or contractor shall ensure that asbestos waste or dust produced in a place of employment is cleaned away promptly, and at least once each day, by vacuum cleaning equipment equipped with a HEPA filter to prevent the escape of asbestos dust into the air or, where vacuum cleaning is not practicable, by wet methods.

(2) An employer or contractor shall ensure that the vacuum cleaning equipment mentioned in subsection (1):

- (a) is inspected regularly for defects;
- (b) is maintained; and
- (c) is certified by a competent person at least once each year as being able to function safely and effectively.

(3) Subsection (1) does not apply to vacuum cleaning equipment used within an effectively isolated enclosure that is being used to control the release of asbestos dust.

(4) An employer or contractor shall ensure that workers who are employed in the disposal of asbestos wastes are adequately trained in the safe means of handling those wastes and the proper disposal of those wastes in a manner that will not create a hazard to the health or safety of workers at the disposal site.

4 Oct 96 cO-1.1 Reg 1 s341.

**Warning of health risks**

**342** An employer shall ensure that workers who are likely to be employed in an asbestos process or are likely to be exposed to asbestos dust are informed of the nature and extent of the risk to their health, including a warning that:

- (a) the inhalation of asbestos may cause:
  - (i) pneumoconiosis;
  - (ii) lung cancer; or
  - (iii) mesothelioma; and
- (b) the risk of injury to health caused by the inhalation of asbestos is increased by smoking.

10 Aug 2007 SR 67/2007 s25.

**Training**

**343(1)** An employer shall ensure that each worker who may be exposed to asbestos dust resulting from an asbestos process is provided with training in the safe handling of asbestos that is appropriate to the level of risk of the asbestos process as set out in Table 5 of the Appendix.

(2) No worker shall work in an asbestos process unless the worker has completed the training mentioned in subsection (1).

4 Oct 96 cO-1.1 Reg 1 s343.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**High risk asbestos processes**

**344** Where a high risk asbestos process set out in Table 5 of the Appendix has been completed, an employer or contractor shall ensure that no worker is required or permitted to enter the area where the asbestos process was carried out without an approved respiratory protective device until a competent person determines that:

- (a) there are no visible signs of debris in that area; and
- (b) air monitoring verifies that airborne asbestos fibre concentrations are less than 0.01 fibres per cubic centimetre of air.

4 Oct 96 cO-1.1 Reg 1 s344.

**Medical examinations**

**345(1)** In this section, “**worker**” means a worker who is regularly employed in an asbestos process.

(1.1) Not less than once every two years and with consent of the worker, the employer shall:

- (a) offer to arrange for a medical examination of the worker during the worker’s normal working hours; and
- (b) reimburse the worker for any part of the cost of the medical examination that the worker cannot recover.

(2) Where a worker cannot attend a medical examination mentioned in subsection (1.1) during the worker’s normal working hours, an employer shall credit the worker’s attendance at the examination as time at work and ensure that the worker does not lose any pay or other benefits.

(3) A medical examination arranged pursuant to subsection (1.1) must include:

- (a) a comprehensive medical history and physical examination with special attention to the respiratory system;
- (b) lung-function tests, including forced vital capacity and forced expiratory volume at one second; and
- (c) any further medical investigations that are necessary for the diagnosis of an asbestos-related disease.

4 Oct 96 cO-1.1 Reg 1 s345; 10 Aug 2007 SR 67/2007 s26.

PART XXIV  
Silica Processes and Abrasive Blasting

**Interpretation**

**346** In this Part:

- (a) **“abrasive blasting”** means the cleaning, smoothing, roughening or removing of part of the surface of any article by the use of a jet of sand, metal shot, grit or other material;
- (b) **“blasting enclosure”** means a chamber, barrel, cabinet or other similar enclosure designed for the purpose of the abrasive blasting of articles;
- (c) **“cleaning of castings”** means, in connection with the making of metal castings, the freeing of the castings from adherent sand or other substance containing more than 5% uncombined silica, and includes the removal of cores and the general smoothing of the castings where that freeing is done, but does not include the freeing of castings from scale formed during annealing or heat treatment;
- (d) **“sandblasting”** means an abrasive blasting process that uses sand as an abrasive;
- (e) **“silica flour”** means the ground material produced by the milling of siliceous rocks or other siliceous substances;
- (f) **“silica process”** means a process that may release uncombined silica in a crystalline form in concentrations likely to exceed the contamination limits set out in Table 21 of the Appendix, and includes:
  - (i) sandblasting;
  - (ii) the cleaning of castings;
  - (iii) the abrasive blasting, grinding or dressing of any surface that contains more than 5% uncombined silica, including the engraving or abrasive cleaning of gravestones or structures;
  - (iv) the getting, cutting, splitting, crushing, grinding, milling, drilling, sieving or other mechanical manipulation of gravel or other siliceous stone or rock that contains more than 5% uncombined silica;
  - (v) any process in which silica flour is used; and
  - (vi) the manufacture of silica-containing bricks and the dismantling or repair of silica-containing refractory linings of furnaces;
- (g) **“siliceous substances”** includes diatomite;
- (h) **“uncombined silica”** means silica that is not combined chemically with any other element or compound.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Application of Part**

**347** This Part applies to any place of employment or worksite where a silica process is used.

4 Oct 96 cO-1.1 Reg 1 s347.

**Warning of workers**

**348** An employer shall warn all workers who, in the course of employment, are likely to be engaged in a silica process or are likely to be exposed to silica dust of the dangers to health from the inhalation of dust containing silica.

4 Oct 96 cO-1.1 Reg 1 s348.

**Cleaning of blasting equipment, etc.**

**349** An employer, contractor or owner shall take all practicable steps to prevent the inhalation of silica dust or the dissemination of silica dust into the air of the place of employment during the cleaning or maintenance of any blasting equipment, blasting enclosure, ventilating system or separating equipment.

4 Oct 96 cO-1.1 Reg 1 s349.

**Cleaning of worksites**

**350** An employer or contractor shall ensure that all worksites and work-related areas where dust from a silica process may affect the health or safety of a worker are regularly cleaned using a vacuum that has a HEPA filter on the exhaust or, where a vacuum is not practicable, by using wet methods.

4 Oct 96 cO-1.1 Reg 1 s350.

**Silica processes other than abrasive blasting**

**351(1)** Where a silica process other than abrasive blasting is carried on, an employer or contractor shall ensure that the entry of dust into the air where workers may be present is prevented, to the extent that is practicable, by the provision of:

- (a) total or partial enclosure of the process;
- (b) efficient local exhaust ventilation;
- (c) jets or sprays of a suitable wetting agent; or
- (d) any other method that provides equivalent protection to the workers.

(2) An employer or contractor shall ensure that any enclosure, apparatus or exhaust-ventilation equipment provided pursuant to subsection (1) is:

- (a) maintained in accordance with subsections 67(2) and (3);
- (b) inspected daily when in use; and
- (c) certified as safe and effective by a competent person at least once each year.

(3) An employer or contractor shall ensure that no air discharged from a ventilation system provided pursuant to subsection (1) is recirculated in the place of employment unless the air is passed through an effective dust removal system equipped with a device that will provide a warning to workers when the system is not working effectively.

4 Oct 96 cO-1.1 Reg 1 s351; 31 Jan 97 SR 6/97  
s12.

**Isolation from air containing dust**

**352** Where it is not practicable to prevent the entry into the air of dust from a silica process, an employer or contractor shall, where it is practicable, provide for the isolation of workers from the air containing the dust.

4 Oct 96 cO-1.1 Reg 1 s352.

**Personal protective equipment**

**353(1)** An employer or contractor shall provide, and require a worker to wear, a respiratory protective device and other personal protective equipment that meet the requirements of Part VII where:

- (a) the protective measures required by section 351 or 352 are not practicable;  
or
- (b) the worker is employed in cleaning and maintenance work and may be exposed to dust from a silica process.

(2) For workers engaged in abrasive blasting, an employer or contractor shall provide and maintain approved blasting hoods supplied with air:

- (a) of a volume of not less than 170 litres per minute at a pressure of not more than 140 kilopascals; and
- (b) that is clean and at a reasonable temperature.

(3) For workers who may be exposed to dust resulting from abrasive blasting, an employer or contractor shall provide and maintain respiratory protective devices that meet the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s353.

**Standards for blasting enclosures**

**354(1)** An employer or contractor shall ensure that every blasting enclosure is:

- (a) constructed, operated and maintained to prevent the escape of dust;
- (b) provided with an efficient, dust-extraction system, that is operated continuously whenever the blasting enclosure is in use, whether or not abrasive blasting is actually taking place; and
- (c) provided with efficient equipment for separating the abrasive from the dust, to the extent that is practicable.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996

- (2) An employer or contractor shall ensure that an abrasive is not reintroduced into a blasting apparatus until the abrasive has been separated from the dust pursuant to clause (1)(c).
- (3) An employer or contractor shall ensure that:
- (a) a blasting enclosure is inspected daily when in use;
  - (b) a blasting enclosure, the equipment connected with the enclosure and the ventilating system associated with the enclosure are thoroughly examined and tested regularly by a competent person; and
  - (c) all defects identified pursuant to this section are remedied immediately.
- (4) A competent person who carries out examinations and testing pursuant to clause (3)(b) shall record the results of those examinations and tests.

4 Oct 96 cO-1.1 Reg 1 s354.

**Use of blasting enclosures****355** An employer or contractor shall ensure that:

- (a) to the extent that is practicable, no abrasive blasting of articles that are likely to give rise to dust containing uncombined silica is done other than in a blasting enclosure;
- (b) where practicable, no sand or other substance containing more than 1% by weight of uncombined silica is used for abrasive blasting in a blasting enclosure; and
- (c) no work is performed in a blasting enclosure except:
  - (i) abrasive blasting and work immediately incidental to abrasive blasting; and
  - (ii) cleaning and maintenance of the blasting enclosure, the equipment associated with the blasting enclosure and the ventilation system.

4 Oct 96 cO-1.1 Reg 1 s355.

**Sandblasting****356(1)** An employer or contractor shall ensure that no sandblasting is done to any article outside a blasting enclosure where it is reasonably practicable to introduce the article into a blasting enclosure.

- (2) An employer or contractor shall ensure that no sandblasting is done inside any structure or confined space without:
- (a) obtaining the written permission of the director; and
  - (b) complying with any conditions that the director may specify.

4 Oct 96 cO-1.1 Reg 1 s356.

**Silica flour****357** An employer or contractor shall ensure that no silica flour is used:

- (a) for any purpose for which a less hazardous substance may be substituted; or
- (b) in the manufacture of scouring powder or abrasive soaps or as an abrasive in any process.

4 Oct 96 cO-1.1 Reg 1 s357.



**Medical examinations**

**358(1)** In this section, “**worker**” means a worker who is regularly employed in a silica process.

(1.1) Not less than once every two years and with consent of the worker, the employer shall:

(a) offer to arrange for a medical examination of the worker during the worker’s normal working hours; and

(b) reimburse the worker for any part of the cost of the medical examination that the worker cannot recover.

(2) Where a worker cannot attend a medical examination mentioned in subsection (1.1) during the worker’s normal working hours, an employer shall credit the worker’s attendance at the examination as time at work and ensure that the worker does not lose any pay or other benefits.

(3) A medical examination arranged pursuant to subsection (1.1) must include:

(a) a comprehensive medical history and physical examination with special attention to the respiratory system;

(b) lung-function tests, including forced vital capacity and forced expiratory volume at one second; and

(c) any further medical investigations that are necessary for the diagnosis of a silica-related disease.

4 Oct 96 cO-1.1 Reg 1 s358; 10 Aug 2007 SR 67/2007 s27.

**PART XXV****Fire and Explosion Hazards****Interpretation**

**359** In this Part:

(a) “**combustible liquid**” means a liquid that has a flashpoint at or above 37.8° Celsius and below 93.3° Celsius;

(b) “**container**” means a stationary or portable vessel that is used to contain a flammable substance, and includes a tank, tank car, tank truck and a cylinder;

(c) “**flammable liquid**” means a liquid that has a flashpoint below 37.8° Celsius and has a vapour pressure not exceeding 275.8 kilopascals at 37.8° Celsius;

(d) “**flammable substance**” means:

(i) a flammable or combustible solid, liquid or gas; or

(ii) dust that is capable of creating an explosive atmosphere when suspended in air in concentrations within the explosive limit of the dust;

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(e) **“hot work”** means work that produces arcs, sparks, flames, heat or other sources of ignition;

(f) **“system”** means a system into which compressed or liquified gases are delivered and stored and from which the compressed or liquified gas is discharged in the liquid or gaseous form, and includes containers, pressure regulators, pressure relief devices, manifolds, interconnecting piping and controls.

4 Oct 96 cO-1.1 Reg 1 s359.

**Fire safety plan**

**360(1)** An employer, contractor or owner shall:

- (a) take all reasonably practicable steps to prevent the outbreak of fire at a place of employment and to provide effective means to protect workers from any fire that may occur; and
  - (b) develop and implement a written fire safety plan that provides for the safety of all workers in the event of a fire.
- (2) A plan developed pursuant to subsection (1) must include:
- (a) the emergency procedures to be used in case of fire, including:
    - (i) sounding the fire alarm;
    - (ii) notifying the fire department; and
    - (iii) evacuating endangered workers, with special provisions for workers with disabilities;
  - (b) the quantities, locations and storage methods of all flammable substances present at the place of employment;
  - (c) the designation of persons to carry out the fire safety plan and the duties of the designated persons;
  - (d) the training of designated persons and workers in their responsibilities for fire safety;
  - (e) the holding of fire drills; and
  - (f) the control of fire hazards.
- (3) An employer, contractor or owner shall ensure that:
- (a) designated persons and workers who have been assigned fire safety duties are adequately trained in, and implement, the fire safety plan;
  - (b) the fire safety plan is posted in a conspicuous place for reference by workers; and
  - (c) a fire drill is held at least once during each 12-month period.

4 Oct 96 cO-1.1 Reg 1 s360.

**Fire extinguishers**

**361(1)** An employer, contractor or owner shall ensure that portable fire extinguishers are selected, located, inspected, maintained and tested so that the health and safety of workers at the place of employment is protected.

(2) An employer, contractor or owner shall ensure that portable fire extinguishers are placed not more than nine metres away from:

- (a) each industrial open-flame portable heating device, tar pot or asphalt kettle that is in use; and
- (b) each welding or cutting operation that is in progress.

4 Oct 96 cO-1.1 Reg 1 s361.

**Garbage as fire hazard**

**362** Where garbage that may constitute a fire hazard is present at a place of employment, an employer, contractor or owner shall provide covered receptacles for the garbage that are suitable to the nature of the hazard.

4 Oct 96 cO-1.1 Reg 1 s362.

**Procedures for flammable substances**

**363(1)** Where a flammable substance is or is intended to be handled, used, stored, produced or disposed of at a place of employment, an employer, contractor or owner shall develop written procedures to ensure the health and safety of workers who:

- (a) handle, use, store, produce or dispose of a flammable substance that may spontaneously ignite or ignite when in combination with any other substance; or
- (b) perform hot work where there is a risk of fire.

(2) An employer, contractor or owner shall ensure that all workers who are required or permitted to perform work mentioned in subsection (1) are trained in, and implement, the procedures developed pursuant to subsection (1).

(3) Workers who perform work mentioned in subsection (1) shall implement the procedures developed pursuant to subsection (1).

4 Oct 96 cO-1.1 Reg 1 s363.

**Receptacles for materials contaminated by flammable liquids**

**364(1)** An employer, contractor or owner shall ensure that materials contaminated by flammable liquids are placed in receptacles that:

- (a) are non-combustible and have close-fitting metal covers;
- (b) are labelled "flammable"; and
- (c) are located at least one metre away from other flammable liquids.

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(2) Where the surface on which a receptacle required by subsection (1) is placed is combustible, an employer shall ensure that the receptacle has a flanged bottom or legs that are not less than 50 millimetres high.

(3) A worker shall place materials contaminated by flammable liquids and garbage that may constitute a fire hazard into the appropriate receptacle required by this section or by section 362.

4 Oct 96 cO-1.1 Reg 1 s364.

**Receptacles for combustible or flammable liquids**

**365** An employer, contractor or owner shall ensure that combustible and flammable liquids are kept in receptacles that meet the requirements of the *National Fire Code of Canada 1990*, including any Revisions and Errata published from time to time, respecting the storage of flammable and combustible liquids.

4 Oct 96 cO-1.1 Reg 1 s365.

**Hazardous activities involving combustible or flammable liquids**

**366(1)** An employer or contractor shall ensure that:

- (a) no gasoline is used to start a fire or used as a cleaning agent; and
- (b) no worker is required or permitted:
  - (i) to replenish a tank on a heating device with a combustible or flammable liquid while the device is in operation or is hot enough to ignite the liquid; or
  - (ii) to place a tar pot, while in use, within three metres of an entrance to or exit from a building.

(2) A worker shall not:

- (a) use gasoline to start a fire or use gasoline as a cleaning agent; or
- (b) replenish a tank on a heating device with a flammable or combustible liquid while the device is in operation or is hot enough to ignite the liquid.

4 Oct 96 cO-1.1 Reg 1 s366.

**Control of ignition sources, static charges**

**367** An employer or contractor shall ensure that:

- (a) suitable procedures are developed and implemented to prevent the ignition of flammable liquids or explosive dusts that are present at a worksite;
- (b) all sources or potential sources of ignition are eliminated or controlled where an explosive atmosphere exists or is likely to exist; and
- (c) static charge accumulations during transfer of flammable liquids or explosive substances from one container to another are prevented by electrically bonding the containers.

4 Oct 96 cO-1.1 Reg 1 s367.

**Flammable liquids, gases or explosive substances in vehicles**

**368(1)** An employer shall ensure that no worker undertakes any servicing or maintenance of a vehicle while a flammable liquid or gas or an explosive substance:

- (a) is loaded into or unloaded from the vehicle; or
- (b) is present in the vehicle in any place other than the fuel tank.

(2) Where reasonably practicable, a worker who operates a vehicle that contains a flammable liquid or gas or an explosive substance shall ensure that the engine of the vehicle is shut off during the connection or disconnection of the lines for the loading or unloading of the flammable liquid, gas or explosive substance.

4 Oct 96 cO-1.1 Reg 1 s368.

**Flammable or explosive substance in atmosphere**

**369(1)** Where a flammable or explosive substance is present in the atmosphere of a worksite at a level that is more than 20% of the lower explosive limit of that substance, an employer or contractor shall not require or permit a worker to enter or work at the worksite.

(2) Subsection (1) does not apply to:

- (a) a fire fighter who has been trained pursuant to section 482; or
- (b) a competent worker who meets the requirements of subsection (3) and who is acting in an emergency situation at the place of employment.

(3) An employer shall ensure that:

- (a) the competent worker mentioned in clause (2)(b) is trained, equipped and works according to an approved standard;
- (b) the training required by clause (a) is provided by a competent person; and
- (c) a written record is kept of all training delivered to a worker pursuant to clause (a).

4 Oct 96 cO-1.1 Reg 1 s369; 10 Aug 2007 SR 67/2007 s28.

**Hot work**

**370(1)** Where a flammable substance is or may be present, an employer or contractor shall ensure that no hot work is performed until:

- (a) suitable tests have been conducted that:
  - (i) indicate whether the atmosphere contains a flammable substance in a quantity sufficient to create an explosive atmosphere; and
  - (ii) confirm that the work may be safely performed; and
- (b) the work procedures developed pursuant to clause 363(1)(b) have been implemented to ensure continuous safe performance of the work.

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- (2) While hot work is being performed, an employer or contractor shall conduct tests described in clause (1)(a) at intervals appropriate to the work being performed and record the results.
- (3) An employer or contractor shall not require or permit any hot work to be performed in the vicinity of a material that may constitute a fire hazard until suitable steps have been taken to reduce the risk of fire.
- (4) An employer or contractor shall ensure that a container or piping that contains or has contained a flammable substance is purged using an effective method to remove the flammable substance from the container or piping before any hot work is begun on that container or piping.
- (5) An employer or contractor shall not require or permit any welding or cutting of metal that has been cleaned with a flammable or combustible liquid until the metal has thoroughly dried.

4 Oct 96 cO-1.1 Reg 1 s370.

**Compressed and liquified gas systems**

**371(1)** An employer or contractor shall:

- (a) develop and implement written procedures for the safe installation, use and maintenance of a system;
  - (b) make readily available for reference by workers the procedures developed pursuant to clause (a) before requiring or permitting the use of the system; and
  - (c) ensure that all workers are trained in and implement the procedures developed pursuant to clause (a).
- (2) The workers shall implement the procedures developed pursuant to clause (1)(a).
- (3) An employer or contractor shall ensure:
- (a) that a system:
    - (i) is not exposed to temperatures that may result in the failure of the system or explosion of the contents of the system;
    - (ii) is maintained in a clean state, free from oil, grease or other contaminant that may cause a failure of the system or that may burn or explode if the contaminant comes into contact with the contents of the system; and
    - (iii) is located, guarded and handled during filling, transportation, use and storage so that the system is protected from damage;
  - (b) that service valve outlets and the extensions of service valve outlets of containers that are not connected to any apparatus are capped; and
  - (c) where equipment is designed for use with a particular compressed or liquified gas or gases, that:
    - (i) only those gases are used in the equipment; and
    - (ii) the equipment is clearly labelled as being only for that use.

- (4) A worker shall:
- (a) take all reasonable steps to ensure that sparks, flames or other sources of ignition do not come into contact with a system;
  - (b) maintain a system in a clean state, free from oil, grease or any other contaminant; and
  - (c) secure the cap in place before transporting a container.

4 Oct 96 cO-1.1 Reg 1 s371.

#### Oxygen

**372**(1) An employer or contractor shall ensure that no oil, grease or other contaminant contacts a cylinder, valve, regulator or any other fitting of an oxygen-using apparatus or an oxygen distribution or generating system.

(2) An employer or contractor shall ensure that oxygen is not used as a substitute for compressed air:

- (a) in pneumatic tools;
- (b) to create pressure;
- (c) for ventilating purposes; or
- (d) to blow out a pipeline.

(3) A worker shall not use oxygen as a substitute for compressed air:

- (a) in pneumatic tools;
- (b) to create pressure;
- (c) for ventilating purposes; or
- (d) to blow out a pipeline.

4 Oct 96 cO-1.1 Reg 1 s373.

#### Gas burning and welding equipment

**373**(1) Where gas burning or welding equipment is in use, an employer or contractor shall ensure that:

- (a) approved flashback devices are installed on both hoses at the regulator end; and
- (b) acetylene and liquified gas containers are used and stored in an upright position.

(2) A worker shall shut off the container valve and release the pressure in the hose when the worker has finished with any gas burning or welding equipment and is not likely to use it within the next two hours.

4 Oct 96 cO-1.1 Reg 1 s373.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Piping**

374(1) Where workers are required or permitted to work on piping that may contain harmful substances or substances under pressure, an employer or contractor, in consultation with the committee, shall develop written procedures to protect the workers from contact with those substances.

- (2) The procedures developed pursuant to subsection (1) must include:
  - (a) the installation of a blank that is appropriate for the proper pressure in the piping;
  - (b) the closing of two blocking valves installed in the piping and the opening of a bleed-off valve installed between the blocking valves;
  - (c) the installation of an approved safety device; or
  - (d) where the procedures mentioned in clauses (a), (b) and (c) are not reasonably practicable, any other procedures that are adequate to protect the health and safety of the workers.
- (3) An employer or contractor shall ensure that all workers are trained in and implement the procedures developed pursuant to subsection (1).
- (4) An employer or contractor shall ensure that:
  - (a) the piping mentioned in clause (2)(a) is clearly marked to indicate that a blank has been installed; or
  - (b) the two blocking valves mentioned in clause (2)(b) or the approved safety device mentioned in clause (2)(c):
    - (i) are locked in the closed position and the bleed-off valve is locked in the open position; and
    - (ii) are tagged to indicate that the valves must not be activated until the tags are removed by a worker designated by the employer for that purpose.
- (5) An employer or contractor shall ensure that a worker designated pursuant to subclause (4)(b)(ii):
  - (a) monitors the valves to ensure that they are not activated while a worker is working on the piping; and
  - (b) records on the tag mentioned in subclause (4)(b)(ii) the date and time of each monitoring and signs the tag each time the worker monitors the valves.
- (6) An employer or contractor shall ensure that any valve installed on piping mentioned in this section is clearly marked to indicate the open and closed positions.



**PART XXVI**  
**Explosives**

**Application of Part**

**375** This Part applies to all blasting activities, except blasting activities governed by *The Mines Regulations* or *The Sedimentary Basin Geophysical Exploration Regulations, 1985*.

4 Oct 96 cO-1.1 Reg 1 s375.

**Qualifications of workers**

**376(1)** An employer or contractor who plans to conduct blasting activities shall ensure that a worker who is to undertake a blasting operation:

- (a) has been thoroughly trained in:
  - (i) the estimation of the amount of explosives required, and in placing, priming and initiating the charge;
  - (ii) the appropriate procedures to be followed to ensure the safety of other workers;
  - (iii) the procedures to be followed in the event of a misfire; and
  - (iv) the examination of the site after blasting to ensure that it is safe to return to the site;
- (b) has demonstrated competence to carry out the procedures mentioned in clause (a);
- (c) has a thorough knowledge of all federal and provincial statutes, regulations and codes of practice pertaining to the safe use of explosives that are relevant to the blasting operation in question; and
- (d) holds a written authorization to blast signed by the worker's employer.

(2) A worker shall not undertake a blasting activity until the worker possesses written authorization to blast signed by the worker's employer.

4 Oct 96 cO-1.1 Reg 1 s376.

**Written procedures**

**377(1)** An employer or contractor shall ensure that appropriate written procedures are provided to a worker who conducts a blasting operation to ensure the safety of the worker and any other person in the vicinity of the blasting operation.

(2) A worker who undertakes a blasting activity shall follow the procedures provided by the employer or contractor pursuant to subsection (1).

4 Oct 96 cO-1.1 Reg 1 s377.

**Equipment**

**378** An employer or contractor shall provide a worker who is to undertake a blasting operation with suitable testing and detonating equipment.

4 Oct 96 cO-1.1 Reg 1 s378.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Storage and transportation of explosives**

**379(1)** An employer or contractor shall ensure that all explosives are stored or transported:

- (a) in suitable sealed containers that are conspicuously marked “Danger – Explosives”; and
- (b) in a manner that prevents the explosives from coming into contact with any flammable substance or other agent that may cause the explosives to detonate.

(2) An employer or contractor shall ensure that all explosives are kept in a secure location that is accessible only to authorized workers.

4 Oct 96 cO-1.1 Reg 1 s379.

**PART XXVII**  
**Demolition Work**

**Interpretation**

**380** In this Part, “**demolition**” means the tearing down, destroying, breaking up or razing of a structure, and includes the demolition of any major part of a structure that involves outer walls or principal supporting members.

4 Oct 96 cO-1.1 Reg 1 s380.

**Before demolition begins**

**381(1)** Before a demolition begins, an employer, contractor or owner shall ensure that:

- (a) all chemical or biological substances that may be hazardous to workers during demolition are removed from the structure or the part of the structure that is being demolished;
- (b) all glass is removed from the structure or the part of the structure that is being demolished; and
- (c) subject to subsection (2), all gas, electrical, telecommunications, sewer and water services connected to the structure or the part of the structure that is being demolished are disconnected.

(2) Where power is required for illumination or other purposes, an employer, contractor or owner shall provide a suitably located temporary power service.

4 Oct 96 cO-1.1 Reg 1 s381.

**Stability of adjacent structures**

**382** Where the demolition of a structure may affect the stability of an adjoining structure, an employer, contractor or owner shall ensure that:

- (a) the demolition is carried out in accordance with procedures certified in writing by a professional engineer to safeguard the stability of the adjoining structure; and
- (b) a copy of the procedures required by clause (a) is kept at the worksite during demolition.

4 Oct 96 cO-1.1 Reg 1 s382.

**Requirements re workers**

**383** In a demolition, an employer, contractor or owner:

- (a) shall appoint a competent supervisor to be in charge of the demolition at all times that the work is in progress;
- (b) shall ensure that all workers or equipment are located clear of any falling material; and
- (c) where a worker is or may be present in a building during its demolition, shall ensure that the demolition is performed floor by floor from the top downward.

4 Oct 96 cO-1.1 Reg 1 s383.

**Demolition procedures**

**384** In a demolition, an employer, contractor or owner shall ensure that:

- (a) dust from the demolition is controlled to the extent that is reasonably practicable;
- (b) materials and debris are not allowed to accumulate in any area to the extent that the materials and debris cause overloading of a structure that could result in the collapse of all or part of the structure;
- (c) any opening or hole in a floor, roof or other surface on which workers are required or permitted to walk or stand is guarded or covered as required by section 124;
- (d) a free-standing scaffold is used in the demolition of a building shaft from the inside;
- (e) steel structures are dismantled column length by column length and tier by tier from the top downward; and
- (f) no wall or other part of the structure being demolished is left in an unstable condition or in danger of accidental collapse except during the actual demolition of that wall or part of the structure.

4 Oct 96 cO-1.1 Reg 1 s384.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Material chutes**

**385(1)** An employer, contractor or owner shall ensure that a material chute steeper than 45° from the horizontal is constructed to enclose the material placed in the chute.

(2) Where a material chute presents a danger to workers, an employer, contractor or owner shall ensure that a guardrail is installed around the top of the chute to prevent workers from falling into the chute.

4 Oct 96 cO-1.1 Reg 1 s385.

**Structural members**

**386(1)** An employer, contractor or owner shall ensure that structural members that are being removed are not under any stress other than the member's own weight and are secured or supported to prevent any unexpected movement.

(2) Where a structural member is being hoisted by a crane or other similar lifting device from a structure being demolished or from the demolition rubble, an employer, contractor or owner shall ensure that the hoisting line is in a vertical position and is over the centre of gravity of the load in a manner that will reduce the danger to workers from a swinging or uncontrolled load.

4 Oct 96 cO-1.1 Reg 1 s386.

**Use of powered mobile equipment**

**387(1)** Before powered mobile equipment is placed on a floor, roof or other surface on which workers are required or permitted to walk or stand for the purpose of demolishing a structure, an employer, contractor or owner shall ensure that the floor, roof or other surface is capable of supporting the load that may be placed on the floor, roof or other surface.

(2) Where powered mobile equipment is used for the purpose of demolishing a structure, an employer, contractor or owner shall ensure that safe work procedures are developed and implemented.

4 Oct 96 cO-1.1 Reg 1 s387.

**Use of explosives**

**388** Where a structure is to be demolished by explosives, an employer, contractor or owner shall:

- (a) ensure that a competent person develops a demolition procedure to protect the health and safety of workers;
- (b) submit a copy of the demolition procedure to the division not less than 30 days before the proposed date of the demolition; and
- (c) ensure that the worker who undertakes the blasting activity has the training, competence and knowledge described in clauses 376(1)(a) to (c).

4 Oct 96 cO-1.1 Reg 1 s388.

PART XXVIII  
Forestry and Mill Operations

**Interpretation**

**389** In this Part:

- (a) **“bucking”** means sawing a log or felled tree into smaller lengths;
- (b) **“chicot”** means a dead or damaged tree or a dead or damaged limb of a tree;
- (c) **“cutting”** includes felling, limbing and bucking;
- (d) **“felling”** means cutting a tree from the tree’s stump and bringing the tree to the ground;
- (e) **“forestry operation”** means the cutting or harvesting of trees, and includes the transporting of logs and the preparing of sites for tree planting and seeding;
- (f) **“limbing”** means removing limbs from a tree that has been felled;
- (g) **“lodged tree”** means a tree that has not fallen to the ground after being partly or wholly separated from the tree’s stump or displaced from the tree’s natural position;
- (h) **“mill operation”** means the operation of a pulp mill, paper mill, sawmill, plywood mill, wafer-board mill or strand-board mill, and includes the operation of equipment that is designed to manufacture or process wood products;
- (i) **“skidder operator”** means a worker who operates a skidder or who operates any other powered mobile equipment to perform the work of a skidder;
- (j) **“skidding”** means moving logs or trees by pulling the logs or trees across the terrain;
- (k) **“snag”** means any material or object that may interfere with the safe movement of a tree or log or that may endanger a worker;
- (l) **“stake”** means a wooden or metal post or a post made of other material of equivalent strength that is used to support and prevent the lateral movement of logs;
- (m) **“windfall”** means a tree blown down by wind;
- (n) **“wood products”** includes pulp, pulpwood, paper, veneer, plywood, lumber, timber, poles, posts, chips, wafers and other products resulting from a forestry operation.

4 Oct 96 cO-1.1 Reg 1 s389.

**Application of Part**

**390** This Part applies to all forestry operations and mill operations.

4 Oct 96 cO-1.1 Reg 1 s390.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**First aid attendant**

**391** Notwithstanding section 52, where a worker is cutting or skidding, an employer or contractor shall ensure that a first aid attendant with a class A qualification is readily available at all times.

4 Oct 96 cO-1.1 Reg 1 s391.

**Cutting and skidding – general requirements**

**392(1)** During cutting and skidding operations, an employer or contractor shall ensure that:

- (a) workers who do not have duties associated with cutting and skidding are not permitted to enter the area where those operations are carried out while they are being carried out;
- (b) a worker fells all timber that is adjacent to a proposed landing or other place where workers will work and that may create a hazard to workers before the landing or other place is used;
- (c) no worker fells a tree within range of a travelled road unless effective means are taken to stop traffic until the tree has been felled and the tree and all debris that creates a risk to the health or safety of a worker have been removed from the road; and
- (d) a worker closely limbs trees:
  - (i) before the trees are placed on a rollway; or
  - (ii) where the limbs may create a risk to the health or safety of a worker.

(2) An employer or contractor shall ensure that:

- (a) no person enters a felling area unless the worker engaged in felling has advised the person entering the area that it is safe to enter;
- (b) workers are instructed in, and comply with, the duties set out in subsection (3), subsection 146(4), sections 393 and 394, subsections 395(3), 397(3) and 398(2), section 400 and subsection 401(11);
- (c) every worker engaged in conventional logging has, within six months after commencing employment, successfully completed an approved course in conventional logging safety; and
- (d) a worker who has completed an approved course as required by clause (c) maintains any designation or certification that is earned through completing that course.

(3) A worker shall not work on a hillside below a cutting or skidding operation where a danger may exist from a tree or log rolling or moving downhill towards the worker.

4 Oct 96 cO-1.1 Reg 1 s392; 10 Aug 2007 SR 67/2007 s29.

**Cutting**

**393** During cutting operations, a worker shall:

- (a) remove any chicot or any other hazard to the worker or any other worker in the vicinity before any other tree is felled;
- (b) remain at a safe distance from, and not fell a tree onto, any tree that is lodged or may be dangerous for any other reason; and
- (c) move quickly to a predetermined safe position when a tree starts to fall.

4 Oct 96 cO-1.1 Reg 1 s393.

**Felling**

**394(1)** Before starting to fell a tree, a worker shall:

- (a) clear away adjacent brush to provide sufficient room to work and to provide a path at a 45° angle from the direction opposite to the planned direction of fall to a safe position; and
- (b) ensure that no other worker is located closer than 60 metres to the tree being felled.

(2) Before a felling cut is begun on a tree with a trunk that has a diameter of 15 centimetres or more, a worker shall:

- (a) undercut the trunk to control the direction of the fall; and
- (b) ensure that:
  - (i) the depth of the undercut is at least one third of the diameter of the tree trunk at that point; and
  - (ii) both cuts that form the undercut meet at that depth.

(3) After making an undercut, a worker shall:

- (a) remove the wood from the undercut before the back cut is started and leave sufficient holding wood in the back cut side to control the direction of the fall of the tree; and
- (b) ensure that the back cut is above the undercut at a distance that does not exceed 100 millimetres from the undercut.

(4) Where a worker cannot safely complete the felling of a tree or a tree that a worker is felling has become unsafe, the worker shall:

- (a) remain in the area in a safe location; and
- (b) do no further work until a skidder operator fells the tree.

4 Oct 96 cO-1.1 Reg 1 s394.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Partially cut trees**

**395(1)** Subject to subsection (2), where a tree is partially cut, an employer or contractor shall ensure that the worker immediately completes the felling of the tree.

(2) If a partially cut tree cannot be completely felled or sits back on the stump, an employer or contractor shall ensure that the worker remains in the area in a safe location and does no further work until a skidder operator assists the worker to fell the tree safely.

(3) A worker shall not fell a tree or undertake any other activity until every partially cut tree in the vicinity and every tree in the vicinity that sits back on its stump has been felled.

4 Oct 96 cO-1.1 Reg 1 s395.

**Lodged trees**

**396(1)** Where there is a lodged tree, an employer or contractor shall ensure that:

- (a) the tree is felled immediately by a skidder operator;
- (b) the tree is not climbed by a worker;
- (c) a worker does not lower the tree by felling another tree onto the lodged tree; and
- (d) a worker does not remove the lodged tree by cutting the supporting tree.

(2) An employer or contractor shall ensure that no worker, other than the worker who is felling a lodged tree, enters the felling area until it is safe to do so.

4 Oct 96 cO-1.1 Reg 1 s396.

**Mechanized fellers and limbers**

**397(1)** An employer or contractor shall ensure that:

- (a) a mechanized feller or limber is provided with:
  - (i) adequate protection for the operator, including protection against any falling tree or part of a tree; and
  - (ii) a cab for the operator with two exits through which the operator can readily escape; and
- (b) a mechanized feller is designed and equipped to direct the fall of the tree away from the mechanized feller.

(2) An employer or contractor shall ensure that:

- (a) no worker operates a mechanized feller or limber in a location where the stability of the machine cannot be assured; and
- (b) no worker operates a mechanized feller within 60 metres of a worker who may be endangered by a falling tree or part of a tree.



- (3) A worker shall not:
- (a) operate a mechanized feller or limber in a location where the stability of the machine cannot be assured; or
  - (b) operate a mechanized feller within 60 metres of a worker who may be endangered by a falling tree or part of a tree.

4 Oct 96 cO-1.1 Reg 1 s397.

#### **Bucking and limbing**

**398(1)** Where a worker is bucking or limbing, an employer or contractor shall ensure that the worker:

- (a) clears away any brush or object that may create a hazard to the worker;
- (b) does not move forward while limbing a tree or log unless the worker is limbing on the side of the tree or log that is opposite to the side of the tree or log on which the worker is located;
- (c) remains at least 60 metres from any tree being felled;
- (d) remains in a location safe from any tree or log being skidded or otherwise moved; and
- (e) works only on the uphill side of any log that is lying on an incline.

(2) While bucking or limbing, a worker:

- (a) shall clear away any brush or object that may create a hazard to the worker;
- (b) shall not move forward while limbing a tree or log unless the worker is limbing on the side of the tree or log that is opposite to the side of the tree or log on which the worker is located;
- (c) shall remain at least 60 metres from any tree being felled;
- (d) shall remain in a location safe from any tree or log being skidded or otherwise moved; and
- (e) shall work only on the uphill side of any log that is lying on an incline.

4 Oct 96 cO-1.1 Reg 1 s398.

#### **Skidding**

**399(1)** During skidding operations, an employer or contractor shall ensure that:

- (a) every snag, chicot, lodged tree or windfall that may be hazardous and that is located along or adjacent to a skid trail, haul road or landing is removed; and
- (b) a skidder operator pulls down any tree that is lodged or is dangerous for any other reason immediately when the lodged or dangerous tree is reported to the skidder operator.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996

- (2) An employer or contractor shall ensure that a winching machine is equipped with suitable safeguards to protect the operator from flying objects.
- (3) An employer or contractor shall ensure that:
  - (a) no worker other than a skidder operator is required or permitted to ride on any skidder except where the skidder is provided with a second seat that is adequately protected;
  - (b) a skidder operator is required to discontinue operating when the operation of the skidder may endanger another worker until it is possible for the operation to proceed without danger to the other worker;
  - (c) a skidder operator does not operate a skidder within 60 metres of a worker who is felling a tree until the worker has signalled that it is safe to operate the skidder; and
  - (d) a skidder operator does not operate a skidder near the edge of a bank, fill, excavation, incline or any other place where the skidder cannot safely be controlled.
- (4) An employer or contractor shall ensure that the skidder operator applies the brakes and, where the terrain is uneven, lowers the blade to the ground when the skidder operator temporarily gets off the skidder.
- (5) When a skidder operator parks a skidder, an employer or contractor shall ensure that the skidder operator parks the skidder on even ground and lowers the blade to the ground.

4 Oct 96 cO-1.1 Reg 1 s399.

**Skidder operators' responsibilities**

**400(1)** A skidder operator shall:

- (a) remove every snag, chicot, lodged tree or windfall that may be hazardous or that is located along or adjacent to any skid trail, haul road or landing; and
  - (b) where advised that a tree is lodged or otherwise dangerous, immediately remove the tree.
- (2) A skidder operator shall not operate the winch at an angle that may cause the skidder to overturn.
  - (3) A skidder operator shall:
    - (a) keep any loose winch cable wound up on the winch drum and any choker clear of the ground during travel;
    - (b) ensure that no worker is located under or near the winch cable or choker cables or in a position to be struck by a winch cable or choker cable if the cable breaks or comes loose; and
    - (c) attach any choker cable applied to a log no farther from the end of the log than one metre.

- (4) Before moving a log, a skidder operator shall ensure that no other worker may be endangered by moving the log.
- (5) A skidder operator:
  - (a) shall not operate the skidder winch except from the seat provided unless a remote control device is provided and used from a safe winching position; and
  - (b) shall operate the skidder at a speed and in a manner that will prevent the skidder overturning.
- (6) When skidding logs to a landing, a skidder operator shall winch the drag up tight to the rear of the skidder to prevent uncontrolled movement of the logs.
- (7) Where a worker is attaching a choker to a log on sloping ground, a skidder operator shall lower the blade of the skidder to the ground.
- (8) When temporarily getting off a skidder, a skidder operator shall apply the brakes and, where the terrain is uneven, lower the blade to the ground.
- (9) When parking a skidder, a skidder operator shall park the skidder on even ground and lower the blade to the ground.

4 Oct 96 cO-1.1 Reg 1 s400.

**Loading, unloading and hauling logs**

- 401(1) Where a worker is loading or unloading logs, an employer or contractor shall ensure that the loading and unloading areas are suitably graded and maintained appropriately for the equipment that is being used.
- (2) Where a worker is loading or unloading logs with a crane or other type of mechanical loader, an employer or contractor shall ensure that no worker is required or permitted to stand or work under the path of the bucket, grapple or load.
- (3) Where a worker is or may be at risk from logs suspended over or near the cab of a vehicle, an employer or contractor shall ensure that the worker is not required or permitted to remain in the cab.
- (4) An employer or contractor shall ensure that a worker who is not actively engaged in a loading or unloading operation:
  - (a) remains at a safe distance from the operation in clear view of the operator; or
  - (b) if the hazard mentioned in subsection (3) does not exist, remains in the cab of the vehicle.
- (5) Where a worker is operating a loader equipped with a clam, an employer or contractor shall ensure that the jaws of the clam secure the entire load.
- (6) Where a loader is equipped with a fork, an employer or contractor shall ensure that rear stoppers are provided that are designed and sufficiently strong to prevent any log from falling back on the operator.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996

- (7) An employer or contractor shall ensure that:
- (a) a log yard is constructed, arranged, maintained and operated so that a worker may work without exposure to danger from any moving log or equipment; and
  - (b) a worker does not build a log pile to a height greater than a height that can be safely handled by the equipment used in the stacking and breaking down of the log deck.
- (8) An employer or contractor shall ensure that no worker is required or permitted to work on, under or beside the haul unit during loading or unloading.
- (9) Where an operator does not have a clear view of the entire loading or unloading operation, an employer or contractor shall ensure that a signaller with a clear view of the operation and visible to the operator is designated pursuant to subsection 132(1) to give all signals necessary to ensure the safety of a worker involved in the loading or unloading operation.
- (10) An employer or contractor shall ensure that a worker:
- (a) restrains the top log on the outside edge of a vehicle by at least two stakes; and
  - (b) secures the log load on a vehicle:
    - (i) to the vehicle body with tie-downs of sufficient size and strength to restrain the logs;
    - (ii) between each set of stakes; and
    - (iii) by at least two tie-downs at the rear of the load.
- (11) A worker who is engaged in loading or unloading logs shall:
- (a) before shutting down and leaving the loader, lower the clam or forks, put the loader in neutral and apply the brakes;
  - (b) while manually loading, unloading, decking or breaking piles, work only at the end of the logs; and
  - (c) while loading or unloading logs, work in a safe position in clear view of the operator or signaller.

4 Oct 96 cO-1.1 Reg 1 s401.

**Vehicles used to haul logs**

- 402** An owner of a vehicle used to haul logs shall ensure that:
- (a) the vehicle is equipped with a bulkhead installed between the cab and the load that is of sufficient size and strength to resist any impact caused by a shifting load;
  - (b) stakes used to restrain logs on the vehicle are designed, constructed and installed to safely support any load placed against the stakes; and
  - (c) stake extensions are of a strength equivalent to the strength of the stake and positively secured to the stake to prevent inadvertent detachment.

4 Oct 96 cO-1.1 Reg 1 s402.

**Log carriages**

**403(1)** Where sawmill log carriages are used, an employer or contractor shall ensure that no worker is required or permitted to ride on a log carriage.

(2) Where the area immediately behind a log carriage is used as a walkway, an employer or contractor shall ensure that a guardrail is installed between the walkway and the carriage for the full extent of the carriage travel.

(3) An employer or contractor shall ensure that:

(a) suitable devices are installed to stop a log carriage at the end of the carriage's travel in each direction;

(b) a log carriage is equipped with a suitable headblock that is equipped with suitable dogs that are used to secure the log during the sawing operation;

(c) a log carriage is provided with a safety device that will ensure that the headblock cannot be moved to a position within 30 millimetres of the saw blade;

(d) sweepers are provided in front and at the back of a log carriage to remove all obstructions from the track;

(e) a power-driven log carriage is propelled by a wire rope that is:

(i) of sufficient strength to propel the log carriage safely; and

(ii) maintained in safe operating condition;

(f) the sawyer's lever operating the carriage drive mechanism is designed and installed so that the movement of the lever is in the opposite direction to the carriage travel, except when the sawyer's position and controls are enclosed or isolated from the hazards of the carriage; and

(g) means are provided to securely lock the sawyer's log turning and carriage control levers.

(4) An employer or contractor shall ensure that the sawyer engages the carriage control lever lock before leaving the sawyer's position.

4 Oct 96 cO-1.1 Reg 1 s403.

**Sawmill head rigs**

**404(1)** Where a sawmill head rig is operated, an employer or contractor shall ensure that:

(a) a circular blade sawmill is equipped with suitable saw guides that can only be adjusted from outside the husk;

(b) husks are completely enclosed and are provided with a substantial, securely hinged cover;

(c) a solid splitter is provided that:

(i) has a leading edge that is adjacent to and conforms to the curvature of the saw blade; and

(ii) extends above the carriage deck a distance of not less than one-quarter of the diameter of the saw blade in use;

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- (d) a substantial safeguard is provided over the lower portion of the head saw blade under the carriage tracks and extends at least 15 centimetres below the bottom of the largest size saw blade in use;
  - (e) a substantial heavy-mesh screen or other suitable material is securely placed between the saw blade and the sawyer's position to protect the sawyer from any throw-backs from the saw;
  - (f) mesh screens required by clause (e) are backed by a small-mesh screen or other effective safeguard located on the sawyer's side of the heavy screen to protect the sawyer from small flying particles;
  - (g) a power unit driving a sawmill is equipped with an emergency stopping device located within immediate reach of the sawyer; and
  - (h) the yard end of an elevated log deck rollway is equipped with a device that will prevent logs from rolling back into the mill yard.
- (2) An employer or contractor shall ensure that the support structure for a top saw is of sufficient size and strength to withstand any forces imposed on the saw.

4 Oct 96 cO-1.1 Reg 1 s404.

**Trimmer saws**

- 405** An employer or contractor shall ensure that a trimmer saw blade is equipped with a safeguard that allows the passage of material being cut, exposes a minimum amount of the saw blade and protects workers from flying debris.

4 Oct 96 cO-1.1 Reg 1 s405.

**Edgers**

- 406(1)** An employer or contractor shall ensure that:
- (a) the top of an edger is covered effectively to control flying debris;
  - (b) the roll of an edger is kept in contact with the material being cut; and
  - (c) an edger is equipped with an effective kickback device to protect workers from material thrown from either end of the edger.
- (2) An employer or contractor shall ensure that an overhead or double arbour saw edger is provided with a safeguard to protect workers from material thrown from the infeed rolls or the outfeed rolls.

4 Oct 96 cO-1.1 Reg 1 s406.

**Bandsaws**

- 407** An employer or contractor shall ensure that:
- (a) the saw blades of a bandsaw are enclosed or guarded between the top guideroll and the table, except on the working side of the blade;
  - (b) bandsaw wheels are fully enclosed; and
  - (c) bandsaw machines are provided with an effective automatic tension control device.

4 Oct 96 cO-1.1 Reg 1 s407.

**Feedrolls of resaws**

**408** An employer or contactor shall ensure that the feedrolls of a resaw are protected with semi-cylindrical metal guards to prevent the hands of a worker from coming in contact with the roll.

4 Oct 96 cO-1.1 Reg 1 s408.

**Dry kilns**

**409** An employer or contractor shall ensure that:

- (a) before the heating process is begun, no worker remains in a dry kiln; and
- (b) a dry kiln is equipped with a readily identifiable escape door or kick out panel that measures not less than 600 millimetres by 600 millimetres.

4 Oct 96 cO-1.1 Reg 1 s409.

**PART XXIX  
Oil and Gas**

**Interpretation**

**410** In this Part:

- (a) **“derrick”** means a stationary or portable structure that is used to support the hoisting and lowering mechanism on a rig;
- (b) **“drilling rig”** means the derrick and all equipment that is directly involved with drilling a well or producing oil or gas from a well;
- (c) **“flush-by”** means a pumping unit that is used to loosen formation deposits in a well;
- (d) **“rig”** includes a drilling rig and a well servicing rig;
- (e) **“swabbing unit”** means equipment that uses wire rope to lift fluids from a well;
- (f) **“well servicing rig”** means all equipment directly involved with servicing a well;
- (g) **“well testing”** means evaluating the productivity of a well and the quality of the product.

4 Oct 96 cO-1.1 Reg 1 s410.

**Application of Part**

**411** This Part applies to all drilling procedures for the exploration of oil and gas and to the drilling, operation and servicing of a gas well or an oil well, the production of oil or gas from a well and the ancillary processes associated with these activities.

4 Oct 96 cO-1.1 Reg 1 s411.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Supervisors**

412(1) An employer, contractor or owner shall appoint a competent person to supervise any oil or gas exploration, drilling, servicing, testing or production operation.

(2) An employer, contractor or owner shall ensure that the supervisor appointed pursuant to subsection (1) is knowledgeable about, and experienced in the following matters that are within the area of the supervisor's responsibility:

- (a) safe work practices, including the safe operation of any plant at the place of employment;
- (b) the safe handling, use and storage of hazardous substances;
- (c) well control and blowout prevention;
- (d) the detection and control of worker exposure to hydrogen sulphide;
- (e) the handling, use, maintenance and storage of personal protective equipment;
- (f) the appropriate response to any emergency situation at the place of employment;
- (g) the duties and responsibilities of all workers being supervised by the supervisor;
- (h) the training of workers being supervised by the supervisor in safe work practices and procedures.

(3) An employer, contractor or owner who has appointed a supervisor pursuant to subsection (1) shall:

- (a) give written notice to all employers and self-employed persons who are involved in the operation of the name, method of contact, duties and responsibilities of the supervisor; and
- (b) obtain written acknowledgement from each employer or self-employed person involved in the operation that the employer or self-employed person has received the notice required by clause (a) and has agreed to accept the direction of the supervisor.

4 Oct 96 cO-1.1 Reg 1 s412.

**Daily tour book**

413 An employer, contractor or owner shall:

- (a) provide for each rig a daily tour book and ensure that the book is kept at the site of the rig;
- (b) ensure that all details of any inspection required by this Part, any repair made and all work activities undertaken at the site of the rig are recorded in the daily tour book;
- (c) ensure that the record required by clause (b) is signed by the worker who performs the inspection; and
- (d) ensure that the supervisor reviews the entries for the day in the tour book and signs the tour book daily.

4 Oct 96 cO-1.1 Reg 1 s413.



**Routine inspections**

**414** An employer, contractor or owner shall ensure that:

- (a) a rig is inspected by a competent person before commencing operations and at least every 30 working days after that; and
- (b) where a defect or unsafe condition is identified during an inspection, an employer, contractor or supplier shall:
  - (i) take steps immediately to protect the health and safety of any worker who may be at risk until the defect is repaired or the unsafe condition is corrected; and
  - (ii) as soon as is reasonably practicable, repair any defect or correct any unsafe condition.

4 Oct 96 cO-1.1 Reg 1 s414.

**General requirements re design, etc., of rig**

**415(1)** An employer, contractor or owner shall ensure that a rig and all of its auxiliary equipment are designed, constructed, installed, maintained and operated so as to fulfil their intended purposes safely.

(2) An employer, contractor or owner shall ensure that:

- (a) the maximum safe operating depth of a rig, based on the design of the equipment, for each specified condition and operation is determined and certified by the manufacturer or a professional engineer;
- (b) the maximum safe operating load of a derrick is determined and certified by the manufacturer or a professional engineer;
- (c) the maximum safe operating depth and maximum safe operating load determined in accordance with clauses (a) and (b) are prominently displayed on the rig and are not exceeded;
- (d) any structural change or repair to a derrick is certified as safe by a professional engineer before the derrick is used; and
- (e) where a structural change or repair is made to a rig, the maximum safe operating depth of the rig and maximum safe operating load of the derrick are redetermined and recertified by a professional engineer and displayed on the rig.

(3) Where the substructure of a rig is enclosed, an employer, contractor or owner shall ensure that the substructure is ventilated in accordance with the requirements of sections 65 to 67.

4 Oct 96 cO-1.1 Reg 1 s415.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Flush-by and swabbing units**

416(1) An employer, contractor or owner shall ensure that a flush-by or a swabbing unit is designed, constructed, installed, maintained and operated so as to fulfil the unit's intended purpose safely.

(2) An employer, contractor or owner shall ensure that a flush-by or swabbing unit is not used to flow fluids back into an attached tank.

4 Oct 96 cO-1.1 Reg 1 s416; 10 Aug 2007 SR 67/2007 s30.

**Securing parts of rig**

417(1) An employer, contractor or owner shall ensure that any part of a rig, and any equipment attached to a rig, that may endanger a worker if it fails, moves or falls is secured to eliminate the danger.

(2) An employer, contractor or owner shall ensure that the driller's position on a rig is protected from any hazard created by the cathead or tong lines.

(3) An employer, contractor or owner shall ensure that the workers on a drilling rig floor are protected from any hazard created by the cathead or tong lines.

4 Oct 96 cO-1.1 Reg 1 s417.

**Raising and lowering derricks**

418(1) Before a derrick is raised or lowered, an employer, contractor or owner shall ensure that a complete inspection of all of the derrick's parts is made by a competent person.

(2) An employer, contractor or owner shall ensure that:

(a) a competent person is in charge of, and present during, the raising and lowering of a derrick; and

(b) a derrick is raised or lowered in accordance with the manufacturer's specifications.

4 Oct 96 cO-1.1 Reg 1 s418.

**Rig sites and foundations**

419 An employer, contractor or owner shall ensure that:

(a) the site of a rig is constructed and maintained so that oil, water, drilling fluid and other fluids will drain away from the wellbore; and

(b) the foundation of a rig is capable of safely supporting the gross weight of the derrick under the maximum anticipated hook load and any load imposed during raising and lowering of the derrick.

4 Oct 96 cO-1.1 Reg 1 s419.

**Guy lines**

**420** An employer, contractor or owner shall ensure that:

- (a) guy lines, where required by the manufacturer, are installed on a derrick so that the number, spacing and specifications of the guy lines and the spacing, capacity and specifications of guy line ground anchors:
  - (i) meet the requirements of an approved standard; or
  - (ii) are designed and certified as safe by a professional engineer; and
- (b) instructions for the number, spacing and specifications of guy lines and the spacing, capacity and specifications of guy line ground anchors are displayed by means of a plate fixed to the derrick or by a specification sheet that is readily available to workers at the rig.

4 Oct 96 cO-1.1 Reg 1 s420.

**Platforms, ladders and stairways**

**421(1)** An employer, contractor or owner shall ensure that:

- (a) a derrick is equipped with a fixed ladder or ladders providing access from the derrick floor to the crown platform and to each intermediate platform; and
  - (b) platforms are provided:
    - (i) on a drilling rig, at the fourble board, stabbing board and crown; and
    - (ii) on a service rig, at the tubing board and rod basket.
- (2) An employer, contractor or owner shall ensure that a derrick floor and all stairways, ladders, ramps, catwalks and platforms are kept free of obstructions that may hinder or prevent the exit of workers.

4 Oct 96 cO-1.1 Reg 1 s421.

**Means of escape**

**422(1)** An employer, contractor or owner shall ensure that a derrick is equipped with a specially rigged and securely anchored auxiliary escape line that provides a ready, safe and convenient means of escape from the fourble board and the crown in the derrick.

(2) An escape line required by subsection (1) must be a wire rope with a minimum diameter of 11.5 millimetres and must be installed with a safety buggy that is equipped with a braking device.

(3) An employer, contractor or owner shall ensure that:

- (a) the tension on an escape line is sufficient to ensure that a worker descending the escape line can stop six metres from the ground anchor point;
- (b) an escape line is clearly marked and protected from physical damage;
- (c) an escape line is visually inspected by a competent person at least once a week; and
- (d) a path of escape is kept free of obstruction.

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(4) An employer, contractor or owner shall ensure that no worker is required or permitted to slide down a pipe, tube, rod, kelly, cable or rope line on a derrick except in an emergency.

4 Oct 96 cO-1.1 Reg 1 s422.

**Full-body harness**

**423** An employer, contractor or owner shall ensure that a worker who is working on a rig at a height of three metres or more above the derrick floor or other working surface uses an approved full-body harness that meets the requirements of Part VII.

4 Oct 96 cO-1.1 Reg 1 s423.

**Fuel storage**

**424** An employer, contractor or owner shall ensure that:

- (a) no gasoline or liquid fuel, other than diesel fuel or fuel in the tank of an operating machine, is stored within 20 metres of a well; and
- (b) any drainage from a fuel storage container on a worksite runs in a direction away from the well.

4 Oct 96 cO-1.1 Reg 1 s424.

**Pressure relief devices**

**425(1)** An employer, contractor, owner or supplier shall ensure that every drilling fluid pump and servicing fluid pump is equipped with a pressure relief device in accordance with this section.

(2) A pressure relief device must be installed on the discharge side of a positive displacement drilling fluid pump or servicing fluid pump.

(3) There must not be a valve between a drilling service pump or servicing fluid pump and a pressure relief device.

(4) A pressure relief device must be set to discharge at a pressure not in excess of the maximum working pressure for which the drilling fluid pump or servicing fluid pump and the connecting pipes and fittings have been designed.

(5) A pressure relief device and its components must be of a design and strength specified in the manufacturer's design specifications for the pressure relief device.

(6) An employer, contractor or owner shall ensure that fluids or materials discharged through a pressure relief device are piped to a place where they will not endanger workers.

(7) The diameter of piping connected to the pressure side and discharge side of a pressure relief device must not be smaller than the diameter of the openings to the device.

- (8) The piping on the discharge side of a pressure relief device must be:
  - (a) secured to prevent movement; and
  - (b) sloped to drain fluids away from the discharge outlet.
- (9) A mud gun used for jetting must be securely anchored.
- (10) Valves of the quick closing type must not be used on the discharge line from a drilling fluid pump or servicing fluid pump.
- (11) An employer, contractor or owner shall ensure that a drilling fluid pump or servicing fluid pump is protected against freezing.
- (12) An employer, contractor or owner shall ensure that a fluid pump using a pressure relief device is routinely inspected by a competent person to ensure the pressure relief device is in good operating condition.

4 Oct 96 cO-1.1 Reg 1 s425.

#### **Catheads**

- 426(1)** On and after July 1, 1997, an employer, contractor or owner shall ensure that no worker is required or permitted to use rope-operated friction catheads for hoisting on a rig.
- (2) An employer, contractor or owner shall ensure that every automatic cathead is equipped with a separate control unless:
  - (a) the cathead is equipped with dual purpose controls; and
  - (b) a locking device is installed to prevent one cathead from being engaged accidentally while the other cathead is in operation.
- (3) With respect to the use of rope-operated friction catheads for hoisting before July 1, 1997, an employer, contractor or owner shall ensure that:
  - (a) a cathead on which a rope is manually operated is equipped with a blunt, smooth-edged rope divider;
  - (b) the clearance between the rope divider and the friction surface of a cathead does not exceed seven millimetres;
  - (c) every key seat and projecting key on a cathead is covered with a smooth thimble or plate;
  - (d) there is clearance of at least 500 millimetres between the outer flange of a cathead and any substructure, guardrail or wall;
  - (e) a competent worker attends the drawworks control while a cathead is in use; and
  - (f) the operating area of a manually operated cathead is kept clear at all times and the portion of the rope or line not being used is kept coiled or spooled.

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(4) With respect to the use of rope-operated friction catheads for hoisting before July 1, 1997:

- (a) the operator of a friction cathead shall keep the operating area clear at all times and keep coiled or spooled the portion of the rope or line that is not in use; and
- (b) no operator of a friction cathead shall:
  - (i) leave a rope or line wrapped around or in contact with an unattended cathead; or
  - (ii) allow a splice to come in contact with the friction surface of the cathead.

4 Oct 96 cO-1.1 Reg 1 s426.

**Spudding in**

**427** An employer, contractor or owner shall ensure that spudding in is not begun until:

- (a) all safeguards required by these regulations are in place;
- (b) all platforms, stairways, handrails and guardrails are installed and securely fastened in position; and
- (c) the auxiliary escape line required by section 422 is installed and inspected.

4 Oct 96 cO-1.1 Reg 1 s427.

**Operating controls**

**428(1)** An employer, contractor, owner or supplier shall ensure that:

- (a) all operating controls of a rig are installed at the operator control panel and clearly labelled as to the function of the control;
  - (b) where there is a danger of any operating control being engaged by accidental contact, the controls are protected by a safeguard;
  - (c) an engine shut-down device is installed at the operator control panel; and
  - (d) all hoist controls are designed to return to the neutral position when released.
- (2) A worker who is in charge of the operating controls of the drawworks shall ensure that all other workers are clear of the equipment and lines before putting the drawworks in motion.

4 Oct 96 cO-1.1 Reg 1 s428.

**Travelling blocks**

**429** An employer, contractor, owner or supplier shall ensure, with respect to a travelling block, that:

- (a) every hook to which equipment is directly or indirectly attached is equipped with a positive locking device to prevent accidental release of the load being hoisted or lowered;
- (b) the travelling block and every hook, elevator, elevator link and unit of travelling equipment is free of any projecting bolt, nut, pin or part;
- (c) an upward travel limiting device is installed on every rig and tested once during each shift; and
- (d) the upward travel limiting device mentioned in clause (c) disengages the power to the hoisting drum and applies the brakes to prevent the travelling block from contacting the crown structure.

4 Oct 96 cO-1.1 Reg 1 s429.

**Counterweights**

**430** An employer, contractor or owner shall ensure that no counterweight comes within 2.3 metres of the derrick floor unless the counterweight is fully encased and running in permanent guides.

4 Oct 96 cO-1.1 Reg 1 s430.

**Weight indicators**

**431** An employer, contractor or owner shall ensure that:

- (a) the hoist mechanism of a rig is equipped with a reliable weight indicator; and
- (b) a weight indicator mentioned in clause (a) that is hung above the derrick floor is secured against falling by means of a secondary cable or chain.

4 Oct 96 cO-1.1 Reg 1 s431.

**Drawworks**

**432(1)** On and after July 1, 1997, an employer, contractor or owner shall ensure that the drawworks on every drilling rig is equipped with an automatic feed control.

**(2)** An employer, contractor or owner shall ensure, with respect to the drawworks on a rig, that:

- (a) the mechanism installed or used to hold down the brakes in the engaged position is designed to prevent accidental disengagement;
- (b) a competent person tests the brakes at the beginning of each shift and inspects the brakes at least weekly to ensure that they are in good working order; and
- (c) controls are not left unattended while the hoist drum is in motion except during drilling.

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(3) In the case of a drawworks that is not equipped with an automatic feed control and that is operated before July 1, 1997, an employer, contractor or owner shall ensure that the brakes are not left unattended without first being secured in the engaged position.

4 Oct 96 cO-1.1 Reg 1 s432.

**Drill pipes, tubing, etc.**

**433(1)** Where a drill pipe, drill collar or tubing is racked in a derrick, an employer, contractor or owner shall ensure that provision is made for the complete drainage of fluids or gases from the drill pipe, drill collar or tubing.

(2) An employer, contractor or owner shall ensure that a drill pipe, drill collar, tubing, casing or rod that is racked in a derrick is secured to prevent it from falling.

(3) Before running a drill pipe, drill collar, tubing or casing in a wellbore, an employer, contractor or owner shall ensure that the drill pipe, drill collar, tubing or casing is free from ice plugs or other obstructions.

4 Oct 96 cO-1.1 Reg 1 s433.

**Material racks**

**434(1)** An employer, contractor, owner or supplier shall ensure that material racks are designed and constructed to prevent material from rolling off the rack.

(2) An employer, contractor, owner or supplier shall ensure that workers:

(a) transfer to and from storage, move and handle material in a controlled and safe manner; and

(b) hoist material into and out of a derrick in a controlled and safe manner.

4 Oct 96 cO-1.1 Reg 1 s434.

**Rotary tongs**

**435** An employer, contractor, owner or supplier shall ensure that a rotary tong is provided with:

(a) a primary safety device to prevent uncontrolled movement of the tong; and

(b) a secondary safety device that will prevent uncontrolled movement of the tong if the primary device fails.

4 Oct 96 cO-1.1 Reg 1 s435.

**Rotary tables**

**436(1)** Where visibility on the derrick floor is obscured, an employer, contractor or owner shall ensure that no worker works on a derrick floor while the rotary table is in motion.

(2) An employer, contractor or owner shall ensure that rotary table motion is not used for the final make up or initial breaking out of a pipe connection.



- (3) An employer, contractor or owner shall not require or permit a worker:
- (a) to handle or use hoses, lines or chains near a rotary table while the rotary table is in motion; or
  - (b) to engage a rotary table drive until all workers and materials are clear of the rotary table.
- (4) No worker shall:
- (a) handle or use hoses, lines or chains near a rotary table while the rotary table is in motion; or
  - (b) engage a rotary table drive until all workers and materials are clear of the rotary table.

4 Oct 96 cO-1.1 Reg 1 s436.

#### **Exits from enclosures**

**437** On a drilling rig, an employer, contractor or owner shall ensure that:

- (a) safe exits from a derrick floor enclosure to ground level are provided on at least three sides of the derrick floor;
- (b) all doors of a derrick floor enclosure open away from the wellbore and, where reasonably practicable, onto a platform that leads to a stairway;
- (c) one stairway is installed from the ground to the derrick floor beside the ramp; and
- (d) pump house and boiler house enclosures have at least two exits that lead in different directions to the outside.

4 Oct 96 cO-1.1 Reg 1 s437.

#### **Rig tanks or pits**

**438** An employer, contractor or owner shall ensure that a rig tank or pit used to circulate drilling fluids contaminated with flammable material is protected from all sources of ignition.

4 Oct 96 cO-1.1 Reg 1 s438.

#### **Drill stem testing**

**439** During drill stem testing, an employer, contractor or owner shall ensure that:

- (a) if fluids are encountered, the mud can and test plug are used on every joint of pipe that is disconnected unless the drill stem contents have been pumped out and replaced with drilling fluid;
- (b) motors and engines that are not required in the testing operation are shut off;
- (c) no motor vehicle is operated within 25 metres of the wellbore;

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- (d) where swivel joints are used in the piping system, the source and discharge ends of the piping system are secured in a manner that will prevent whipping and flailing of the pipe if the pipe separates from the source or discharge connection;
- (e) where hydrocarbons or hydrogen sulphide may accumulate, hydrogen sulphide and hydrocarbon monitors are installed, with the readouts clearly visible to the driller on the derrick floor;
- (f) the hydrogen sulphide monitor is capable of detecting hydrogen sulphide at a concentration of 14 milligrams per cubic metre of air, is calibrated and tested before use and is properly maintained;
- (g) where hydrogen sulphide or hydrocarbons are found to be present at levels that may place a worker at risk, the formation fluids in the drill stem are replaced with drilling fluid and circulated to a flare pit or holding tank that is not less than 45 metres from the well;
- (h) a tank level alarm that is clearly audible to the driller on the derrick floor or a tank level indicator is installed on the trip tank and is properly maintained;
- (i) a tank level indicator mentioned in clause (h) has a read-out that is clearly visible to the driller on the derrick floor; and
- (j) before tripping the drill pipe out of the hole, reverse circulation procedures are implemented.

4 Oct 96 cO-1.1 Reg 1 s439.

**Swabbing**

**440** During swabbing operations using a well servicing rig, an employer, contractor or owner shall ensure that:

- (a) fluids containing hydrocarbons that are used in or result from the swabbing operation are piped directly through a suitable degasser to a battery, skid tank, mobile trailer tank or tank truck located not less than 45 metres from the wellbore; and
- (b) while fluids that are used in or result from the swabbing operation are being piped into a tank truck, the engine of the tank truck is shut down and the driver does not remain in the truck cab.

4 Oct 96 cO-1.1 Reg 1 s440.

**Well operation and servicing**

**441(1)** During the servicing of a well, an employer, contractor or owner shall ensure that:

- (a) where a pump may be circulating gaseous hydrocarbons, the fluids entering the rig tank first pass through a degasser;
- (b) where a pump may be circulating gaseous hydrocarbons, the air intake and exhaust of the pump motor are located not less than six metres from the rig tank;

- (c) the tank truck is located on the far side of the rig tank from the wellbore and at a distance of not less than six metres from the rig tank during loading and unloading;
  - (d) carbon dioxide suction lines are secured to the supply vehicle and pumping unit; and
  - (e) adequate warning signs prohibiting the presence of workers are positioned along the discharge pipelines before pressurization begins.
- (2) Before fluids are unloaded into a wellhead, an employer, contractor or owner shall ensure that the lines between the pump and the wellhead are:
- (a) designed and constructed to sustain the maximum anticipated pressure during service; and
  - (b) hydraulically pressure tested at a pressure that is not less than 10% above the maximum pressure anticipated during service.
- (3) An employer, contractor or owner shall ensure that:
- (a) swivel joints used with a hammer union are properly secured and of sufficient strength to withstand the stresses to which the joints may be subjected;
  - (b) oil savers are equipped with controls that can be readily operated from the rig floor; and
  - (c) a bleed-off valve is installed between a check valve and the wellhead.

4 Oct 96 cO-1.1 Reg 1 s441.

**Well stimulation**

442(1) During well stimulation or any similar operation, an employer, contractor or owner shall ensure that:

- (a) where a working pressure of 2,000 kilopascals or more is applied to the piping system, equipment located between a pump or sand concentrator and the wellhead is controlled remotely from a location outside the potential danger area;
- (b) subject to subsection (2), no worker is required or permitted to enter the potential danger area while the system is pressurized;
- (c) where liquid carbon dioxide or liquid nitrogen is being used, the pumping unit is designed and positioned so that the valve controls can be operated from the low pressure side of the system;
- (d) a check valve is installed as close as is practicable to the wellhead except while cementing or selective acidizing is being done;

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(e) where flammable fluids are being pumped during fracturing and acidizing treatment, approved and properly maintained fire suppression equipment is provided;

(f) the rubber mud line used on a cement pumper is not used in place of the kelly hose to break circulation; and

(g) all pumping units, blenders and endless tubing units are continuously bonded to ground.

(2) An employer, contractor or owner may permit a worker to enter the area between the check valve and the wellhead for the purpose of operating the bleed-off valve if the pumping motor is shut off before the worker enters the area.

4 Oct 96 cO-1.1 Reg 1 s442.

**Shot holes**

**443** With respect to a shot hole drilling operation, an employer, contractor or owner shall ensure that a pipe wrench used as a break out tong is equipped with a suitable hand guard on the pipe wrench handle.

4 Oct 96 cO-1.1 Reg 1 s443.

**Gas sample containers**

**444** An employer, contractor or owner shall ensure that containers and any piping and fittings used in the collection of gas samples are of sufficient strength to withstand all the pressure to which the containers, piping or fittings may be subjected and are designed, used and transported so as to prevent the accidental release of the contents.

4 Oct 96 cO-1.1 Reg 1 s444.

**Piping systems at well sites**

**445** An employer, contractor or owner shall ensure that:

(a) a piping system at a well site is designed, constructed, installed, operated and maintained to contain safely any material at the maximum operating pressures anticipated; and

(b) all pipe and components used in the piping system meet the requirements of an approved standard.

4 Oct 96 cO-1.1 Reg 1 s445.

**Breathing apparatus**

**446** At a rig, an employer, contractor or owner shall ensure that at least two atmosphere-supplying respirators that meet the requirements of section 90 are readily available for use in a rescue.

4 Oct 96 cO-1.1 Reg 1 s446.

**First aid attendants**

447 Notwithstanding section 54, an employer, contractor or owner shall ensure that at least one first aid attendant with a class A qualification is readily available on each shift at each rig.

4 Oct 96 cO-1.1 Reg 1 s447.

**Procedures for flare tips, etc.**

448 An employer, contractor or owner shall:

- (a) prepare and implement written procedures to ensure the safety of workers in the lighting or operation of a flare tip, flare stack or flare line used at a worksite; and
- (b) instruct all workers in the application of those procedures.

4 Oct 96 cO-1.1 Reg 1 s448.

**Plan for well testing**

449(1) An employer, contractor or owner shall develop and implement a written plan that establishes the procedures to be followed by workers who conduct well testing.

(2) A plan required by subsection (1) must include:

- (a) the responsibilities, qualifications and minimum number of testing personnel;
- (b) the requirements for personal protective equipment; and
- (c) start-up and operating procedures that are adequate to protect the health and safety of the workers.

(3) An employer, contractor or owner shall have a copy of the plan required by subsection (1) readily available for reference by workers.

4 Oct 96 cO-1.1 Reg 1 s449.

PART XXX  
**Additional Protection for Electrical Workers**

**Interpretation**

450(1) In this Part:

- (a) **“approved”** means approved as defined in *The Electrical Inspection Act, 1993*;
  - (b) **“electrical equipment”** means electrical equipment as defined in *The Electrical Inspection Act, 1993*;
  - (c) **“electrical worker”**:
    - (i) in the case of work of electrical installation as defined in *The Electrical Inspection Act, 1993* that is regulated by that Act, means a person who is authorized pursuant to *The Electrical Licensing Act* to perform that work;
    - (ii) in the case of any work with electrical equipment that is not regulated by *The Electrical Inspection Act, 1993*, means a person who is qualified to perform that work;
  - (d) **“guarded”** means covered, shielded, fenced, enclosed or otherwise protected by suitable covers, casings, barriers, rails, screens, mats, platforms or other equally effective means;
  - (e) **“high voltage”** means any voltage over 750 volts;
  - (f) **“lamp”** means an artificial source of electric light;
  - (g) **“luminaire”** means a complete lighting unit that is designed to accommodate a lamp and to connect the lamp to an electrical power supply;
  - (h) **“readily accessible”** means capable of being reached quickly for operation, renewal, or inspection, without requiring a worker to climb over or remove obstacles or to resort to portable means of access.
- (2) Nothing in this Part shall be construed as authorizing:
- (a) the performance of work by a person if it is unlawful for the person to perform that work because of *The Electrical Licensing Act, The Apprenticeship and Trade Certification Act*, the regulations made pursuant to those Acts or any other Act or regulation;
  - (b) the use of electrical equipment if it is unlawful to use that equipment because of *The Electrical Inspection Act, 1993*, the regulations made pursuant to that Act or any other Act or regulation; or
  - (c) the performance of work in a particular manner if it is unlawful to perform the work in that manner because of *The Electrical Inspection Act, 1993*, the regulations made pursuant to that Act or any other Act or regulation.

**Electrical workers**

**451(1)** Subject to subsection (2), an employer or contractor shall permit only electrical workers to construct, install, alter, repair or maintain electrical equipment.

(2) An employer or contractor may permit a competent worker who is not an electrical worker:

- (a) to operate powered mobile equipment and perform non-electrical work on or near de-energized electrical equipment;
- (b) to extend a portable power cable for routine advancement by interconnection of approved cord connectors, cord caps or similar devices;
- (c) to change light bulbs or tubes;
- (d) to insert or replace an approved fuse, to a maximum of 750 volts, that controls circuits or equipment; or
- (e) to connect small portable electrical equipment that operates at less than 750 volts to supply circuits by means of attachment plugs, where the connection does not overload the circuit conductors, or to use or operate small portable electrical equipment that is connected in that way.

4 Oct 96 cO-1.1 Reg 1 s451.

**Electrical equipment**

**452(1)** An employer or contractor shall ensure that only approved electrical equipment is used by workers and that the electrical equipment is:

- (a) approved for the intended use and location of the electrical equipment;
- (b) maintained in proper working condition and capable of safe operation; and
- (c) tested in accordance with the manufacturer's recommendations.

(2) Where defects or unsafe conditions have been identified in electrical equipment, an employer or contractor:

- (a) shall ensure that:
  - (i) steps are taken immediately to protect the health and safety of any worker who may be at risk until the defects are repaired or the unsafe conditions are corrected; and
  - (ii) the defects are repaired or the unsafe conditions are corrected as soon as is reasonably practicable; or
- (b) shall ensure that the electrical equipment is disconnected and removed from use.

4 Oct 96 cO-1.1 Reg 1 s452.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Covers for switches, receptacles, connections, etc.**

**453** An employer or contractor shall ensure that:

- (a) all switches, receptacles, luminaires and junction boxes are fitted with a cover that is approved for the intended use and location of the cover;
- (b) all wire joints or connections are:
  - (i) fitted with an approved cap or other approved cover;
  - (ii) enclosed in an approved box; or
  - (iii) where the wire joints or connections are not permanently installed, protected from damage by another approved means; and
- (c) all dead, abandoned or disused electrical conductors or equipment are removed from the place of employment or disconnected and secured to prevent inadvertent energization.

4 Oct 96 cO-1.1 Reg 1 s453.

**Electrical equipment in tunnel or manhole**

**454** Where electrical equipment is installed in a tunnel or manhole, an employer or contractor shall ensure, where reasonably practicable, that:

- (a) the tunnel or manhole is kept clear of water; and
- (b) the electrical equipment is protected from physical or mechanical damage.

4 Oct 96 cO-1.1 Reg 1 s454.

**Luminaires**

**455** An employer or contractor shall ensure that a luminaire that is located at a height of less than 2.1 metres above a working or walking surface is protected against physical or mechanical damage by installation of a safeguard or the location of the luminaire.

4 Oct 96 cO-1.1 Reg 1 s455.

**Extension and power supply cords**

**456** An employer or contractor shall ensure that an electrical extension or power supply cord used for supplying energy to any electrical equipment:

- (a) is approved for the intended use and location of the electrical extension or power supply cord;
- (b) is fitted with approved cord end attachment devices that are installed in an approved manner;
- (c) is provided with a grounding conductor; and
- (d) is maintained and protected from physical or mechanical damage.

4 Oct 96 cO-1.1 Reg 1 s456.



**Portable power cables and cable couplers**

**457(1)** An employer or contractor shall ensure that every portable power cable and cable coupler is:

- (a) protected from physical or mechanical damage; and
  - (b) inspected by a competent person at intervals that are sufficient to protect the health and safety of workers.
- (2) An employer or contractor shall ensure that:
- (a) where any unsafe condition is identified in a portable power cable or cable coupler, the portable power cable or the cable coupler is repaired or taken out of service; and
  - (b) every splice in a portable power cable is sufficiently strong and adequately insulated to retain the mechanical and dielectric strength of the original cable.
- (3) A worker shall take all reasonably practicable steps not to drive equipment over, or otherwise damage, a portable power cable or cable coupler.

4 Oct 96 cO-1.1 Reg 1 s457.

**Portable luminaires**

**458(1)** Where a portable luminaire is used, an employer or contractor shall ensure that:

- (a) the electrical extension cord and fittings are approved for the intended use and location of the extension cord and fittings and are properly maintained; and
  - (b) the electrical extension cord is not used to supply power to any equipment other than the portable luminaire unless the cord meets the requirements of section 456.
- (2) An employer or contractor shall ensure that a portable luminaire used in a damp location or in a metallic enclosure, including a drum, tank, vessel or boiler:
- (a) is operated at a potential of not more than 12 volts; or
  - (b) is supplied by a circuit that is protected by a class A ground fault circuit interrupter.

4 Oct 96 cO-1.1 Reg 1 s458.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Exposed metal parts**

**459** An employer or contractor shall ensure that every exposed metal part of portable electrical equipment that is not designed to carry electrical current is connected to ground unless:

- (a) the electrical equipment is of an approved, double-insulated type and is clearly marked as such;
- (b) power is supplied to the equipment through an isolating transformer having a non-grounded secondary of not more than 50 volts potential;
- (c) power is supplied to the equipment through a class A ground fault circuit interrupter; or
- (d) power is supplied to the equipment from a battery of not over 50 volts potential.

4 Oct 96 cO-1.1 Reg 1 s459.

**Portable electric power plants**

**460(1)** An employer, contractor or supplier shall ensure that:

- (a) a portable electric power plant that is operated at voltages exceeding 240 volts to ground or is rated in excess of 12.0 kilovolt-amperes is connected to ground in a manner approved pursuant to *The Electrical Inspection Act, 1993*; and
- (b) all electrical equipment connected to an ungrounded portable electric power plant:
  - (i) is of the double insulated type; and
  - (ii) is clearly marked as being of the double insulated type or is supplied from a class A ground fault interrupting device.

(2) Subsection (1) does not apply if the electrical energy is used for electric arc welding.

10 Aug 2007 SR 67/2007 s31.

**Electrical panels**

**461** An employer or contractor shall ensure that every electrical panel is:

- (a) approved for the intended use and location of the electrical panel;
- (b) protected from physical or mechanical damage;
- (c) readily accessible; and
- (d) fitted with an approved cover that has an approved filler in any unused opening.

4 Oct 96 cO-1.1 Reg 1 s461.

**High voltage switchgear and transformers**

**462(1)** An employer or contractor shall ensure that a place where electrical switchgear or transformers operating at high voltage are housed is:

- (a) guarded;
  - (b) kept free of extraneous material; and
  - (c) adequately ventilated.
- (2) Where high voltage switchgear or transformers are housed, an employer or contractor shall post a warning sign that:
- (a) indicates the highest voltage in use; and
  - (b) states that access is restricted to authorized persons only.

4 Oct 96 cO-1.1 Reg 1 s462.

**Fire extinguishers**

**463** An employer or contractor shall ensure that a fire extinguisher approved for Class C fires is readily available to workers working on or near energized high voltage electrical equipment.

4 Oct 96 cO-1.1 Reg 1 s463.

**Grounding of equipment before work begins**

**464** Before any work, other than work to which subsection 465(4) applies, begins on an electrical conductor or electrical equipment and during the progress of that work, an employer or contractor shall ensure that:

- (a) the electrical conductor or electrical equipment is isolated, locked out and connected to ground; or
- (b) other effective procedures are taken to ensure the safety of the workers.

4 Oct 96 cO-1.1 Reg 1 s464.

**Proximity to exposed energized high voltage electrical conductors**

**465(1)** In this section:

- (a) **“applied science technologist”** means an applied science technologist who is registered pursuant to *The Saskatchewan Applied Science Technologists and Technicians Act* and whose registration has not been suspended or cancelled;
- (b) **“certified technician”** means a certified technician who is registered pursuant to *The Saskatchewan Applied Science Technologists and Technicians Act* and whose registration has not been suspended or cancelled;

(c) **“qualified electrical worker”** means:

(i) the holder of a journeyperson’s certificate in the electrician trade issued pursuant to *The Apprenticeship and Trade Certification Act, 1999*, and includes an apprentice in the trade while under the supervision of a journeyperson;

(ii) the holder of a journeyperson’s certificate in the power lineperson trade issued pursuant to *The Apprenticeship and Trade Certification Act, 1999*, and includes an apprentice in the trade while under the supervision of a journeyperson; or

(iii) for the purpose of design, calibrating of equipment, inspection, monitoring, testing, and commissioning of equipment in high voltage installations, electrical engineers, applied science technologists or certified technicians who have achieved professional certification within an electrical, electronics, industrial or instrumentation discipline;

(d) **“utility tree trimmer”** means a person who has successfully completed a course that has been approved for the purposes of this section.

(1.1) An employer or contractor shall ensure that a qualified electrical worker has had approved training in high voltage safety.

(1.2) No qualified electrical worker shall undertake high voltage electrical work unless the worker:

(a) has written proof of approved training in high voltage electrical safety; and

(b) has that written proof of approved training readily accessible at all times while working near energized high voltage electrical conductors.

(2) Except as otherwise provided in this section, an employer or contractor shall ensure that no worker works, no material is piled, stored or handled, no scaffold is erected or dismantled and no equipment or powered mobile equipment is used or operated within the minimum distance from any exposed energized electrical conductor set out in column 1 of Table 22 of the Appendix.

(2.1) Subsection (2) does not apply to a worker who is undertaking a specific one-time activity under the direct supervision of a qualified electrical worker.

(3) An employer or contractor shall ensure that no worker who is at ground potential approaches an exposed energized electrical conductor closer than the minimum distance set out in column 2 of Table 22 of the Appendix.

(4) An employer or contractor shall ensure that only a qualified electrical worker works closer to an exposed energized electrical conductor than the minimum distance set out in column 2 of Table 22 of the Appendix.

(5) Where a qualified electrical worker works closer to an exposed energized electrical conductor than the minimum distance set out in column 2 of Table 22 of the Appendix, an employer or contractor shall ensure that:

- (a) the qualified electrical worker:
  - (i) performs the work in accordance with written instructions for a safe work procedure that have been developed and signed by a competent person who has been appointed by the employer or contractor for that purpose;
  - (ii) uses equipment that is approved for the intended use of the equipment; and
  - (iii) uses personal protective equipment that meets the requirements of Part VII; or
- (b) the conductor is operating at 25 kilovolts or less and is fitted with rubber and rubber-like insulating barriers that meet the requirements of an approved standard.

(6) An employer or contractor shall ensure that no part of a vehicle is operated on a public road, highway, street, lane or alley within the minimum distance from an exposed energized electrical conductor set out in column 3 of Table 22 of the Appendix and that no part of a vehicle's load comes within the minimum distance.

(7) An employer or contractor shall ensure that no utility tree trimmer works within the minimum distance from an exposed energized electrical conductor set out in:

- (a) column 4 of Table 22 of the Appendix for utility tree trimmers using conducting objects exposed to energized parts;
- (b) column 5 of Table 22 of the Appendix for utility tree trimmers using rated tools exposed to energized parts;
- (c) column 6 of Table 22 of the Appendix for utility tree trimmers using rated insulating booms.

4 Oct 96 cO-1.1 Reg 1 s465; 10 Aug 2007 SR 67/2007 s32.

**Exposed energized electrical conductors operating at certain voltages**

**466** Where work is being carried out in proximity to exposed energized electrical conductors operating at 31 to 750 volts, an employer or contractor shall ensure that the work is carried out so that accidental contact with the energized electrical conductor by any worker is prevented.

4 Oct 96 cO-1.1 Reg 1 s466.

**Emergency program**

467(1) Where an electrical worker may come in contact with an exposed energized electrical conductor and that contact may affect the health or safety of the worker, an employer or contractor shall develop and implement an emergency program that sets out the procedures to be followed in the event of that contact.

(2) An emergency program developed pursuant to subsection (1) must include procedures:

- (a) to rescue a worker who has come into contact with a live conductor;
- (b) to administer first aid to a worker who has sustained an electric shock; and
- (c) to obtain medical assistance.

(3) An employer or contractor shall ensure that the workers are adequately trained to implement the emergency program.

4 Oct 96 cO-1.1 Reg 1 s467.

## PART XXXI

**Additional Protection for Health Care Workers****Interpretation**

468 In this Part:

- (a) **“contaminated laundry”** means laundry that has been contaminated by waste;
- (b) **“health care facility”** means:
  - (i) a facility for which a licence is required pursuant to *The Housing and Special-care Homes Act*;
  - (ii) a facility for which a licence or certificate of approval is required pursuant to *The Residential Services Act*;
  - (iii) a facility for which a licence is required pursuant to *The Personal Care Homes Act*;
  - (iv) a facility within the meaning of *The Mental Health Services Act*;
  - (v) a hospital, nursing home or institution approved pursuant to *The Hospital Standards Act* or any former *Hospital Standards Act*;
  - (vi) a clinic within the meaning of *The Cancer Foundation Act*;
  - (vii) a medical laboratory within the meaning of *The Medical Laboratory Licensing Act* or *The Medical Laboratory Licensing Act, 1994*;

(viii) with respect to the delivery of services within the meaning of *The Health Districts Act* or the operation of a facility within the meaning of that Act:

- (A) a district health board;
- (B) a health corporation; or
- (C) any other provider of services within the meaning of that Act;
- (ix) a laundry facility that is located in, or that provides services to, a facility listed in subclauses (i) to (vii) or that is operated by a body listed in subclause (viii);
- (x) an ambulance service within the meaning of *The Ambulance Act*;
- (xi) an air ambulance service within the meaning of *The Ambulance Act*;
- (xii) a home care service within the meaning of *The Home Care Act*;
- (xiii) a medical office or medical clinic;
- (xiv) a dental office or dental clinic;
- (xv) a veterinary office or veterinary clinic;
- (xv.1) a blood collection agency; or
- (xvi) any other place of employment that provides testing, diagnosis, treatment or care to a patient, resident or client for the purpose of improving or maintaining the physical or mental health of the patient, resident or client;

(c) **“waste”** means any biomedical or pharmaceutical material or substance that may be hazardous to the health or safety of a worker and that requires special handling precautions, decontamination procedures or disposal, and includes:

- (i) human anatomical waste;
- (ii) animal anatomical waste;
- (iii) microbiological laboratory waste;
- (iv) blood and body fluid waste; and
- (v) used or contaminated needles, syringes, blades, clinical glass and other clinical items that are capable of causing a cut or puncture.

4 Oct 96 cO-1.1 Reg 1 s468; 4 Nov 2005 SR 112/2005 s5.

#### Application of Part

**469** This Part applies to health care facilities.

4 Oct 96 cO-1.1 Reg 1 s469.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Additional requirements re supervisors in health care facilities**

**469.1(1)** In addition to the requirements of section 17, an employer, contractor or owner shall appoint competent persons to supervise at the place of employment.

(2) An employer, contractor or owner shall ensure that every supervisor appointed pursuant to subsection (1) is knowledgeable about, and experienced in the following matters that are within the area of the supervisor's responsibility:

- (a) safe work practices and procedures, including the use of engineering controls in use at the place of employment;
- (b) the safe handling, use and storage of hazardous substances;
- (c) techniques for safely mobilizing, lifting, holding, turning, positioning and transferring patients, residents and clients;
- (d) the handling, use, maintenance and storage of personal protective equipment;
- (e) the appropriate response to any emergency situation at the place of employment.

(3) An employer, contractor or owner shall ensure that every supervisor appointed pursuant to subsection (1) is knowledgeable in the following matters that are within the area of the supervisor's responsibility:

- (a) the duties and responsibilities of all workers being supervised by the supervisor;
- (b) the training of workers under the supervision of the supervisor in safe work practices and procedures.

(4) An employer, contractor or owner who has appointed a supervisor pursuant to subsection (1) shall ensure that all workers and self-employed persons who work at the place of employment and who are to be supervised by that supervisor are informed of the name of the supervisor.

21 Sep 2007 SR 91/2007 s4.

**Patient moving and handling**

**470(1)** Where workers are required or permitted to mobilize, lift, hold, turn, position or transfer patients, residents or clients, an employer:

- (a) in consultation with the committee, shall develop a written program specifying:
  - (i) the procedures to be used by a competent person to assess whether a patient, resident or client requires assistance to move; and
  - (ii) subject to subsection (2), the procedures and techniques that workers must use when mobilizing, lifting, holding, turning, positioning or transferring a patient, resident or client under all reasonably foreseeable circumstances;
- (b) shall implement the program developed pursuant to clause (a);
- (c) shall make readily available for reference by workers a copy of the program developed pursuant to clause (a);



- (d) where the program developed pursuant to clause (a) and implemented pursuant to clause (b) requires the use of equipment, shall provide equipment, sufficient in quantity, capacity and quality to protect the health and safety of workers, to assist with mobilizing, lifting, holding, turning, positioning or transferring patients, residents or clients;
  - (e) in consultation with the committee, shall develop a written plan respecting the ongoing evaluation and selection of the equipment mentioned in clause (d);
  - (f) shall consult with workers who use the equipment mentioned in clause (d) on the ongoing evaluation and selection of that equipment;
  - (g) shall ensure that workers use, and that competent persons maintain, the equipment mentioned in clause (d) according to the manufacturer's recommendations;
  - (h) shall ensure that a preventative maintenance program for the equipment mentioned in clause (d) is implemented that meets the manufacturer's recommendations; and
  - (i) shall ensure that workers:
    - (i) are instructed in the causes of injuries resulting from mobilizing, lifting, holding, turning, positioning or transferring patients, residents or clients and the means to prevent those injuries;
    - (ii) subject to subsection (2) and in addition to the requirements of section 19, are trained in, and use, the procedures and techniques of mobilizing, lifting, holding, turning, positioning and transferring patients, residents or clients as described in subclause (a)(ii); and
    - (iii) are trained in the use of the equipment mentioned in clause (d) that the workers will be expected to use at the worksite.
- (2) The procedures and techniques mentioned in subclauses (1)(a)(ii) and (i)(ii) must be consistent with the requirements set out in section 81.
- (3) Where a patient, resident or client has been assessed as requiring assistance to move, an employer shall:
- (a) ensure that the status of the patient, resident or client and the appropriate techniques to mobilize, lift, hold, turn, position or transfer the patient, resident or client are clearly identified in writing or by other visual means at or near the location of the patient, resident or client; and
  - (b) where the technique specified in clause (a) requires more than one worker or the use of equipment, ensure that the number of workers needed and the equipment to be used are also clearly specified in writing or by other visual means at or near the location of the patient, resident or client.
- (4) An employer, in consultation with the committee, shall review all injuries resulting from mobilizing, lifting, holding, turning, positioning or transferring patients, residents or clients to determine the causes of the injuries.
- (5) An employer shall take appropriate action to prevent the occurrence of injuries similar to an injury reviewed pursuant to subsection (4).

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(6) Where a program developed pursuant to clause (1)(a) and implemented pursuant to clause (1)(b), or a technique identified in subsection (3), specifies the use of equipment or the assistance of another worker, no employer shall require or permit a worker to mobilize, lift, hold, turn, position or transfer a patient, resident or client without the use of the device or the assistance of the other worker.

(7) Except in a life-threatening emergency, the employer shall not require or permit a worker to mobilize, lift, hold, turn, position or transfer a patient, resident or client until the patient, resident or client has been assessed pursuant to the program developed pursuant to clause (1)(a) and implemented pursuant to clause (1)(b).

21 Sep 2007 SR 91/2008 s5.

**Cytotoxic drugs**

**471(1)** In this section, “**cytotoxic drugs**” means drugs that inhibit or prevent the functions of cells and are manufactured, sold or represented for use in treating neoplastic or other conditions.

(2) An employer shall take all practicable steps to minimize the exposure of workers to cytotoxic drugs or to materials or equipment contaminated with cytotoxic drugs.

(3) On and after July 1, 1998, where workers prepare parenteral cytotoxic drugs on a frequent and continuing basis, an employer shall provide and maintain an approved biological safety cabinet in accordance with subsection (4) and ensure that workers use the cabinet safely.

(4) A biological safety cabinet must be:

(a) inspected and certified by a competent person at least annually and when the biological safety cabinet is moved; and

(b) used and maintained according to an approved procedure or the manufacturer’s recommendations.

(5) Where workers are required to prepare, administer, handle or use cytotoxic drugs or are likely to be exposed to cytotoxic drugs, an employer, in consultation with the committee, shall develop a written program to protect the health and safety of workers who may be exposed to cytotoxic drugs or to materials or equipment contaminated with cytotoxic drugs.

(6) A program developed pursuant to subsection (5) must include:

(a) the measures to be taken to identify, store, prepare, administer, handle, use, transport and dispose of cytotoxic drugs and materials contaminated with cytotoxic drugs;

(b) the emergency steps to be followed in the event of:

(i) a spill or leak of a cytotoxic drug; or

(ii) worker exposure to cytotoxic drugs by a puncture of the skin, absorption through the skin, contact with an eye, inhalation of drug dust or ingestion of a contaminated substance;

(c) the methods to be followed in maintaining and disposing of equipment contaminated with cytotoxic drugs;

- (d) the use to be made of engineering controls, work practices, hygiene practices and facilities, approved respiratory protective devices, approved eye or face protectors and other personal protective equipment and decontamination materials and equipment that are appropriate in the circumstances; and
  - (e) the use to be made of an approved biological safety cabinet for the preparation of cytotoxic drugs and the methods to be followed in maintaining the cabinet.
- (7) An employer shall:
- (a) implement the program developed pursuant to subsection (5);
  - (b) ensure that all workers who may be exposed to cytotoxic drugs or to materials or equipment contaminated with cytotoxic drugs are trained in the program; and
  - (c) make a copy of the program readily available for reference by workers.

4 Oct 96 cO-1.1 Reg 1 s472.

**Waste**

**472(1)** Where exposure to waste is likely to endanger the health or safety of a worker, an employer shall develop and implement a process that ensures that the waste:

- (a) is segregated at the place where the waste is located or produced;
  - (b) is contained in a secure, clearly labelled package or container that holds the contents safely until it is cleaned, decontaminated or disposed of; and
  - (c) is cleaned, decontaminated or disposed of in a manner that will not endanger the health or safety of any worker.
- (2) An employer shall ensure that:
- (a) a worker or self-employed person who generates, collects, transports, cleans, decontaminates or disposes of waste or launders contaminated laundry is trained in safe work practices and procedures, and is provided with personal protective equipment, that are appropriate to the risks associated with the worker's work; and
  - (b) a worker or self-employed person described in clause (a) uses the safe work practices and procedures and the personal protective equipment mentioned in that clause.

4 Oct 96 cO-1.1 Reg 1 s472.

**Equipment contaminated with waste**

**473** An employer shall ensure that, where reasonably practicable, any equipment that has been contaminated with waste is inspected and decontaminated before it is repaired or shipped for repair.

4 Oct 96 cO-1.1 Reg 1 s473.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Waste needles, etc.**

474(1) An employer shall provide readily accessible containers for waste needles, syringes, blades, clinical glass and any other clinical items that are capable of causing a cut or puncture and shall ensure that workers and self-employed persons use those containers.

(2) The containers required by subsection (1) must:

- (a) have a fill line;
- (b) be clearly identified as containing hazardous waste; and
- (c) be sturdy enough to resist puncture under normal conditions of use and handling until the containers are disposed of.

(3) An employer shall ensure that workers do not manually clip, bend, break or recap waste needles.

4 Oct 96 cO-1.1 Reg 1 s474; 4 Nov 2005 SR 112/2005 s6.

**Selecting needle-safe devices**

474.1(1) In this section and in section 474.2:

(a) **“contaminated”** means contaminated with:

- (i) human blood;
- (ii) fluids containing visible amounts of human blood;
- (iii) any of the following potentially infectious human bodily fluids:
  - (A) semen;
  - (B) vaginal secretions;
  - (C) cerebrospinal fluid;
  - (D) synovial fluid;
  - (E) pleural fluid;
  - (F) pericardial fluid;
  - (G) peritoneal fluid;
  - (H) amniotic fluid;
  - (I) saliva;
  - (J) breast milk;
- (iv) fluids from any unfixed tissue or organ, other than intact skin, from a human, living or dead;
- (v) cell, tissue or organ cultures, or other solutions, that may contain a human blood-borne infectious organism; or
- (vi) fluids from tissues of experimental animals infected with a blood-borne infectious organism from a human source;

- (b) **“needles with engineered sharps injury protections”** means hollow bore needles or devices with hollow bore needles that:
- (i) are commercially available;
  - (ii) are approved as medical devices by Health Canada;
  - (iii) have a built-in safety feature or mechanism that eliminates or minimizes the risk of a percutaneous injury; and
  - (iv) are used for purposes that include:
    - (A) withdrawing bodily fluids;
    - (B) accessing a vein or artery; and
    - (C) administering medications or other fluids;
- (c) **“needleless system”** means a commercially available device approved as a medical device by Health Canada that replaces a hollow bore needle for use in:
- (i) the collection of bodily fluids;
  - (ii) the withdrawal of bodily fluids after initial venous or arterial access is established;
  - (iii) the administration of medication or fluids; or
  - (iv) any other procedure in which it is reasonably anticipated that a worker could incur a percutaneous injury with a contaminated hollow bore needle;
- (d) **“public health emergency”** means an occurrence or imminent threat of a significant risk to public health caused by:
- (i) an epidemic or pandemic disease; or
  - (ii) a novel, highly fatal infectious agent or associated biological toxin.
- (2) This section and section 474.2 apply:
- (a) to all health care facilities mentioned in clause 468(b) except those mentioned in subclauses 468(b)(xiii) and (xiv);
  - (b) to a correctional facility as defined in *The Correctional Services Act*; and
  - (c) to a youth custody facility as defined in the *Youth Criminal Justice Act* (Canada).
- (3) Subject to subsection (4), on and after July 1, 2006, for tasks and procedures in which it is reasonably anticipated that a worker or self-employed person may incur a percutaneous injury from a contaminated hollow bore needle, the employer or contractor must:
- (a) identify, evaluate and select needles with engineered sharps injury protections or needleless systems, in consultation with representatives of those workers or self-employed persons who will use the selected device; and
  - (b) ensure that the needles with engineered sharps injury protections and needleless systems selected pursuant to clause (a) are used.

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- (4) Subsection (3) does not apply:
- (a) if the employer or contractor can demonstrate that needles with engineered sharps injury protections or needleless systems pose an additional risk to the patient, worker or self-employed person;
  - (b) to any biological or antibiotic product in an injection-ready needle device that is present in Saskatchewan on the day on which this section comes into force;
  - (c) to any needles or needle devices that are obtained during a public health emergency for use in that emergency;
  - (d) to needles or needle devices for use in a public health emergency that are stockpiled for use in a public health emergency and are present in Saskatchewan on the day on which this section comes into force; or
  - (e) if a needle with engineered sharps injury protections or a needleless system requires Health Canada's approval for use in a national program, including blood collection and vaccination programs, until the earlier of:
    - (i) the day on which Health Canada approves a needle with engineered sharps injury protections or a needleless system for use in a national program; and
    - (ii) July 1, 2007.

4 Nov 2005 SR 112/2005 s7.

**Injury log**

- 474.2(1)** An employer or contractor must maintain an injury log for all exposures involving a percutaneous injury with a sharp that may be contaminated.
- (2) Entries in the injury log maintained pursuant to subsection (1) must:
- (a) protect the confidentiality of the exposed worker or self-employed person; and
  - (b) contain at least the following information:
    - (i) the type and brand of the device involved in the exposure incident;
    - (ii) the department or work area in which the exposure occurred;
    - (iii) an explanation of how the exposure occurred.

4 Nov 2005 SR 112/2005 s7.

**Contaminated laundry**

- 475(1)** An employer shall ensure that workers handle contaminated laundry as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of any worker handling the laundry.
- (2) At a laundry facility that is established or extensively renovated after the coming into force of these regulations, an employer shall ensure that the area where contaminated laundry is sorted is separated from the clean laundry area by one or more of the following:
- (a) a physical barrier;

- (b) a negative air pressure system in the contaminated laundry area;
- (c) a positive air flow from the clean laundry area through the contaminated laundry area.

4 Oct 96 cO-1.1 Reg 1 s475.

#### **Anaesthetic gases**

**476** Where workers are required to handle or use anaesthetic gases and vapours or are likely to be exposed to anaesthetic gases and vapours, an employer shall:

- (a) develop safe work practices and procedures to eliminate or reduce the concentration of anaesthetic gases and vapours in the air of the room during the administration of the anaesthetic gases;
- (b) train workers in the safe work practices and procedures developed pursuant to clause (a) and ensure that the workers and self-employed persons use those safe work practices and procedures;
- (c) ensure that all anaesthetic gas hoses, connections, tubing, bags and associated equipment are inspected for leakage before each use and at least weekly;
- (d) ensure that any room where anaesthetic gases are administered is, where reasonably practicable, ventilated at a rate of 15 air changes per hour;
- (e) on or before January 1, 1998, install an effective waste anaesthetic gas scavenging system to collect, remove and dispose of waste anaesthetic gases and vapours;
- (f) except in birthing rooms where anaesthetic gas is self-administered, ensure that leakage from a waste anaesthetic gas scavenging system installed pursuant to clause (e) is less than 100 millilitres per minute when tested according to an approved standard; and
- (g) ensure that the waste anaesthetic gas scavenging system and the equipment used to administer anaesthetic gases are maintained.

4 Oct 96 cO-1.1 Reg 1 s476; 31 Jan 97 SR 6/97 s13.

#### **Ethylene oxide sterilizers**

**477(1)** In this section, “**CSA installation standard**” means the Canadian Standards Association standard CAN/CSA-Z314.9-M89 *Installation and Ventilation of Ethylene Oxide Sterilizers in Health Care Facilities*.

- (2) An employer shall ensure, to the extent that is practicable, that all ethylene oxide sterilizers at a place of employment are operated and maintained in accordance with the CSA installation standard.
- (3) An employer, in consultation with the committee, shall develop:
  - (a) safe work practices and policies that meet the requirements of the CSA installation standard; and
  - (b) an emergency response program to detect, control and respond to any leak or spill of ethylene oxide that meets the requirements of the CSA installation standard.

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- (4) An employer shall:
- (a) implement the safe work practices and policies and the emergency response program developed pursuant to subsection (3); and
  - (b) ensure that workers who operate ethylene oxide sterilizers and workers who may come into contact with ethylene oxide:
    - (i) are trained in accordance with the CSA installation standard; and
    - (ii) follow the safe work practices and policies and the emergency response program developed pursuant to subsection (3).
- (5) An employer shall ensure that all areas where ethylene oxide is used or stored are posted with clearly legible signs that state “Ethylene Oxide Area, Potential Cancer and Reproductive Hazard, Authorized Personnel Only”.
- (6) An employer shall ensure that all records of equipment maintenance and accidental ethylene oxide leakages are kept for five years in a log book located in the ethylene oxide sterilization area.
- (7) An employer shall ensure that an ethylene oxide sterilizer purchased after the coming into force of these regulations:
- (a) is constructed in accordance with the Canadian Standards Association standard CAN/CSA-Z314.1-M91 *Ethylene Oxide Sterilizers for Hospitals*;
  - (b) is installed in accordance with and meets the ventilation requirements of the CSA installation standard; and
  - (c) where reasonably practicable, is a sterilizer with in-chamber aeration that allows sterilization and aeration to take place without manually transferring the items that are being sterilized and aerated from one piece of equipment to another.
- (8) An employer shall ensure that portable ethylene oxide sterilizers are operated in a fume cabinet or placed in a self-contained room that is unoccupied during the sterilization process and is ventilated clear of the place of employment at a minimum rate of 10 air changes per hour to prevent the accumulation of the gas in the room.

4 Oct 96 cO-1.1 Reg 1 s477.

**Review of programs, etc.**

**478** An employer, in consultation with the committee, shall ensure that all programs, training, work practices, procedures and policies developed pursuant to this Part are reviewed and, where necessary, revised at least every three years and whenever there is a change of circumstances that may affect the health or safety of workers.

4 Oct 96 cO-1.1 Reg 1 s478.



PART XXXII  
Additional Protection for Fire Fighters

**Interpretation**

479 In this Part:

- (a) **“emergency incident”** means the circumstances giving rise to a specific emergency operation;
- (b) **“emergency medical care”** means the provision of treatment to patients, including first aid, cardiopulmonary resuscitation, basic life support, advanced life support and other medical procedures that occur before arriving at a hospital or other health care facility;
- (c) **“emergency operation”** means the activities relating to rescue, fire suppression, emergency medical care and special operations, and includes the response to the scene of an incident and all functions performed at the scene;
- (d) **“evolution”** means a set of standard operating procedures that results in an effective response to an emergency incident;
- (e) **“fire fighter”** means a worker whose duties include:
  - (i) emergency operations, fire inspection and fire investigation; and
  - (ii) training for the activities mentioned in subclause (i);and includes a worker whose duties include directing any or all of the activities mentioned in subclauses (i) and (ii);
- (f) **“firefighting vehicle”** means a specialized vehicle that carries an assortment of tools and equipment for use by fire fighters in emergency operations;
- (g) **“fire suppression”** means the activities involved in controlling and extinguishing fires, including all activities performed at the scene of a fire incident or training exercise that expose fire fighters to the dangers of heat, flame, smoke and other products of combustion, explosion, or structural collapse;
- (h) **“rescue”** means activities directed at locating endangered persons at an emergency incident and removing those persons from danger, and includes treating the injured;
- (i) **“special operations”** means emergency incidents to which fire fighters respond that require specific and advanced training and specialized tools and equipment, and includes water rescue, confined space entry, high-angle rescue and incidents involving hazardous materials;
- (j) **“standard operating procedure”** means an operational directive prepared by an employer that establishes a standard course of action for the emergency incidents to which a fire fighter is required to respond;
- (k) **“structural firefighting”** means the activities of rescue, fire suppression and property conservation involving buildings, enclosed structures, vehicles, vessels, aircraft or other large objects that are involved in a fire or emergency incident.

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**Application of Part**

**480** This Part applies to fire fighters who are engaged in emergency operations on a full-time or part-time basis and their employers, but does not apply to:

- (a) fire fighters fighting prairie or forest fires that the department, as defined in *The Prairie and Forest Fires Act, 1982*:
  - (i) is responsible for, pursuant to subsection 8(2) of that Act; or
  - (ii) takes action to control and extinguish, pursuant to subsection 8(3) of that Act; or
- (b) fire fighters fighting fires underground at mines.

4 Oct 96 cO-1.1 Reg 1 s480.

**Plan for response to emergency incident**

**481(1)** An employer, in consultation with the committee, shall develop a written plan that establishes the procedures to be followed by fire fighters in response to an emergency incident.

- (2) A plan required by subsection (1) must include:
  - (a) identification of standard firefighting functions or evolutions, including functions or evolutions that must be performed simultaneously;
  - (b) the minimum number of fire fighters required to perform safely each identified firefighting function or evolution, based on written standard operating procedures;
  - (c) the number and types of firefighting vehicles and fire fighters required for the initial response to each type of emergency incident to which the fire fighters will be expected to respond;
  - (d) the total complement of firefighting vehicles and fire fighters to be dispatched for each type of emergency incident;
  - (e) a description of a typical emergency operation, including alarm time, response time, arrival sequence, responsibility for initiating standard operating procedures necessary to protect the health and safety of fire fighters;
  - (f) an incident management system; and
  - (g) a personnel accountability system.
- (3) An employer shall:
  - (a) ensure that the plan developed pursuant to subsection (1) is implemented; and
  - (b) make a copy of the plan readily available for reference by fire fighters.

4 Oct 96 cO-1.1 Reg 1 s481.

**Training of fire fighters**

482(1) An employer shall ensure that:

- (a) all fire fighters receive the training necessary to ensure that the fire fighter is able to carry out safely any emergency operation that the fire fighter will be expected to carry out;
  - (b) the training required by clause (a) is provided by competent persons; and
  - (c) a written record is kept of all training delivered to fire fighters pursuant to this Part.
- (2) An employer shall ensure that every firefighting vehicle is operated by a competent operator.

4 Oct 96 cO-1.1 Reg 1 s482.

**General standards for vehicles and equipment**

483 An employer, contractor or owner shall ensure that all firefighting vehicles and all equipment for use in emergency operations are designed, constructed, operated, maintained, inspected and repaired so as to protect adequately the health and safety of fire fighters.

4 Oct 96 cO-1.1 Reg 1 s483.

**Securing of equipment, etc., in vehicles**

484 Where equipment or personal protective equipment is carried within a seating area of a firefighting vehicle, an employer, contractor or owner shall ensure that:

- (a) the items of equipment are secured:
  - (i) by a positive mechanical means of holding the item in a stowed position; or
  - (ii) in a compartment with a positive latching door; and
- (b) the compartment mentioned in subclause (a)(ii) is designed to minimize injury to fire fighters in the seating area of the vehicle.

4 Oct 96 cO-1.1 Reg 1 s484.

**Inspection of firefighting vehicles and equipment**

485 An employer, contractor or owner shall ensure that:

- (a) all firefighting vehicles and firefighting equipment are inspected by a competent person for defects and unsafe conditions as often as is necessary to ensure that the vehicles and equipment are capable of safe operation;
- (b) where a defect or unsafe condition that may create a hazard to a fire fighter is identified in a firefighting vehicle or firefighting equipment:
  - (i) steps are taken immediately to protect the health and safety of any fire fighter who may be at risk until the defect is repaired or the unsafe condition is corrected; and
  - (ii) as soon as is reasonably practicable, the defect is repaired or the unsafe condition is corrected; and

- (c) a written record:
  - (i) is kept of all inspections carried out pursuant to clause (a);
  - (ii) is signed by the competent person who performs the inspection; and
  - (iii) is kept at the place of employment and is made readily available to the committee, the representative and the fire fighters.

4 Oct 96 cO-1.1 Reg 1 s485.

**Repair of firefighting vehicles**

**486** An employer, contractor or owner shall ensure that:

- (a) all repairs to firefighting vehicles of defects or unsafe conditions that may put at risk the health or safety of fire fighters are made in accordance with the vehicle manufacturer's instructions and by qualified persons experienced with the type of vehicle or the type of work to be performed; and
- (b) a written record:
  - (i) is kept of all repairs made to a firefighting vehicle; and
  - (ii) is kept at the place of employment and is made readily available to the committee, the representative and the fire fighters.

4 Oct 96 cO-1.1 Reg 1 s486.

**Transportation of fire fighters**

**487(1)** Subject to subsection (3), an employer, contractor or owner shall ensure that:

- (a) all firefighting vehicles are provided with safe crew accommodations within the body of the vehicle and are equipped with properly secured seats and seat-belts;
  - (b) while a firefighting vehicle is transporting fire fighters, every fire fighter is seated and uses a seat-belt when the vehicle is in motion; and
  - (c) no fire fighter rides on the tailstep, side steps, running boards or in any other exposed position on a firefighting vehicle.
- (2) Where there is an insufficient number of seats available for the number of fire fighters who are assigned to or expected to ride on a firefighting vehicle, an employer, contractor or owner shall ensure that there is a safe alternate means of transportation for those fire fighters.
- (3) Clauses (1)(b) and (c) do not apply where a fire fighter is fighting a prairie, grassland or crop fire, and the employer, contractor or owner ensures that:
- (a) a restraining device is used to prevent the fire fighter from falling from the firefighting vehicle;
  - (b) an effective means of communication between the fire fighter and the operator of the firefighting vehicle is provided; and
  - (c) a fire fighter does not operate the firefighting vehicle at a speed that exceeds 20 kilometres per hour.

4 Oct 96 cO-1.1 Reg 1 s487.

**Personal protective equipment**

**488** An employer, contractor or owner shall provide to a fire fighter who engages in or is exposed to the hazards of emergency operations, and ensure that the fire fighter uses, approved personal protective equipment that is appropriate to the nature of the risk to which the fire fighter will be exposed and that is adequate to protect the health and safety of the fire fighter.

4 Oct 96 cO-1.1 Reg 1 s488.

**Interior structural firefighting**

**489** Where fire fighters are required or permitted to engage in interior structural firefighting, an employer shall ensure that:

- (a) the fire fighters work in teams; and
- (b) a suitably equipped rescue team is readily available outside the structure to rescue an endangered fire fighter if the fire fighter's SCBA fails or the fire fighter becomes incapacitated for any other reason.

4 Oct 96 cO-1.1 Reg 1 s489.

**Personal alert safety system**

**490(1)** An employer, contractor or owner shall provide each fire fighter who enters a structure during firefighting with an approved personal alarm safety system (PASS) device and ensure that the fire fighter uses the device.

(2) An employer, contractor or owner shall ensure that each PASS device is tested at least monthly and before each use, and maintained in accordance with the manufacturer's instructions.

4 Oct 96 cO-1.1 Reg 1 s490.

**Safety ropes, harnesses and hardware**

**491** An employer, contractor or owner shall provide for use by a fire fighter approved safety ropes, harnesses and hardware that are appropriate to the nature of the risk to which the fire fighter will be exposed and adequate to protect the health and safety of the fire fighter, and ensure that the fire fighter uses them.

4 Oct 96 cO-1.1 Reg 1 s491.

PART XXXIII  
**Repeal, Transitional and Coming into Force**

**R.R.S. c.O-1 Reg 1 repealed**

**492** *The Occupational Health and Safety Regulations* are repealed.

4 Oct 96 cO-1.1 Reg 1 s492.

**Transitional**

**493** Notwithstanding the repeal of *The Occupational Health and Safety Regulations*, an approval granted by the director pursuant to *The Occupational Health and Safety Regulations* is continued pursuant to these regulations until it is revoked or amended by the director.

4 Oct 96 cO-1.1 Reg 1 s493.

**Coming into force**

**494(1)** Subject to subsections (2) and (3), these regulations come into force on November 1, 1996.

(2) Subject to subsection (3), if these regulations are not published in *The Saskatchewan Gazette* at least 60 days before November 1, 1996, these regulations come into force on the sixty-first day after the day on which they are published in *The Saskatchewan Gazette*.

(3) Part XXXII of these regulations comes into force one year after the day on which these regulations come into force.

4 Oct 96 cO-1.1 Reg 1 s494.

## Appendix

### TABLE 1

[Subclause 2(1)(g)(i), subsection 54(2)]

#### Minimum Requirements for Class A Qualification

- A First aid training course:
  - I Course duration: 14-16 hours
  - II Course Content:
    - The role of the first aid attendant
    - Interaction with higher-level trained personnel and with medical care agencies
    - Medico-legal aspects of first aid
    - Responsibilities of the first aid attendant
    - Knowledge of the ambulance system
    - Basic anatomy and physiology: how the body systems work
    - Patient assessment: primary and secondary surveys
    - Assessment and monitoring of basic vital signs
    - Respiratory emergencies: respiratory system review, management of airways
    - Chest injuries: pneumothorax, flail chest, sucking chest wound
    - Circulatory system review, heart attack, stroke
    - Bleeding: wounds, control of bleeding and bandaging
    - Barrier devices to prevent the transmission of pathogens
    - Shock: signs and symptoms
    - Abdominal injuries: system review by quadrant
    - Stabilization: head, spine and pelvis injuries
    - Upper and lower extremity injuries
    - Medical emergencies: epilepsy, diabetes
    - Assessment and treatment of burns
    - Assessment and treatment of poisonings and acute effects of abused drugs
    - Problems of heat and cold
    - Emotional problems
    - Movement of a casualty
    - Situation simulations, reporting on the patient to higher-level trained personnel
    - Understanding of and familiarity with relevant provisions of *The Occupational Health and Safety Regulations, 1996*.
- B Cardiopulmonary resuscitation training course:
  - I Course duration: 4-6 hours
  - II Course Content:
    - Risk factors
    - Signals and actions of heart attack and stroke
    - Airway obstruction: prevention, causes, recognition
    - Entrance into the emergency medical services system
    - One rescuer cardiopulmonary resuscitation (adult)
    - Treatment of an adult with an obstructed airway
    - Turning of the casualty into the recovery position.

**TABLE 2**  
[Subclause 2(1)(g)(ii)]

**First Aid Services Authorized by Class A Qualification**

Primary and secondary assessment  
 Cardiopulmonary resuscitation  
 Bandaging and splinting  
 Monitoring vital signs  
 Basic management of medical emergencies  
 Spine stabilization  
 Any other services for which the holder of the class A qualification has acquired additional training from an approved authority.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 3**  
[Subclause 2(1)(h)(i), subsection 54(2)]

**Minimum Requirements for Class B Qualification**

- A First aid training course:
- I Course duration: 60-80 hours  
 It is recommended that the review and practice time should be at least 20 hours.
- II Course content:
- Roles and responsibility: knowledge of emergency medical system, the place of the first aid attendant in the system, other skill levels in the system
  - The different phases of emergency medical care
  - Adequate training in the use of first aid equipment
  - The medico-legal aspects of first aid
  - Anatomy and physiology appropriate to the course
  - Primary and secondary survey of the casualty
  - Monitoring and assessment of vital signs
  - Bleeding: wounds, control of bleeding and bandaging
  - Barrier devices to prevent the transmission of pathogens
  - Airway management and use of relevant equipment (eg. bag valve, mask resuscitator, oxygen equipment)
  - Assessment and treatment of common medical emergencies
  - Assessment and treatment of shock
  - Trauma to head, spine, chest, abdomen and pelvis
  - Injuries to extremities
  - Environmental emergencies
  - Crisis intervention: provision of psychological support
  - First on the scene management skills, triage
  - Assessment and treatment of burns
  - Obstetrics: emergency delivery and post-partum haemorrhage
  - Recognition of the acute signs and symptoms of drug abuse and treatment of the casualty
  - Assessment and treatment of the acute (eg. distended or tender) abdomen
  - Basic extrication of the casualty from immediate danger
  - Record keeping: preservation of information necessary for subsequent action
  - Understanding of and familiarity with relevant provisions of *The Occupational Health and Safety Regulations, 1996*.



B Cardiopulmonary resuscitation training course:

I Course duration: 8-10 hours

II Course content:

Risk factors  
 Signals and actions of heart attack and stroke  
 Airway obstruction: prevention, causes, recognition  
 Entrance into the emergency medical services system  
 One rescuer cardiopulmonary resuscitation  
 Two rescuer cardiopulmonary resuscitation  
 Treatment of an adult with an obstructed airway  
 Mouth-to-mask resuscitation  
 Spinal injuries  
 Turning of the casualty into the recovery position.

4 Oct 96 cO-1.1 Reg 1; 31 Jan 97 SR 6/97 s14.

**TABLE 4**

[*Subclause 2(1)(h)(ii)*]

**First Aid Services Authorized by Class B Qualification**

Primary and secondary assessment  
 Cardiopulmonary resuscitation while moving a patient  
 Bandaging and splinting  
 Monitoring vital signs  
 Basic management of medical emergencies  
 Airway management, the use of suction devices and bag-valve mask  
 Proper procedures and conditions for the administration of oxygen  
 Use of spinal immobilization devices  
 Psychological support measures  
 Any other services for which the holder of the Class B qualification has acquired additional training from an approved authority.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 5**  
[Subsections 7(2) and 343(1) and section 344]

**Asbestos Processes**

Part A – High Risk Asbestos Processes

- 1 The removal, encapsulation, enclosure or disturbance of anything but minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of any part of a plant
- 2 The cleaning, maintenance or removal of air-handling equipment in buildings where sprayed fireproofing asbestos-containing materials have been applied to the airways or ventilation ducts
- 3 The dismantling or the major alteration or repair of a boiler, furnace, kiln or similar device, or part of a boiler, furnace, kiln or similar device, that is made of asbestos-containing materials
- 4 The use of power tools not equipped with HEPA filtration to grind, cut or abrade any asbestos-containing surface or product.

Part B – Moderate Risk Asbestos Processes

- 1 The use of a power tool equipped with HEPA filtration to cut, shape or grind any asbestos-containing surface or product
- 2 The removal of a false ceiling or part of a false ceiling where friable asbestos-containing material is, or is likely to be, lying on the surface of the false ceiling
- 3 The removal, the encapsulation or enclosure or the disturbance of minor amounts of friable asbestos-containing material during the repair, alteration, maintenance, demolition, or dismantling of a structure, machine or equipment or part of a structure, machine or equipment.

Part C – Low Risk Asbestos Processes

- 1 The installation or removal of manufactured asbestos-containing products where sanding, cutting or similar disturbance is not required
- 2 The use of hand tools to cut, shape, drill or remove a manufactured asbestos-containing product
- 3 The removal of drywall material where asbestos joint filling compounds have been used
- 4 The use of personal protective equipment made of asbestos-containing textiles
- 5 The transporting or handling of asbestos-containing materials in sealed containers
- 6 The cleaning or disposing of minor amounts of asbestos debris that has come loose or fallen from a friable surface
- 7 The removal of small samples of asbestos-containing material for the purpose of identification.

**TABLE 6**  
[Subsection 10(2)]

**Notifiable Medical Conditions Resulting from Occupational Exposure**

- 1 Acute, sub-acute or chronic disease of an organ resulting from exposure to lead, arsenic, beryllium, phosphorus, manganese, cadmium or mercury or their compounds or alloys
- 2 Neoplasia of the skin or mucous membrane resulting from exposure to tar, pitch, bitumen, mineral or cutting oils or arsenic or their compounds, products or residue
- 3 Neoplasia of the renal tract in a worker employed in rubber compounding, in dyestuff manufacture or mixing or in a laboratory
- 4 Pneumoconiosis resulting from exposure to silica or silicate, including asbestos, talc, mica or coal
- 5 Toxic jaundice resulting from exposure to tetrachloroethane or nitro- or amido-derivatives of benzene or other hepato-toxic or haemato-toxic substances
- 6 Neoplasia or any form of sickness resulting from internal or external exposure to ionizing radiation or electro-magnetic radiation
- 7 Poisoning by the anti-cholinesterase action of an organophosphorous or carbamate compound
- 8 Any form of decompression illness
- 9 Toxic anaemia resulting from exposure to trinitrotoluene, or any other haematogenic poison, including chronic poisoning by benzene
- 10 Mesothelioma of the pleura or peritoneum
- 11 Angiosarcoma of the liver
- 12 Malignant neoplasm of the nasal cavities resulting from exposure to chromium or its compounds, wood dust or formaldehyde
- 13 Malignant neoplasm of the scrotum resulting from exposure to petroleum products
- 14 Malignant neoplasm of lymphatic or haematopoietic tissue resulting from exposure to benzene
- 15 Cataract resulting from exposure to ionizing radiation, electro-magnetic radiation or nitrophenols
- 16 Male infertility resulting from exposure to glycol ethers, lead or pesticides
- 17 Spontaneous abortion resulting from exposure to ethylene oxide or antineoplastic drugs
- 18 Inflammatory and toxic neuropathy resulting from exposure to organic solvents
- 19 Asthma resulting from exposure to isocyanates, red cedar, amines, acid anhydride, epoxy resin systems, reactive dyes, metal fumes or salts, enzymes or bisulphites
- 20 Extrinsic allergic alveolitis resulting from exposure to mould or organic dust.

**TABLE 7**  
*[Subsections 22(2) and 45(1)]*  
**Prescribed Places of Employment**

1. Types of places of employment:
  - (a) hospitals, nursing homes and home care;
  - (b) metal foundries and mills; and
  - (c) mines.
2. Places of employment at which the following types of work are performed:
  - (a) aerial crop spraying, operation of helicopters, water bombing;
  - (b) autobody and automotive paint repairing, bumper electroplating, auto rust proofing, auto glass installation, auto vinyl roofing, fibreglassing boats and autos;
  - (c) building construction;
  - (d) camp catering;
  - (e) farming and ranching;
  - (f) forestry work other than pulp and paper production;
  - (g) forwarding and warehousing as a business;
  - (h) metal manufacturing and machining, marble works, concrete block and ready mix manufacturing;
  - (i) oilwell servicing;
  - (j) oil and gas drilling, well servicing with a rig, water well drilling;
  - (k) processing meat, poultry and fish;
  - (l) road construction and earthwork, urban sewer and water construction, tunnelling;
  - (m) trucking;
  - (n) wholesale baking, dairy products, soft drinks and food preparation and packaging.

**TABLE 8**  
[*Clause 50(d)*]

**Activities That Constitute High Hazard Work**

Building construction  
Drilling for gas, oil and minerals  
Service for gas and oil wells and power line service  
Logging  
Sawmilling  
Iron and steel processing and fabrication  
Road construction, earthwork, tunnelling and trenching  
Local and provincial hauling and trucking  
Mining and smelting  
Exploration drilling, shaft sinking, quarrying and crushing of rocks  
Manufacturing of concrete block, brick, artificial stone and other clay and cement products  
Power line construction and maintenance.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 9**

[Clause 54(1)(a) and subsection 54(5)]

**Summary of First Aid Requirements<sup>1</sup>**

Minimum: Every place of employment requires a first aid box containing standard supplies (see Table 10), a manual, a register and emergency information. Additional requirements are listed below:

<b>Workers</b>	<b>Close</b> (1/2 hour or less to medical facility)	<b>Distant</b> (1/2 - 2 hours to medical facility)	<b>Isolated</b> (More than 2 hours' surface transport to medical facility, or normal mode of transport is aircraft)
1	minimum	minimum	minimum
2 - 4	minimum	minimum plus <ul style="list-style-type: none"> <li>• blankets, stretcher and splints</li> <li>• Class A attendant and supplies for high hazard work<sup>2</sup></li> </ul>	minimum plus <ul style="list-style-type: none"> <li>• blankets, stretcher and splints</li> <li>• Class A attendant and supplies for high hazard work<sup>2</sup></li> </ul>
5 - 9	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies for high hazard work<sup>2</sup></li> </ul>	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies</li> <li>• blankets, stretcher and splints</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies</li> <li>• blankets, stretcher and splints</li> </ul>
10 - 20	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies</li> <li>• blankets, stretcher and splints</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies</li> <li>• blankets, stretcher and splints</li> </ul>
21 - 40	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>• Class A attendant and supplies</li> <li>• blankets, stretcher and splints</li> </ul>	minimum plus <ul style="list-style-type: none"> <li>• Class B attendant and supplies for high hazard work<sup>2</sup></li> <li>• Class A attendant and supplies for other work</li> <li>• blankets, stretcher and splints</li> </ul>

41 - 99	minimum plus • Class A attendant and supplies	minimum plus • Class B attendant and supplies for high hazard work <sup>2</sup> • Class A attendant and supplies for other work • blankets, stretcher and splints	minimum plus • Class A attendant for low hazard work <sup>3</sup> • EMT for high hazard work <sup>2</sup> • Class B attendant and supplies for other work • blankets, stretcher and splints
100 +	minimum plus • 2 Class A attendants and supplies	minimum plus • First aid room • 1 EMT and 1 Class B attendant and supplies for high hazard work <sup>2</sup> • 2 Class A attendants and supplies for other work • blankets, stretcher and splints	minimum plus • first aid room • 1 EMT, 1 Class B attendant and supplies for high hazard work <sup>2</sup> • 2 Class A attendants and supplies for low hazard work • 2 Class B attendants and supplies for other work. • blankets, stretcher and splints

<sup>1</sup>Hospitals, medical facilities and other health care facilities where a physician or registered nurse is always readily available and close places of employment where the work is entirely low-hazard work are exempt.

<sup>2</sup>Activities that constitute high hazard work are listed in Table 8.

<sup>3</sup>Low hazard work is work of an administrative, professional or clerical nature that does not require substantial physical exertion or exposure to work processes, substances or other conditions that are potentially hazardous.

**TABLE 10**

[Subsection 54(5), clause 56(1)(a), section 59]

**Required Contents of First Aid Box**

Amounts or quantities of the following supplies and equipment adequate for the expected emergencies, contained in a well-marked container:

Antiseptic, wound solution or antiseptic swabs  
 Bandage – adhesive strips and hypoallergenic adhesive tape  
 Bandage – triangular, 100-centimetre folded, and safety pins  
 Bandage – gauze roller, various sizes  
 Dressing – sterile and wrapped gauze pads and compresses, various sizes including abdominal pad size  
 Dressing – self-adherent roller, various sizes  
 Pad with shield or tape for eye  
 Soap  
 Disposable latex or vinyl gloves  
 Pocket mask with disposable one-way rebreathe valves  
 Forceps – splinter  
 Scissors – bandage.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 11**

[Subsection 54(5) and clause 60(2)(a)]

**Additional Supplies and Equipment - Class A Qualification**

Bag – hot water or hot pack  
 Bag – ice or cold water  
 Bandage – elastic, 5-centimetre and 10-centimetre widths  
 Sterile burn sheet  
 Any other first aid supplies and equipment that are appropriate to the dangers and other circumstances of the place of employment and commensurate with the training of the first aid attendant.

4 Oct 96 cO-1.1 Reg 1.

**TABLE 12**

[Subsection 54(5) and clause 60(2)(b)]

**Additional Supplies and Equipment - Class B Qualification**

Bag – hot water or hot pack  
 Bag – ice or cold water  
 Bandage – elastic, 5-centimetre and 10-centimetre widths  
 Sterile burn sheet  
 Stethoscope with a bell  
 Sphygmomanometer  
 Thermometer  
 Where there are potential causes of spinal injury, short and long spine boards with adequate restraining straps and medium and large cervical collars  
 Emergency oxygen system  
 Bag valve and mask resuscitator  
 Any other first aid supplies and equipment that are appropriate to the dangers and other circumstances of the place of employment and commensurate with the training of the first aid attendant.

4 Oct 96 cO-1.1 Reg 1.



**TABLE 13**  
[Section 71]

**Minimum Numbers of Toilet Facilities**

Number of Toilet Facilities	
Number of Workers	Toilets
1 to 10	1
11 to 25	2
26 to 50	3
51 to 75	4
76 to 100	5
Add one toilet for each additional 30 workers or less.	

**TABLE 14**  
[*Subsection 85(1)*]

**Repealed.** 4 Nov 2005 SR 112/2005 s8.

**TABLE 14.1**  
[*Section 154*]

**Minimum Training Requirements for  
Trained Operator of Power Mobile Equipment**

In this Table, 'PME' means Power Mobile Equipment

I Course Content:

- A. *Occupational Health and Safety Regulations, 2007/08* Related to Power Mobile Equipment (PME):
1. Duties of employers and operators
  2. Protection of workers, risk assessment and visual inspection
  3. Operation of PME
- B. Types of PME:
1. Terminology
  2. Types of PME
  3. Specific design of PME to be operated
  4. Manufactures requirements, recommendations and specifications regarding load ratings and safety factors
- C. Site Evaluation:
1. Check route of travel, clearances and ground conditions, including the presence of workers, structures, power lines, underground services or other equipment that may constitute a hazard
  2. Check site of operation, including the nature of ground, gradients and potentially dangerous situations and the appropriate response
- D. PME Controls:
1. Identification and use of controls
  2. Pre-start check/ Post-operating check
  3. Start-up
  4. Perform operating adjustments
  5. Shut-down

- E. Operation of PME:
  - 1. Movement to location
  - 2. Set-up of PME
  - 3. Check for safety of other persons before movement
  - 4. Safety precautions while PME is unattended, in storage or in transit
- F. Rigging where applicable:
  - 1. Inspection of ropes and rigging equipment
  - 2. Reeving: sheaves; spools; drums; wire ropes
  - 3. Rigging loads: hooks; safety catches; shackles; end fittings and connections
  - 4. Rigging slings: configurations; angles; safe working loads
  - 5. Safety factors for loads and workers, wire rope inspection and maintenance
- G Signalling where applicable:
  - 1. Designated signaler: position; visibility; number of
  - 2. Methods of signaling: hand; radio
- H Maintenance of PME where applicable:
  - 1. Maintenance schedule; planned preventative maintenance
  - 2. Inspection and repair procedures
  - 3. Blocking and the safe position of parts during maintenance and servicing
- I Maintenance/repair records where applicable:
  - 1. Record inspections, repair, maintenance, calibrations and work activities
  - 2. Hours of service
  - 3. Signed by the authorized person performing inspection, maintenance and calibration

## II Course Duration:

A minimum of 16 hours, classroom and practical training combined.

An employer or contractor shall conduct an examination of practical skills for each operator required or permitted to operate a specific type of powered mobile equipment.

If an operator has previous experience in operating a specific type of powered mobile equipment and can demonstrate their ability to the satisfaction of the person directing the training program, that person, may accept the operator's previous training and experience as meeting all or any part of the requirements of the training program.

Where an operator has not operated a specific type of powered mobile equipment for a period of three or more years or where the powered mobile equipment design has changed significantly, the employer or contractor shall evaluate, re-train and re-examine the operator to ensure their competency.

**TABLE 15**  
 [Subsection 175(3)]

**Minimum Dimensions of Members of Light Duty Wooden<sup>1</sup> Scaffolds  
 (Height Less Than 6 Metres)**

Dimensions of Members of Half-horse Scaffolds

1	Ledgers	38 x 140 millimetres
2	Legs	38 x 89 millimetres
3	Braces	19 x 140 millimetres
4	Bearers	19 x 140 millimetres

Dimensions of Members of Single-pole Scaffolds

1	Uprights	38 x 89 millimetres
2	Bearers	2 – 19 x 140 millimetres
3	Ledgers	19 x 140 millimetres
4	Braces	19 x 140 millimetres

Dimensions of Members of Double-pole Scaffolds

1	Uprights	38 x 89 millimetres
2	Bearers	2 – 19 x 140 millimetres
3	Ledgers	19 x 140 millimetres
4	Braces	19 x 140 millimetres

Dimensions of Members of Bracket Scaffolds

1	Uprights	38 x 89 millimetres
2	Bearers	38 x 89 millimetres
3	Braces	38 x 89 millimetres
4	Gusset <sup>2</sup>	19 millimetre plywood

<sup>1</sup> Number 1 structural grade spruce lumber or material of equivalent or greater strength.

<sup>2</sup> “Gusset” means a brace or angle bracket that is used to stiffen a corner or angular piece of work.

**TABLE 16**  
[Clause 204(1)(a)]

**Minimum Training Requirements for Competent Operator of a Crane**

I Course Content:

A *Occupational Health and Safety Regulations, 1996* Related to Cranes:

- Duties of employers and operators
- Protection of workers
- Approved standards for cranes
- Operation of cranes
- Maintenance of cranes
- Signalling

B Types of Cranes:

- Terminology
- Types of cranes
- Specific design of crane to be operated
- Basic geometry of cranes, including effect of configuration changes and operating in different quadrants

C Site Evaluation:

- Check route of travel, clearances and ground conditions, including the presence of structures, power lines or other equipment that may constitute a hazard
- Check site of operation, including the nature of ground, gradients, stabilizers, tire pressure and blocking under outriggers
- Identify potentially dangerous situations and the appropriate response

D Crane Controls:

- Identify and use controls
- Pre-start check
- Start-up
- Shut-down
- Post-operating check
- Perform operating adjustments

E Operation of Crane:

- Movement to location
- Set-up; extend stabilizers and outriggers
- Change configuration; insert boom sections; extensions; jibs; counterweights
- Check for safety of other persons before movement
- Safety precautions while crane is unattended, in storage or in transit

F Load Estimation

- Load gauge incorporated in the crane
- Calculation of load from material density and volume
- Incorporate weight of attachments, hook, block and headache ball

**O-1.1 REG 1** OCCUPATIONAL HEALTH AND SAFETY, 1996**G Establish Capability of Crane:**

Implications of moments, leverage and mechanical advantage on capability  
 Use of load charts to determine capability  
 Effect of boom length, angle and load radius  
 Effect of configuration changes, boom extension and jib  
 Centre of gravity  
 Abnormal loading; wind velocity  
 Multi-crane hoists

**H Rigging:**

Inspection of ropes and rigging equipment  
 Reeving: sheaves; spools; drums; wire ropes  
 Rigging loads: hooks; safety catches; shackles; end fittings and connections  
 Rigging slings: configurations; angles; safe working loads  
 Safety factors for loads and workers

**I Signalling:**

Designated signaller: position; visibility; number  
 Methods of signalling: hand; radio  
 Standard hand signals

**J Maintenance of Crane:**

Maintenance schedule; planned preventative maintenance  
 Inspection and repair procedures  
 Blocking and the safe position of parts during maintenance  
 Wire rope inspection and maintenance

**K Log Books:**

Record inspections, maintenance, calibrations and work activities  
 Hours of service  
 Signed by employer and person performing inspection, maintenance and calibration

**II Course Duration:**

**A** Overhead travelling crane or hoist: 40 hours, classroom and practical.

**B** Tower or mobile crane: 100 hours, classroom and practical.

**C** Crane used to raise or lower a worker in a personnel-lifting unit on a hoist line: 20 hours of classroom and 200 hours of practical experience operating the crane in addition to the requirements set out in items A and B.

**TABLE 17**  
*[Sections 262 and 263]*

**Excavation and Trench Shoring**

Trench or Excavation Depth	Soil Type	Uprights	Braces				Wales
			Width of Excavation or Trench at Brace Location	Up to 1.8 m	Vertical	Horizontal	
3.0 m or less	1	50 mm x 200 mm at 1.2 m o/c	1.8 m to 3.6 m	Up to 1.8 m	1.2 m	*200 mm x 200 mm	
	2	50 mm x 200 mm at 1.2 m o/c	200 mm x 200 mm	150 mm x 150 mm	1.2 m	*200 mm x 200 mm	
	3	50 mm x 200 mm at 10 mm gap	200 mm x 200 mm	150 mm x 150 mm	1.2 m	250 mm x 250 mm	
	4	75 mm x 200 mm at 10 mm gap	250 mm x 250 mm	200 mm x 200 mm	1.2 m	300 mm x 300 mm	
Over 3.0 m to 4.5 m	1	50 mm x 200 mm with 10 mm gap	200 mm x 200 mm	150 mm x 150 mm	1.2 m	200 mm x 200 mm	
	2	50 mm x 200 mm with 10 mm gap	200 mm x 200 mm	200 mm x 200 mm	1.2 m	250 mm x 250 mm	
	3	50 mm x 200 mm with 10 mm gap	250 mm x 250 mm	250 mm x 250 mm	1.2 m	250 mm x 250 mm	
Over 3.0 m to 4.0 m	4	75 mm x 200 mm with 10 mm gap	300 mm x 300 mm	300 mm x 300 mm	1.2 m	300 mm x 300 mm	
Over 4.5 m to 6.0 m	1	50 mm x 200 mm with 10 mm gap	200 mm x 200 mm	200 mm x 200 mm	1.2 m	200 mm x 200 mm	
	2	50 mm x 200 mm with 10 mm gap	250 mm x 250 mm	250 mm x 250 mm	1.2 m	250 mm x 250 mm	
	3	50 mm x 200 mm with 10 mm gap	300 mm x 300 mm	300 mm x 300 mm	1.2 m	300 mm x 300 mm	

\* Note: for excavations and trenches to 3 m deep in soil types 1 and 2, the wales can be omitted if the braces are used at 1.2 m horizontal spacings.

**TABLE 18**  
[Clause 282(1)(a)]

**Hours of Work and Rest Periods for Work in Compressed Air**

Column 1 Air pressure for one working period	Column 2 max. hours of work per 24 hours	Column 3 max. hours of work, 1st period	Column 4 min. hours of rest, 1st period	Column 5 max. hours of work, 2nd period	Column 6 min. hours of rest, 2nd period
Less than 96 kilopascals	7.5	3.75	1.25	3.25	0.25
96 kilopascals or more but less than 138 kilopascals	6	3	2.25	3	0.75
138 kilopascals or more but less than 180 kilopascals	4	2	3.5	2	1.5
180 kilopascals or more but less than 220 kilopascals	3	1.5	4.5	1.5	1.5
220 kilopascals or more but less than 262 kilopascals	2	1	5	1	2
262 kilopascals or more but less than 303 kilopascals	1.5	0.75	5.5	0.75	2
303 kilopascals or more but less than 345 kilopascals	1	0.5	6	0.5	2

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**TABLE 19**  
[Sections 305 and 311]

**Notifiable Chemical and Biological Substances**

- A. Any of the following chemical substances or any mixture containing more than 1% of any of them:

CAS Number	Chemical Substance
92-67-1	4-Aminobiphenyl
492-80-8	Auramine
92-87-5	Benzidine
542-88-1	bis(Chloromethyl) ether
119-90-4	o-Dianisidine
91-94-1	3,3'-Dichlorobenzidine
107-30-2	Methyl chloromethyl ether
50-60-2	Mustard gas
91-59-8	2-Naphthylamine
92-93-3	4-Nitrobiphenyl
75-01-4	Vinyl chloride

- B. Any of the following biological substances:

Genetically modified<sup>1</sup> microorganisms<sup>2</sup>

<sup>1</sup>“genetically modified” means genetic combinations not known to occur naturally.

<sup>2</sup>“microorganisms” means any organism or consortium of organisms of microscopic size, including bacteria, protozoa, fungi, algae and viruses.

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**TABLE 20**  
 [Sections 306 and 311]

**Designated Chemical Substances**

1. Any mixture containing less than 1% of any chemical substance listed in Table 19.
2. Any of the following chemical substances:

CAS* NUMBER	CHEMICAL SUBSTANCE
75-07-0	Acetaldehyde
60-35-5	Acetamide
79-06-1	Acrylamide
107-13-1	Acrylonitrile
1402-68-2	Aflatoxins
60-09-3	para-Aminoazobenzene
97-56-3	ortho-Aminoazotoluene
712-68-5	2-Amino-5(5-nitro-2-furyl)-1,3,4-thiadiazole
61-82-5	Amitrole
90-04-0	ortho-Anisidine
1309-64-4	Antimony trioxide
7440-38-2	Arsenic and arsenic mixtures
1332-21-4	Asbestos
1912-24-9	Atrazine
151-56-4	Aziridine
98-87-3	Benzal chloride

71-43-2	Benzene
_____	Benzidine-based dyes
271-89-6	Benzofuran
98-07-7	Benzotrichloride
98-88-4	Benzoyl chloride
100-44-7	Benzyl chloride
1694-09-3	Benzyl violet 4B
	Beryllium and beryllium compounds
75-27-4	Bromodichloromethane
3296-90-0	2,2-bis(bromomethyl)propane-1,3,-diol
106-99-0	1,3-Butadiene
3068-88-0	beta-Butyrolactone
25013-16-5	Butylated hydroxyanisole
	Cadmium and cadmium compounds
2425-06-1	Captafol
56-23-5	Carbon tetrachloride
9000-07-01	Carrageenan, degraded
_____	Chlordane isomers
115-28-6	Chlorendic acid
_____	Chlorinated paraffins
106-47-8	para-chloroaniline
67-66-3	Chloroform
95-57-8	2-Chlorophenol
108-43-0	3-Chlorophenol
106-48-9	4-Chlorophenol
95-83-0	4-Chloro-ortho-phenylenediamine
95-69-2	para-Chloro-ortho-toluidine
1897-45-6	Chlorothalonil
_____	Chromium compounds, hexavalent
6459-94-5	CI Red 114
569-61-9	CI Basic Red 9
2429-74-5	CI Direct Blue 15
6358-53-8	Citrus Red 2
8007-45-2	Coal-tar pitches

8007-45-2	Coal-tars
_____	Cobalt and cobalt compounds
8001-58-9	Creosotes
120-71-8	para-Cresidine
14901-08-7	Cycasin
_____	DDT and isomers
613-35-4	N,N'-Diacetylbenzidine
615-05-4	2,4-Diaminoanisole
101-80-4	4,4'-Diaminodiphenyl ether
95-80-7	2,4-Diaminotoluene
334-88-3	Diazomethane
226-36-8; 224-42-0	Dibenzacridine
96-12-8	1,2-Dibromo-3-chloropropane
79-43-6	Dichloroacetic acid
106-46-7	para-Dichlorobenzene
764-41-0	1,4-Dichloro-2-butene
107-06-2	1,2-Dichloroethane
75-09-2	Dichloromethane
542-75-6	1,3-Dichloropropene (technical grade)
62-73-7	Dichlorovos
1464-53-5	Diepoxybutane
117-81-7	Di(2-ethylhexyl)phthalate
	Diesel engine exhaust
1615-80-1	1,2-Diethylhydrazine
64-67-5	Diethyl sulphate
101-90-6	Diglycidyl resorcinol ether
2973-10-6	Diisopropyl sulphate
79-44-7	Dimethylcarbamoyl chloride
68-12-2	Dimethylformamide
57-14-7	1,1-Dimethylhydrazine
540-73-8	1,2-Dimethylhydrazine
77-78-1	Dimethyl sulphate
_____	Dinitropyrenes

25321-14-6	Dinitrotoluene
123-91-1	1,4-Dioxane
2475-48-8	Disperse blue
106-89-8	Epichlorohydrin
106-88-7	1,2-Epoxybutane
66733-21-9	Erionite
140-88-5	Ethyl acrylate
74-96-4	Ethyl bromide
106-93-4	Ethylene dibromide
75-21-8	Ethylene oxide
96-45-7	Ethylene thiourea
62-50-0	Ethyl methanesulphonate
759-73-9	N-Ethyl-N-nitrosourea
50-00-0	Formaldehyde
3570-75-0	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole
_____	Gasoline
765-34-4	Glycidaldehyde
2784-94-3	HC Blue 1
76-44-8	Heptachlor
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
608-73-1	Hexachlorocyclohexanes
67-72-1	Hexachloroethane
680-31-9	Hexamethylphosphoramide
302-01-2	Hydrazine
22398-80-7	Indium phosphide
193-39-5	Indone[1,2,3-cd]pyrene
78-79-5	Isoprene
143-50-0	Kepone
_____	Lead (+ compounds), inorganics
632-99-5	Magenta (contains CI Basic Red 9)
_____	Marine diesel fuels
484-20-8	5-Methoxypsoralen

75-55-8	2-Methylaziridine
101-14-4	4,4'-Methylene bis(2-chloroaniline)
838-88-0	4,4'-Methylene bis(2-methylaniline)
101-77-9	4,4'-Methylene dianiline
60-34-4	Methyl hydrazine
74-88-4	Methyl iodide
————	Methylmercury Compounds
66-27-3	Methyl methanesulphonate
129-15-7	2-Methyl-1-nitroanthraquinone
684-93-5	N-Methyl-N-nitrosourea
615-53-2	N-Methyl-N-nitrosourethane
8012-95-1	Mineral oils, untreated and mildly treated
2385-85-5	Mirex
50-60-2	Mustard gas
————	Nickel (+ compounds)
12035-72-2	Nickel subsulphide
————	Nitrilotriacetic acid and its salts
1836-75-5	Nitrofen (technical grade)
607-57-8	2-Nitrofluorene
555-84-0	1-[(5-Nitrofurfurylidene)amino]-2-imidazolidinone
51-75-2	Nitrogen mustard
79-46-9	2-Nitropropane
5522-43-0; 57835-92-4	Nitropyrene isomers
924-16-3	N-Nitrosodi-n-butylamine
1116-54-7	N-Nitrosodiethanolamine
55-18-5	N-Nitrosodiethylamine
62-75-9	N-Nitrosodimethylamine
621-64-7	N-Nitrosodi-N-propylamine
4549-40-0	N-Nitrosomethylvinylamine
59-89-2	N-Nitrosomorpholine
16543-55-8	N-Nitrosornicotine
100-75-4	N-Nitrosopiperidine

930-55-2	N-Nitrosopyrrolidine
13256-22-9	N-Nitrososarcosine
2646-17-5	Oil orange SS
12174-11-7	Palygorskite (attapulgitite) (long fibres, > 5 micron
_____	Penta/hexa cyclic unsubstituted aromatic hydrocarbons
135-88-6	N-Phenyl-beta-naphthylamine
95-54-5	o-Phenylenediamine
122-60-1	Phenylglycidyl ether
100-63-0	Phenylhydrazine
36355-01-8	Polybrominated biphenyls
1336-36-3	Polychlorinated biphenyls
3564-0908; 3761-53-3	Ponceau 3R
7758-01-2	Potassium bromate
1120-71-4	1,3-Propane sultone
57-57-8	$\beta$ -Propiolactone
75-55-8	Propylene imine
75-56-9	Propylene oxide
	Refractory ceramic fibres
_____	Residual fuel oils (heavy fuel oils)
94-59-7	Safrole
68308-34-9	Shale-oils
_____	Silica crystalline (respirable size)
409-21-2	Silicon carbide, fibrous (including whiskers)
132-27-4	Sodium ortho-phenylphenate
_____	Soots from pyrolysis of heating fuels
100-42-5	Styrene
96-09-3	Styrene-7,8-oxide
95-06-7	Sulphallate
	Sulphuric acid (strong acid mist exposure, only)
1746-01-6	2,3,7,8-Tetrachlorodibenzo-para-dioxin

127-18-4	Tetrachloroethylene
116-14-3	Tetrafluoroethylene
509-14-8	Tetranitromethane
62-55-5	Thioacetamide
139-65-1	Thiodianiline
141-90-2	Thiouracil
62-56-6	Thiourea
119-93-7	ortho-Tolidine
584-84-9	Toluene diisocyanates
95-53-4	ortho-Toluidine
106-49-0	para-Toluidine
8001-35-2	Chlorinated camphene
52-24-4	Tris(1-aziridinyl)phosphine sulphide
126-72-7	Tris(2,3-dibromopropyl)phosphate
72-57-1	Trypan Blue
	Uranium, (natural) soluble and insoluble compounds
51-79-6	Urethane
108-05-4	Vinyl acetate
593-60-2	Vinyl bromide
100-40-3	4-Vinyl cyclohexene
106-87-6	Vinyl cyclohexene dioxide
75-02-5	Vinyl fluoride
	Wood dusts (Oak, Beech, Birch, Mahogany, Teak and Walnut)
13530-65-9; 11103-86-9; 37300-23-5	Zinc chromates
1300-73-8	Xylidine isomers

\* CAS means the Chemical Abstracts Service Division of the American Chemical Society.

Table 21

## Contamination Limits

[Sections 307 and 309, clause 346(f)]

Also check Tables 19 and 20 for substances  
(such as asbestos and benzene) with additional requirements

CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> * or ppm*	Notation <sup>+</sup>
75-07-0	Acetaldehyde	**C25 ppm		T20
64-19-7	Acetic acid	10 ppm	15 ppm	
108-24-7	Acetic anhydride	5 ppm	10 ppm	
67-64-1	Acetone	500 ppm	750 ppm	
75-86-5	Acetone cyanohydrin, as CN	**C5 mg/m <sup>3</sup>		Skin
75-05-8	Acetonitrile	20 ppm	30 ppm	Skin
98-86-2	Acetophenone	10 ppm	15 ppm	
79-27-6	Acetylene tetrabromide	1 ppm	3 ppm	
50-78-2	Acetylsalicylic acid	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
107-02-8	Acrolein	**C0.1 ppm		Skin
79-06-1	Acrylamide (inhalable fraction <sup>++</sup> and vapour)	0.03 mg/m <sup>3</sup>	0.09 mg/m <sup>3</sup>	T20, Skin
79-10-7	Acrylic acid	2 ppm	4 ppm	Skin
107-13-1	Acrylonitrile	2 ppm	4 ppm	Skin, T20
124-04-9	Adipic acid	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
111-69-3	Adiponitrile	2 ppm	4 ppm	Skin
309-00-2	Aldrin	0.25 mg/m <sup>3</sup>	0.75 mg/m <sup>3</sup>	Skin
	Aliphatic hydrocarbon gases, Alkane [C1-C4]	1000 ppm	1250 ppm	
107-18-6	Allyl alcohol	0.5 ppm	1.5 ppm	Skin
107-05-1	Allyl chloride	1 ppm	2 ppm	
106-92-3	Allyl glycidyl ether (AGE)	1 ppm	3 ppm	
2179-59-1	Allyl propyl disulphide	0.5 ppm	1.5 ppm	SEN
7429-90-5	Aluminum and compounds (as Al):			
	Metal dust	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Pyro powders	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
	Soluble salts	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
	Alkyls, not otherwise specified	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
1344-28-1	Aluminum oxide	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
504-29-0	2-Aminopyridine	0.5 ppm	1.0 ppm	
61-82-5	Amitrole	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	T20
7664-41-7	Ammonia	25 ppm	35 ppm	
12125-02-9	Ammonium chloride fume	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table



CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> ** or ppm*	Notation <sup>†</sup>
3825-26-1	Ammonium perfluorooctanoate	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	Skin
7773-06-0	Ammonium sulphamate (Ammate)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
994-05-8	tert-Amyl methyl ether (TAME)	20 ppm	30 ppm	
62-53-3	Aniline	2 ppm	4 ppm	Skin
90-04-0	o-Anisidine	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin, T20
104-94-9	p-Anisidine	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
7440-36-0	Antimony and compounds, (as Sb)	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
86-88-4	ANTU (alpha-Naphthyl thiourea)	0.3 mg/m <sup>3</sup>	0.9 mg/m <sup>3</sup>	
7440-38-2	Arsenic, and inorganic compounds, (as As)	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	T20
7784-42-1	Arsine	0.05 ppm	0.15 ppm	
8052-42-4	Asphalt (bitumen) fume, as benzene soluble aerosol (inhalable fraction <sup>++</sup> )	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
1912-24-9	Atrazine	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	T20
86-50-0	Azinphos-methyl (inhalable fraction <sup>++</sup> and vapour)	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	Skin; SEN
7440-39-3	Barium and soluble compounds, (as Ba)	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
7727-43-7	Barium sulphate	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
17804-35-2	Benomyl	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
98-07-7	Benzotrichloride	**C0.1 ppm		Skin, T20
98-88-4	Benzoyl chloride	**C0.5 ppm		T20
94-36-0	Benzoyl peroxide	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
140-11-4	Benzyl acetate	10 ppm	20 ppm	
100-44-7	Benzyl chloride	1 ppm	2 ppm	T20
7440-41-7	Beryllium and compounds, (as Be)	0.002 mg/m <sup>3</sup>	0.01 mg/m <sup>3</sup>	T20
92-52-4	Biphenyl (diphenyl)	0.2 ppm	0.6 ppm	
3033-62-3	Bis (2-dimethylaminoethyl)ether (DMAEE)	0.05 ppm	0.15 ppm	Skin
1304-82-1	Bismuth telluride			
	Undoped	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Se-doped, as Bi <sub>2</sub> Te <sub>3</sub>	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
1330-43-4; 1303-96-4; 10043-35-3; 12179-04-3	Borate compounds, inorganic (inhalable fraction <sup>++</sup> )	2 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
1303-86-2	Boron oxide	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
10294-33-4	Boron tribromide	**C1 ppm		
7637-07-2	Boron trifluoride	**C1 ppm		
314-40-9	Bromacil	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
7726-95-6	Bromine	0.1 ppm	0.2 ppm	
7789-30-2	Bromine pentafluoride	0.1 ppm	0.3 ppm	

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table

CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> ** or ppm*	Notation <sup>+</sup>
74-97-5	Bromochloromethane (Chlorobromomethane)	200 ppm	250 ppm	
75-25-2	Bromoform	0.5 ppm	1.5 ppm	Skin
106-94-5	1-Bromopropane	10 ppm	20 ppm	
106-99-0	1,3-Butadiene	2 ppm	4 ppm	T20
106-97-8; 75-28-5	Butane, All isomers	See Aliphatic hydrocarbon gases [C1-C4]		
111-76-2	2-Butoxyethanol (Butyl Cellosolve or EGBE)	20 ppm	30 ppm	
112-07-2	2-Butoxyethyl acetate (EGBEA)	20 ppm	30 ppm	
123-86-4	n-Butyl acetate	150 ppm	200 ppm	
105-46-4	sec-Butyl acetate	200 ppm	250 ppm	
540-88-5	tert-Butyl acetate	200 ppm	250 ppm	
141-32-2	n-Butyl acrylate	2 ppm	4 ppm	SEN
71-36-3	n-Butyl alcohol (n-butanol)	20 ppm	30 ppm	
78-92-2	sec-Butyl alcohol (sec-butanol)	100 ppm	125 ppm	
75-65-0	tert-Butyl alcohol (tert-butanol)	100 ppm	125 ppm	
109-73-9	n-Butylamine	**C5 ppm		Skin
1189-85-1	tert-Butyl chromate, (as CrO <sub>3</sub> )	**C0.1 mg/m <sup>3</sup>		Skin
2426-08-6	n-Butyl glycidyl ether (BGE)	3 ppm	6 ppm	Skin, SEN
138-22-7	n-Butyl lactate	5 ppm	10 ppm	
109-79-5	n-Butyl mercaptan	0.5 ppm	1.5 ppm	
89-72-5	o-sec-Butylphenol	5 ppm	7 ppm	Skin
98-51-1	p-tert-Butyltoluene	1 ppm	2 ppm	
7440-43-9	Cadmium, and compounds, (as Cd):			T20
	(total fraction)	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	
	(respirable fraction <sup>++</sup> )	0.002 mg/m <sup>3</sup>	0.006 mg/m <sup>3</sup>	
1317-65-3	Calcium carbonate	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
13765-19-0	Calcium chromate, (as Cr)	0.001 mg/m <sup>3</sup>	0.003 mg/m <sup>3</sup>	
156-62-7	Calcium cyanamide	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
1305-62-0	Calcium hydroxide	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
1305-78-8	Calcium oxide	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
1344-95-2	Calcium silicate, synthetic nonfibrous	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
76-22-2	Camphor, synthetic	2 ppm	3 ppm	
105-60-2	Caprolactam (inhalable fraction <sup>++</sup> and vapour)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
2425-06-1	Captafol	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin, T20
133-06-2	Captan (inhalable fraction <sup>++</sup> )	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	SEN
63-25-2	Carbaryl	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
1563-66-2	Carbofuran (inhalable fraction <sup>++</sup> and vapour)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
1333-86-4	Carbon black	3.5 mg/m <sup>3</sup>	7 mg/m <sup>3</sup>	
124-38-9	Carbon dioxide	5000 ppm	30,000 ppm	

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75-15-0	Carbon disulphide	10 ppm	15 ppm	Skin
630-08-0	Carbon monoxide	25 ppm	190 ppm	
558-13-4	Carbon tetrabromide	0.1 ppm	0.3 ppm	
75-44-5	Carbonyl chloride (Phosgene)	0.1 ppm	0.3 ppm	
353-50-4	Carbonyl fluoride	2 ppm	5 ppm	
120-80-9	Catechol (Pyrocatechol)	5 ppm	7.8 ppm	Skin
9004-34-6	Cellulose (paper fibre)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
21351-79-1	Cesium hydroxide	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
57-74-9	Chlordane	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
8001-35-2	Chlorinated camphene	0.5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	Skin, T20
31242-93-0	o-Chlorinated diphenyl oxide	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
7782-50-5	Chlorine	0.5 ppm	1 ppm	
10049-04-4	Chlorine dioxide	0.1 ppm	0.3 ppm	
7790-91-2	Chlorine trifluoride	**C 0.1 ppm		
107-20-0	Chloroacetaldehyde	**C1 ppm		
78-95-5	Chloroacetone	**C1 ppm		Skin
532-27-4	alpha-Chloroacetophenone (Phenacyl chloride)	0.05 ppm	0.15 ppm	
79-04-9	Chloroacetyl chloride	0.05 ppm	0.15 ppm	Skin
108-90-7	Chlorobenzene (Monochlorobenzene)	10 ppm	15 ppm	
2698-41-1	o-Chlorobenzylidene malononitrile	**C0.05 ppm		Skin
126-99-8	2-Chloro-1,3-butadiene (beta-Chloroprene)	10 ppm	15 ppm	Skin
75-45-6	Chlorodifluoromethane	1000 ppm	1250 ppm	
53469-21-9	Chlorodiphenyl (42% chlorine)	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	Skin
11097-69-1	Chlorodiphenyl (54% chlorine)	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
107-07-3	2-Chloroethanol (Ethylene chlorohydrin)	**C1.0 ppm		Skin
600-25-9	1-Chloro-1-nitropropane	2 ppm	4 ppm	
76-15-3	Chloropentafluoroethane	1000 ppm	1250 ppm	
76-06-2	Chloropicrin	0.1 ppm	0.3 ppm	
127-00-4; 78-89-7	1-Chloro-2-propanol and 2-Chloro-1-propanol	1 ppm	3 ppm	Skin
598-78-7	2-Chloropropionic acid	0.1 ppm	0.3 ppm	Skin
2039-87-4	o-Chlorostyrene	50 ppm	75 ppm	
95-49-8	o-Chlorotoluene	50 ppm	65 ppm	
2921-88-2	Chlorpyrifos, (inhalable fraction <sup>++</sup> and vapour)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
7440-47-3	Chromium metal and inorganic compounds, (as Cr):			
	Metal and Cr (III) compounds	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
	Water soluble Cr (VI) compounds	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	T20
	Insoluble Cr (VI) compounds	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	T20

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14977-61-8	Chromyl chloride	0.025 ppm	0.07 ppm	
2971-90-6	Clopidol	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Coal dust:			
	Anthracite (respirable fraction <sup>++</sup> )	0.4 mg/m <sup>3</sup>	1.2 mg/m <sup>3</sup>	
	Bituminous (respirable fraction <sup>++</sup> )	0.9 mg/m <sup>3</sup>	2.7 mg/m <sup>3</sup>	
65996-93-2	Coal tar pitch volatiles, as benzene soluble aerosol (See Particulate polycyclic aromatic hydrocarbons)	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	T20
7440-48-4	Cobalt and inorganic compounds, (as Co)	0.02 mg/m <sup>3</sup>	0.06 mg/m <sup>3</sup>	T20
10210-68-1	Cobalt carbonyl, (as Co)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
16842-03-8	Cobalt hydrocarbonyl, (as Co)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
7440-50-8	Copper, (as Cu):			
	fume	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	
	dusts and mists	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
	Cotton dust, raw	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	
1319-77-3	Cresol, all isomers	5 ppm	10 ppm	Skin
4170-30-3	Crotonaldehyde	**C 0.3 ppm		Skin
299-86-5	Cruformate	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
98-82-8	Cumene	50 ppm	74 ppm	
420-04-2	Cyanamide	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
460-19-5	Cyanogen	10 ppm	15 ppm	
506-77-4	Cyanogen chloride	**C 0.3 ppm		
110-82-7	Cyclohexane	100 ppm	150 ppm	
108-93-0	Cyclohexanol	50 ppm	62 ppm	Skin
108-94-1	Cyclohexanone	20 ppm	50 ppm	Skin
110-83-8	Cyclohexene	300 ppm	375 ppm	
108-91-8	Cyclohexylamine	10 ppm	15 ppm	
121-82-4	Cyclonite (RDX)	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
542-92-7	Cyclopentadiene	75 ppm	94 ppm	
287-92-3	Cyclopentane	600 ppm	900 ppm	
13121-70-5	Cyhexatin	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
94-75-7	2,4-D (2,4-Dichlorophenoxy-acetic acid)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
50-29-3	DDT (Dichlorodiphenyltrichloro-ethane)	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	T20
17702-41-9	Decaborane	0.05 ppm	0.15 ppm	Skin
8065-48-3	Demeton (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
919-86-8	Demeton-S-methyl, (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin, SEN
123-42-2	Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone)	50 ppm	60 ppm	

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333-41-5	Diazinon, (inhalable fraction <sup>++</sup> and vapour)	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	Skin
334-88-3	Diazomethane	0.2 ppm	0.6 ppm	T20
19287-45-7	Diborane	0.1 ppm	0.3 ppm	
102-81-8	2-N-Dibutylaminoethanol	0.5 ppm	1 ppm	Skin
2528-36-1	Dibutyl phenyl phosphate	0.3 ppm	0.6 ppm	Skin
107-66-4	Dibutyl phosphate	1 ppm	2 ppm	
84-74-2	Dibutyl phthalate	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
79-43-6	Dichloroacetic acid	0.5 ppm	1.5 ppm	Skin, T20
7572-29-4	Dichloroacetylene	**C0.1 ppm		
95-50-1	o-Dichlorobenzene	25 ppm	50 ppm	
106-46-7	p-Dichlorobenzene	10 ppm	15 ppm	T20
764-41-0	1,4-Dichloro-2-butene	0.005 ppm	0.015 ppm	Skin, T20
75-71-8	Dichlorodifluoromethane	1000 ppm	1250 ppm	
118-52-5	1,3-Dichloro-5, 5-dimethyl hydantoin	0.2 mg/m <sup>3</sup>	0.4 mg/m <sup>3</sup>	
75-34-3	1,1-Dichloroethane	100 ppm	125 ppm	
540-59-0; 156-59-2; 156-60-5	1,2-Dichloroethylene, all isomers	200 ppm	250 ppm	
111-44-4	Dichloroethyl ether	5 ppm	10 ppm	Skin
75-43-4	Dichlorofluoromethane	10 ppm	15 ppm	
75-09-2	Dichloromethane	50 ppm	75 ppm	T20
594-72-9	1,1-Dichloro-1-nitroethane	2 ppm	4 ppm	
542-75-6	1,3-Dichloropropene	1 ppm	2 ppm	Skin, T20
75-99-0	2,2-Dichloropropionic acid, (inhalable fraction <sup>++</sup> )	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
76-14-2	Dichlorotetrafluoroethane	1000 ppm	1250 ppm	
62-73-7	Dichlorvos (DDVP), (inhalable fraction <sup>++</sup> and vapour)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin, SEN, T20
141-66-2	Dicrotophos, (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
77-73-6	Dicyclopentadiene	5 ppm	8 ppm	
102-54-5	Dicyclopentadienyl iron	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
60-57-1	Dieldrin	0.25 mg/m <sup>3</sup>	0.75 mg/m <sup>3</sup>	Skin
683334-30-5; 68476-30-2; 68476-31-3; 68476-34-6; 77650-28-3	Diesel fuel as total hydrocarbons, (vapour)	100 mg/m <sup>3</sup>	150 mg/m <sup>3</sup>	Skin
111-42-2	Diethanolamine	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	Skin
109-89-7	Diethylamine	5 ppm	15 ppm	Skin
100-37-8	2-Diethylaminoethanol	2 ppm	4 ppm	Skin
111-40-0	Diethylene triamine	1 ppm	2 ppm	Skin
96-22-0	Diethyl ketone	200 ppm	300 ppm	

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84-66-2	Diethyl phthalate	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
75-61-6	Difluorodibromomethane	100 ppm	125 ppm	
2238-07-5	Diglycidyl ether (DGE)	0.1 ppm	0.3 ppm	
108-83-8	Diisobutyl ketone	25 ppm	30 ppm	
108-18-9	Diisopropylamine	5 ppm	7 ppm	Skin
127-19-5	N,N-Dimethylacetamide	10 ppm	15 ppm	Skin
124-40-3	Dimethylamine	5 ppm	15 ppm	
121-69-7	Dimethylaniline (N,N-Dimethylaniline)	5 ppm	10 ppm	Skin
14857-34-2	Dimethylethoxysilane	0.5 ppm	1.5 ppm	
68-12-2	Dimethylformamide	10 ppm	15 ppm	Skin, T20
57-14-7	1,1-Dimethylhydrazine	0.01 ppm	0.03 ppm	Skin, T20
131-11-3	Dimethylphthalate	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
77-78-1	Dimethyl sulphate	0.1 ppm	0.3 ppm	Skin, T20
75-18-3	Dimethyl sulphide	10 ppm	20 ppm	
148-01-6	Dinitolmide	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
528-29-0; 99-65-0; 100-25-4; 25154-54-5	Dinitrobenzene (all isomers)	0.15 ppm	0.30 ppm	Skin
534-52-1	Dinitro-o-cresol	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	Skin
25321-14-6	Dinitrotoluene	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	Skin, T20
123-91-1	1,4-Dioxane	20 ppm	30 ppm	Skin, T20
78-34-2	Dioxathion (inhalable fraction <sup>++</sup> and vapour)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
646-06-0	1,3-Dioxolane	20 ppm	30 ppm	
122-39-4	Diphenylamine	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
34590-94-8	Dipropylene glycol methyl ether (DPGME)	100 ppm	150 ppm	Skin
123-19-3	Dipropyl ketone	50 ppm	60 ppm	
2764-72-9; 85-00-7; 6385-62-2	Diquat: (inhalable fraction <sup>++</sup> ) (respirable fraction <sup>++</sup> )	0.5 mg/m <sup>3</sup> 0.1 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup> 0.3 mg/m <sup>3</sup>	Skin Skin
117-81-7	Di-sec, octyl phthalate (Di-2-ethylhexyl phthalate or DEHP)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	T20
97-77-8	Disulphiram	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
298-04-4	Disulphoton, (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
128-37-0	2,6-Di-tert-butyl-p-cresol (butylated hydroxytoluene or BHT) (inhalable fraction <sup>++</sup> and vapour)	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
330-54-1	Diuron	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
1321-74-0	Divinyl benzene	10 ppm	15 ppm	
112-55-0	Dodecyl mercaptan	0.1 ppm	0.3 ppm	SEN

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1302-74-5	Emery	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
115-29-7	Endosulphan	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
72-20-8	Endrin	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
13838-16-9	Enflurane	75 ppm	100 ppm	
106-89-8	Epichlorohydrin	0.5 ppm	1.5 ppm	Skin, T20
2104-64-5	EPN (inhalable fraction <sup>++</sup> )	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
74-84-0	Ethane	See Aliphatic hydrocarbon gases [C1-C4]		
64-17-5	Ethanol	1000 ppm	1250 ppm	
141-43-5	Ethanolamine	3 ppm	6 ppm	
563-12-2	Ethion, (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
110-80-5	2-Ethoxyethanol (Glycol monoethyl ether)	5 ppm	7 ppm	Skin
111-15-9	2-Ethoxyethyl acetate (Cellosolve acetate)	5 ppm	8 ppm	Skin
141-78-6	Ethyl acetate	400 ppm	500 ppm	
140-88-5	Ethyl acrylate	5 ppm	15 ppm	T20
75-04-7	Ethylamine	5 ppm	15 ppm	Skin
541-85-5	Ethyl amyl ketone (5-Methyl-3-heptanone)	25 ppm	30 ppm	
100-41-4	Ethyl benzene	100 ppm	125 ppm	T20
74-96-4	Ethyl bromide	5 ppm	7 ppm	Skin
637-92-3	Ethyl tert-butyl ether	5 ppm	10 ppm	
106-35-4	Ethyl butyl ketone (3-Heptanone)	50 ppm	75 ppm	
75-00-3	Ethyl chloride	100 ppm	125 ppm	Skin
7085-85-0	Ethyl cyanoacrylate	0.2 ppm	0.6 ppm	
74-85-1	Ethylene	200 ppm	250 ppm	
107-15-3	Ethylenediamine	10 ppm	15 ppm	Skin
107-06-2	Ethylene dichloride	10 ppm	20 ppm	
107-21-1	Ethylene glycol, (as an aerosol)	**C 100 mg/m <sup>3</sup>		
628-96-6	Ethylene glycol dinitrate (EGDN)	0.05 ppm	0.15 ppm	Skin
75-21-8	Ethylene oxide	1 ppm	2 ppm	T20
151-56-4	Ethylenimine	0.5 ppm	1.5 ppm	Skin, T20
60-29-7	Ethyl ether	400 ppm	500 ppm	
109-94-4	Ethyl formate	100 ppm	150 ppm	
149-57-5	2-Ethylhexanoic acid, (inhalable fraction <sup>++</sup> and vapour)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
16219-75-3	Ethylidene norbornene	**C5 ppm		
75-08-1	Ethyl mercaptan	0.5 ppm	1.5 ppm	
100-74-3	N-Ethylmorpholine	5 ppm	8 ppm	Skin
78-10-4	Ethyl silicate	10 ppm	15 ppm	
22224-92-6	Fenamiphos	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin

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115-90-2	Fensulphothion (inhalable fraction <sup>++</sup> and vapour)	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	Skin
55-38-9	Fenthion	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	Skin
14484-64-1	Ferbam	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
12604-58-9	Ferrovandium dust	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
	Flour dust	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	SEN
	Fluoride, (as F)	2.5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	
7782-41-4	Fluorine	1 ppm	2 ppm	
944-22-9	Fonofos	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
50-00-0	Formaldehyde	**C0.3 ppm		SEN, T20
75-12-7	Formamide	10 ppm	15 ppm	Skin
64-18-6	Formic acid	5 ppm	10 ppm	
98-01-1	Furfural	2 ppm	4 ppm	Skin
98-00-0	Furfuryl alcohol	10 ppm	15 ppm	Skin
1303-00-0	Gallium arsenide (respirable fraction <sup>++</sup> )	0.0003 mg/m <sup>3</sup>	0.0009 mg/m <sup>3</sup>	
86290-81-5	Gasoline	300 ppm	500 ppm	
7782-65-2	Germanium tetrahydride	0.2 ppm	0.6 ppm	
111-30-8	Glutaraldehyde, activated and inactivated	**C0.05 ppm		SEN
56-81-5	Glycerin mist	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
556-52-5	Glycidol	2 ppm	4 ppm	
107-22-2	Glyoxal, (inhalable fraction <sup>++</sup> and vapour)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	SEN
	Grain dust (oat, wheat, barley)	4 mg/m <sup>3</sup>	8 mg/m <sup>3</sup>	
7782-42-5	Graphite, natural-all forms except graphite fibres (respirable fraction <sup>++</sup> )	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
7778-18-9	Gypsum (Calcium sulphate)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
7440-58-6	Hafnium and compounds, (as Hf)	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
151-67-7	Halothane	50 ppm	60 ppm	
76-44-8; 1024-57-3	Heptachlor and Heptachlor epoxide	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin, T20
142-82-5	Heptane (n-Heptane)	400 ppm	500 ppm	
118-74-1	Hexachlorobenzene	0.002 mg/m <sup>3</sup>	0.006 mg/m <sup>3</sup>	Skin, T20
87-68-3	Hexachlorobutadiene	0.02 ppm	0.06 ppm	Skin, T20
77-47-4	Hexachlorocyclopentadiene	0.01 ppm	0.03 ppm	
67-72-1	Hexachloroethane	1 ppm	2 ppm	Skin, T20
1335-87-1	Hexachloronaphthalene	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	Skin
684-16-2	Hexafluoroacetone	0.1 ppm	0.3 ppm	Skin
85-42-7; 13149-00-3; 14166-21-3	Hexahydrophthalic anhydride, (inhalable fraction <sup>++</sup> and vapour), all isomers	**C0.005 mg/m <sup>3</sup>		SEN

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CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> ** or ppm*	Notation <sup>+</sup>
822-06-0	Hexamethylene diisocyanate	0.005 ppm	0.015 ppm	
110-54-3	Hexane (n-Hexane)	50 ppm	62.5 ppm	Skin
_____	Hexane (other isomers)	500 ppm	1000 ppm	
124-09-4	Hexanediamine	0.5 ppm	1.0 ppm	
592-41-6	1-Hexene	50 ppm	75 ppm	
108-84-9	sec-Hexyl acetate	50 ppm	60 ppm	
107-41-5	Hexylene glycol	**C25 ppm		
302-01-2	Hydrazine	0.01 ppm	0.03 ppm	Skin, T20
61788-32-7	Hydrogenated terphenyls (nonirradiated)	0.5 ppm	1.5 ppm	
10035-10-6	Hydrogen bromide	**C2 ppm		
7647-01-0	Hydrogen chloride	**C2 ppm		
	Hydrogen cyanide and cyanide salts, (as CN):			
74-90-8	Hydrogen cyanide	**C4.7 ppm		Skin
592-01-8; 151-50-8; 143-33-9	Cyanide salts	**C 5 mg/m <sup>3</sup>		Skin
7664-39-3	Hydrogen fluoride, (as F)	0.5 ppm	**C 2 ppm	
7722-84-1	Hydrogen peroxide	1 ppm	2 ppm	
7783-07-5	Hydrogen selenide, (as Se)	0.05 ppm	0.15 ppm	
7783-06-4	Hydrogen sulphide	10 ppm	15 ppm	
123-31-9	Hydroquinone	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
999-61-1	2-Hydroxypropyl acrylate	0.5 ppm	1 ppm	Skin, SEN
95-13-6	Indene	10 ppm	15 ppm	
7440-74-6	Indium and Compounds, (as In)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	T20 (Indium pho-sphide)
7553-56-2	Iodine	**C0.1 ppm		
75-47-8	Iodoform	0.6 ppm	1.2 ppm	
1309-37-1	Iron oxide fume, (dust and fume) (Fe <sub>2</sub> O <sub>3</sub> , as Fe)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
13463-40-6	Iron pentacarbonyl, (as Fe)	0.1 ppm	0.2 ppm	
_____	Iron salts, soluble, (as Fe)	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
123-51-3	Isoamyl alcohol	100 ppm	125 ppm	
110-19-0	Isobutyl acetate	150 ppm	188 ppm	
78-83-1	Isobutyl alcohol	50 ppm	60 ppm	
542-56-3	Isobutyl nitrite, (inhalable fraction <sup>++</sup> and vapour)	**C1 ppm		
26952-21-6	Isooctyl alcohol	50 ppm	60 ppm	Skin
78-59-1	Isophorone	**C5 ppm		
4098-71-9	Isophorone diisocyanate	0.005 ppm	0.015 ppm	
109-59-1	2-Isopropoxyethanol	25 ppm	38 ppm	Skin

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108-21-4	Isopropyl acetate	100 ppm	200 ppm	
67-63-0	Isopropyl alcohol	200 ppm	400 ppm	
75-31-0	Isopropylamine	5 ppm	10 ppm	
768-52-5	N-Isopropylaniline	2 ppm	4 ppm	Skin
108-20-3	Isopropyl ether	250 ppm	310 ppm	
4016-14-2	Isopropyl glycidyl ether (IGE)	50 ppm	75 ppm	
1332-58-7	Kaolin (respirable fraction <sup>++</sup> )	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
8008-20-6; 64742-81-0	Kerosene /Jet fuels, as total hydrocarbon vapour	200 mg/m <sup>3</sup>	250 mg/m <sup>3</sup>	Skin
463-51-4	Ketene	0.5 ppm	1.5 ppm	
7439-92-1	Lead and inorganic compounds, (as Pb)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	T20
3687-31-8	Lead arsenate, (as Pb <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> )	0.15 mg/m <sup>3</sup>	0.45 mg/m <sup>3</sup>	
7758-97-6	Lead chromate, (as Pb)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	T20
7758-97-6	Lead chromate, (as Cr)	0.012 mg/m <sup>3</sup>	0.036 mg/m <sup>3</sup>	T20
1317-65-3; 471-34-1	Limestone (calcium carbonate)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
58-89-9	Lindane	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
7580-67-8	Lithium hydride	0.025 mg/m <sup>3</sup>	0.075 mg/m <sup>3</sup>	
68476-85-7	L.P.G. (liquified petroleum gas)	See Aliphatic hydrocarbon gases [C1-C4]		
546-93-0	Magnesite	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
1309-48-4	Magnesium oxide (inhalable fraction <sup>++</sup> )	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
121-75-5	Malathion, (inhalable fraction <sup>++</sup> and vapour)	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	Skin
108-31-6	Maleic anhydride	0.1 ppm	0.3 ppm	SEN
7439-96-5	Manganese and inorganic compounds, (as Mn)	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	
12079-65-1	Manganese cyclopentadienyl tricarbonyl, (as Mn)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
7439-97-6	Mercury, (as Hg):			
	Alkyl compounds	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	Skin
	Aryl compounds	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
	Inorganic forms, including metallic mercury	0.025 mg/m <sup>3</sup>	0.075 mg/m <sup>3</sup>	Skin
141-79-7	Mesityl oxide	15 ppm	25 ppm	
79-41-4	Methacrylic acid	20 ppm	30 ppm	
74-82-8	Methane	See Aliphatic hydrocarbon gases [C1-C4]		
16752-77-5	Methomyl	2.5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	
72-43-5	Methoxychlor	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
109-86-4	2-Methoxyethanol (Methylcellosolve-EGME)	5 ppm	8 ppm	Skin

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110-49-6	2-Methoxyethyl acetate (Methyl cellosolve acetate-EGMEA)	5 ppm	8 ppm	Skin
150-76-5	4-Methoxyphenol	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
79-20-9	Methyl acetate	200 ppm	250 ppm	
74-99-7	Methyl acetylene	1000 ppm	1250 ppm	
59355-75-8	Methyl acetylene-propadiene mixture (MAPP)	1000 ppm	1250 ppm	
96-33-3	Methyl acrylate	2 ppm	4 ppm	Skin, SEN
126-98-7	Methylacrylonitrile	1 ppm	2 ppm	Skin
109-87-5	Methylal (dimethoxy methane)	1000 ppm	1250 ppm	
67-56-1	Methyl alcohol (methanol)	200 ppm	250 ppm	Skin
74-89-5	Methylamine	5 ppm	15 ppm	
110-43-0	Methyl n-amyl ketone (2-Heptanone)	50 ppm	60 ppm	
100-61-8	N-Methylaniline	0.5 ppm	1 ppm	Skin
74-83-9	Methyl bromide	1 ppm	3 ppm	Skin
1634-04-4	Methyl tert-butyl ether (MTBE)	50 ppm	75 ppm	
591-78-6	Methyl n-butyl ketone	5 ppm	10 ppm	Skin
74-87-3	Methyl chloride	50 ppm	100 ppm	Skin
137-05-3	Methyl 2-cyanoacrylate	0.2 ppm	0.6 ppm	
108-87-2	Methylcyclohexane	400 ppm	500 ppm	
25639-42-3	Methylcyclohexanol	50 ppm	60 ppm	
583-60-8	o-Methylcyclohexanone	50 ppm	75 ppm	Skin
12108-13-3	2-Methylcyclopentadienyl manganese tricarbonyl, (as Mn)	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	Skin
8022-00-2	Methyl demeton	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
101-68-8	Methylene bisphenyl isocyanate (MDI)	0.005 ppm	0.015 ppm	
101-14-4	4,4'-Methylene bis (2-chloroaniline) (MBOCA, MOCA)	0.01 ppm	0.03 ppm	Skin, T20
5124-30-1	Methylene bis (4-cyclohexylisocyanate)	0.005 ppm	0.015 ppm	
75-09-2	Methylene choride (dichloromethane)	50 ppm	63 ppm	
101-77-9	4,4'-Methylene dianiline	0.1 ppm	0.3 ppm	Skin, T20
78-93-3	Methyl ethyl ketone (MEK)	200 ppm	300 ppm	
1338-23-4	Methyl ethyl ketone peroxide	**C0.2 ppm		
107-31-3	Methyl formate	100 ppm	150 ppm	
60-34-4	Methyl hydrazine	0.01 ppm	0.03 ppm	Skin, T20
74-88-4	Methyl iodide	2 ppm	4 ppm	Skin, T20
110-12-3	Methyl isoamyl ketone	50 ppm	60 ppm	
108-11-2	Methyl isobutyl carbinol	25 ppm	40 ppm	Skin
108-10-1	Methyl isobutyl ketone	50 ppm	75 ppm	
624-83-9	Methyl isocyanate	0.02 ppm	0.06 ppm	Skin
563-80-4	Methyl isopropyl ketone	200 ppm	250 ppm	
74-93-1	Methyl mercaptan	0.5 ppm	1.5 ppm	

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80-62-6	Methyl methacrylate	50 ppm	100 ppm	SEN
298-00-0	Methyl parathion	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	Skin
107-87-9	Methyl propyl ketone	200 ppm	250 ppm	
681-84-5	Methyl silicate	1 ppm	2 ppm	
98-83-9	alpha-Methyl styrene	50 ppm	100 ppm	
78-94-4	Methyl vinyl ketone	**C0.2 ppm		Skin, SEN
21087-64-9	Metribuzin	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
7786-34-7	Mevinphos (inhalable fraction <sup>++</sup> and vapour)	0.01mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	Skin
12001-26-2	Mica (respirable fraction <sup>++</sup> )	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
7439-98-7	Molybdenum, (as Mo):			
	Soluble compounds, (respirable fraction <sup>++</sup> )	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
	Metal and insoluble compounds, (inhalable fraction <sup>++</sup> )	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Metal and insoluble compounds, (respirable fraction <sup>++</sup> )	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
6923-22-4	Monocrotophos (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
110-91-8	Morpholine	20 ppm	30 ppm	Skin
300-76-5	Naled, (inhalable fraction <sup>++</sup> and vapour)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin, SEN
91-20-3	Naphthalene	10 ppm	15 ppm	Skin
8006-14-2	Natural gas	See Aliphatic hydrocarbon gases: Alkane [C1-C4]		
9006-04-6	Natural rubber latex (as total proteins), (inhalable fraction <sup>++</sup> )	0.001 mg/m <sup>3</sup>	0.003 mg/m <sup>3</sup>	Skin, SEN
7440-02-0	Nickel, (as Ni):			
	Elemental (inhalable fraction <sup>++</sup> )	1.5 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	T20
	Soluble inorganic compounds, (not otherwise specified) (inhalable fraction <sup>++</sup> )	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
	Insoluble inorganic, (as not otherwise specified) (inhalable fraction <sup>++</sup> )	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	
12035-72-2	Nickel subsulphide, (as Ni), (inhalable fraction <sup>++</sup> )	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	T20
13463-39-3	Nickel carbonyl, (as Ni)	0.05 ppm	0.15 ppm	
54-11-5	Nicotine	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
1929-82-4	Nitrapyrin	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
7697-37-2	Nitric acid	2 ppm	4 ppm	
10102-43-9	Nitric oxide	25 ppm	38 ppm	
100-01-6	p-Nitroaniline	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	Skin
98-95-3	Nitrobenzene	1 ppm	2 ppm	Skin

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100-00-5	p-Nitrochlorobenzene	0.1 ppm	0.3 ppm	Skin
79-24-3	Nitroethane	100 ppm	125 ppm	
10102-44-0	Nitrogen dioxide	3 ppm	5 ppm	
7783-54-2	Nitrogen trifluoride	10 ppm	20 ppm	
55-63-0	Nitroglycerin (NG)	0.05 ppm	0.15 ppm	Skin
75-52-5	Nitromethane	20 ppm	30 ppm	
108-03-2	1-Nitropropane	25 ppm	40 ppm	
79-46-9	2-Nitropropane	10 ppm	20 ppm	T20
88-72-2; 99-08-1; 99-99-0	Nitrotoluene isomers	2 ppm	3 ppm	Skin
10024-97-2	Nitrous oxide	50 ppm	75 ppm	
111-84-2	Nonane, all isomers	200 ppm	250 ppm	
2234-13-1	Octachloronaphthalene	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
111-65-9	Octane, all isomers	300 ppm	375 ppm	
8012-95-1	Oil mist, mineral	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
20816-12-0	Osmium tetroxide, (as Os)	0.0002 ppm	0.0006 ppm	
144-62-7	Oxalic acid	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	
80-51-3	p,p'-Oxybis(benzenesulphonyl hydrazide), (inhalable fraction <sup>++</sup> )	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
7783-41-7	Oxygen difluoride	**C0.05 ppm		
10028-15-6	Ozone	0.05 ppm	0.15 ppm	
8002-74-2	Paraffin wax fume	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
4685-14-7	Paraquat, total dust	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
	Paraquat, (respirable fraction <sup>++</sup> )	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
56-38-2	Parathion, (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
—	Particulate polycyclic aromatic hydrocarbons (PPAH), as benzene solubles, See Coal tar pitch volatiles	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	T20
—	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified:			
	Inhalable fraction <sup>++</sup>	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Respirable fraction <sup>++</sup>	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
19624-22-7	Pentaborane	0.005 ppm	0.015 ppm	
1321-64-8	Pentachloronaphthalene	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
82-68-8	Pentachloronitrobenzene	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
87-86-5	Pentachlorophenol	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	Skin
115-77-5	Pentaerythritol	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
78-78-4; 109-66-0; 463-82-1	Pentane, all isomers	600 ppm	750 ppm	

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628-63-7; 626-38-0; 123-92-2; 625-16-1; 624-41-9; 620-11-1	Pentyl acetate, all isomers	50 ppm	100 ppm	
594-42-3	Perchloromethyl mercaptan	0.1 ppm	0.3 ppm	
7616-94-6	Perchloryl fluoride	3 ppm	6 ppm	
19430-93-4	Perfluorobutyl ethylene	100 ppm	150 ppm	
382-21-8	Perfluoroisobutylene	**C0.01 ppm		
93763-70-3	Perlite	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Persulphates, as persulphate	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
108-95-2	Phenol	5 ppm	7.5 ppm	Skin
92-84-2	Phenothiazine	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Skin
95-54-5; 108-45-2; 106-50-3	Phenylene diamine isomers	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
101-84-8	Phenyl ether (vapour)	1 ppm	2 ppm	
122-60-1	Phenyl glycidyl ether (PGE)	0.1 ppm	0.3 ppm	Skin, SEN, T20
100-63-0	Phenyl hydrazine	0.1 ppm	0.3 ppm	Skin, T20
108-98-5	Phenyl mercaptan	0.1 ppm	0.3 ppm	Skin
638-21-1	Phenylphosphine	**C0.05 ppm		
298-02-2	Phorate (inhalable fraction <sup>++</sup> and vapour)	0.05 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup>	Skin
75-44-5	Phosgene (Carbonyl chloride)	0.1 ppm	0.3 ppm	
7803-51-2	Phosphine	0.3 ppm	1 ppm	
7664-38-2	Phosphoric acid	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
12185-10-3	Phosphorus (yellow)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
10025-87-3	Phosphorous oxychloride	0.1 ppm	0.3 ppm	
10026-13-8	Phosphorous pentachloride	0.1 ppm	0.3 ppm	
1314-80-3	Phosphorous pentasulphide	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
7719-12-2	Phosphorous trichloride	0.2 ppm	0.5 ppm	
85-44-9	Phthalic anhydride	1 ppm	2 ppm	SEN
626-17-5	m-Phthalodinitrile	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
1918-02-1	Picloram	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
88-89-1	Picric acid	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
83-26-1	Pindone	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
142-64-3	Piperazine dihydrochloride	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
7778-18-9	Plaster of Paris (Calcium sulphate)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
7440-06-4	Platinum:			
	metal	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
	soluble salt, (as Pt)	0.002 mg/m <sup>3</sup>	0.006 mg/m <sup>3</sup>	

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65997-15-1	Portland cement	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
1310-58-3	Potassium hydroxide	**C2 mg/m <sup>3</sup>		
74-98-6	Propane	See Aliphatic hydrocarbon gases [C1-C4]		
107-19-7	Propargyl alcohol	1 ppm	3 ppm	Skin
57-57-8	beta-Propiolactone	0.5 ppm	1 ppm	T20
123-38-6	Propionaldehyde	20 ppm	30 ppm	
79-09-4	Propionic acid	10 ppm	15 ppm	
114-26-1	Propoxur	0.5 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>	
109-60-4	n-Propyl acetate	200 ppm	250 ppm	
71-23-8	Propyl alcohol (n-propanol)	200 ppm	400 ppm	
78-87-5	Propylene dichloride	75 ppm	110 ppm	
6423-43-4	Propylene glycol dinitrate	0.05 ppm	0.15 ppm	Skin
107-98-2	Propylene glycol monomethyl ether (PGME or 1-methoxy-2-propanol)	100 ppm	150 ppm	
75-56-9	Propylene oxide	2 ppm	4 ppm	SEN, T20
75-55-8	Propylenimine	2 ppm	4 ppm	Skin, T20
627-13-4	n-Propyl nitrate	25 ppm	40 ppm	
8003-34-7	Pyrethrum	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
110-86-1	Pyridine	1 ppm	3 ppm	
106-51-4	Quinone	0.1 ppm	0.3 ppm	
108-46-3	Resorcinol	10 ppm	20 ppm	
7440-16-6	Rhodium, (as Rh):			
	Metal and insoluble compounds	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
	Soluble compounds	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	
299-84-3	Ronnel	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
83-79-4	Rotenone (commercial)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
_____	Rouge	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
8030-30-6	Rubber solvent (Naphtha)	400 ppm	500 ppm	
7782-49-2	Selenium and compounds, (as Se)	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	
7783-79-1	Selenium hexafluoride, (as Se)	0.05 ppm	0.15 ppm	
136-78-7	Sesone	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Silica Amorphous:			
61790-53-2	Diatomaceous earth (uncalcined) (inhalable fraction <sup>++</sup> )	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
61790-53-2	Diatomaceous earth (uncalcined) (respirable fraction <sup>++</sup> )	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
112926-00-8	Precipitated silica and silica gel	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
69012-46-2	Silica, fume (respirable fraction <sup>++</sup> )	2 mg/m <sup>3</sup>		
60676-86-0	Silica, fused (respirable fraction <sup>++</sup> )	0.1 mg/m <sup>3</sup>		

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table

CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> ** or ppm*	Notation <sup>+</sup>
	Silica – Crystalline <sup>#</sup> :			
14464-46-1	Cristobalite (respirable fraction <sup>++</sup> )	0.05 mg/m <sup>3</sup>		
14808-60-7	Quartz (respirable fraction <sup>++</sup> )	0.05 mg/m <sup>3</sup>		T20
1317-95-9	Tripoli, as quartz (respirable fraction <sup>++</sup> )	0.1 mg/m <sup>3</sup>		
7440-21-3	Silicon	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
409-21-2	Silicon Carbide			
	Nonfibrous, (inhalable fraction <sup>++</sup> )	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
	Nonfibrous, (respirable fraction <sup>++</sup> )	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
	Fibrous (including whiskers), (respirable fibres)	0.1 f/cc <sup>###</sup>		T20
7803-62-5	Silicon tetrahydride (Silane)	5 ppm	10 ppm	
7440-22-4	Silver, metal	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
_____	Silver soluble compounds, (as Ag)	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	
_____	Soapstone (total dust)	6 mg/m <sup>3</sup>		
_____	Soapstone (respirable fraction <sup>++</sup> )	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
26628-22-8	Sodium azide:			
	as Sodium azide	**C0.29 mg/m <sup>3</sup>		
	as Hydrazoic acid vapour	**C0.11 ppm		
7631-90-5	Sodium bisulphite	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
62-74-8	Sodium fluoroacetate	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
1310-73-2	Sodium hydroxide	**C2 mg/m <sup>3</sup>		
7681-57-4	Sodium metabisulphite	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
9005-25-8	Starch	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
_____	Stearates	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
7803-52-3	Stibine (Antimony hydride)	0.1 ppm	0.3 ppm	
8052-41-3	Stoddard solvent	100 ppm	125 ppm	
7789-06-2	Strontium chromate, (as Cr)	0.0005 mg/m <sup>3</sup>	0.0015 mg/m <sup>3</sup>	T20
57-24-9	Strychnine	0.15 mg/m <sup>3</sup>	0.45 mg/m <sup>3</sup>	
100-42-5	Styrene, monomer	20 ppm	40 ppm	T20
1395-21-7; 9014-01-1	Subtilisins, (as crystalline active enzyme)	**C0.00006 mg/m <sup>3</sup>		
57-50-1	Sucrose	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
74222-97-2	Sulphometuron methyl	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
3689-24-5	Sulphotep (TEDP) (inhalable fraction <sup>++</sup> and vapour)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
7446-09-5	Sulphur dioxide	2 ppm	5 ppm	
2551-62-4	Sulphur hexafluoride	1000 ppm	1250 ppm	
7664-93-9	Sulphuric acid, (thoracic fraction <sup>++</sup> )	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	T20, strong acid mists only
10025-67-9	Sulphur monochloride	**C1 ppm		

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table



CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> * or ppm*	Notation <sup>+</sup>
5714-22-7	Sulphur pentafluoride	**C0.01 ppm		
7783-60-0	Sulphur tetrafluoride	**C0.1 ppm		
2699-79-8	Sulphuryl fluoride	5 ppm	10 ppm	
35400-43-2	Sulprofos	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
	Synthetic Vitreous Fibres:			
	Continous filament glass fibres, (respirable fibres)	1 f/cc <sup>###</sup>	3 f/cc	
	Continous filament glass fibres, (inhalable fraction <sup>++</sup> )	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
	Glass wool fibres, (respirable fibres)	1 f/cc	3 f/cc	
	Rock wool fibres, (respirable fibres)	1 f/cc	3 f/cc	
	Slag wool fibres, (respirable fibres)	1 f/cc	3 f/cc	
	Special purpose glass fibres, (respirable fibres)	1 f/cc	3 f/cc	
	Refractory ceramic fibres, (respirable fibres)	0.2 f/cc		T20
93-76-5	2,4,5-T	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
14807-96-6	Talc, (respirable fraction <sup>++</sup> )	2 mg/m <sup>3</sup>		
7440-25-7	Tantalum metal and oxide, (as Ta)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
7783-80-4	Tellurium hexafluoride, (as Te)	0.02 ppm	0.03 ppm	
13494-80-9	Tellurium and other tellurium compounds, (as Te) excluding hydrogen telluride	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
3383-96-8	Temephos, (inhalable fraction <sup>++</sup> and vapour)	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	Skin
13071-79-9	Terbufos, (inhalable fraction <sup>++</sup> and vapour)	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	Skin
100-21-0	Terephthalic acid	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
26140-60-3	Terphenyls	**C5 mg/m <sup>3</sup>		
76-11-9	1,1,1,2-Tetrachloro-2, 2-difluoroethane	500 ppm	625 ppm	
76-12-0	1,1,2,2-Tetrachloro-1, 2-difluoroethane	500 ppm	625 ppm	
79-34-5	1,1,2,2-Tetrachloroethane	1 ppm	2 ppm	Skin
127-18-4	Tetrachloroethylene (Perchloroethylene)	25 ppm	100 ppm	T20
1335-88-2	Tetrachloronaphthalene	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
78-00-2	Tetraethyl lead, (as Pb)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
107-49-3	Tetraethyl pyrophosphate (TEPP)	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	Skin
116-14-3	Tetrafluoroethylene	2 ppm	4 ppm	T20
109-99-9	Tetrahydrofuran	50 ppm	100 ppm	Skin
	Tetrakis (hydroxymethyl) phosphonium salts:			
124-64-1	Tetrakis (hydroxymethyl) phosphonium chloride	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table

CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> ** or ppm*	Notation <sup>+</sup>
55566-30-8	Tetrakis (hydroxymethyl) phosphonium sulphate	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	SEN
75-74-1	Tetramethyl lead, (as Pb)	0.15 mg/m <sup>3</sup>	0.45 mg/m <sup>3</sup>	Skin
3333-52-6	Tetramethyl succinonitrile	0.5 ppm	1 ppm	Skin
509-14-8	Tetranitromethane	0.005 ppm	0.015 ppm	T20
7722-88-5	Tetrasodium pyrophosphate	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
479-45-8	Tetryl (2,4,6-trinitrophenyl-methyl nitramine)	1.5 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
7440-28-0	Thallium and soluble compounds, (as Tl)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
96-69-5	4,4'-Thiobis (6-tert-butyl-m-cresol)	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
68-11-1	Thioglycolic acid	1 ppm	2 ppm	Skin
7719-09-7	Thionyl chloride	**C1 ppm		
137-26-8	Thiram	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
7440-31-5	Tin, (as Sn):			
	metal	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
	oxide and inorganic compounds except SnH <sub>4</sub>	2 mg/m <sup>3</sup>	4 mg/m <sup>3</sup>	
	organic compounds	0.1 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup>	Skin
13463-67-7	Titanium dioxide	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
108-88-3	Toluene (toluol)	50 ppm	60 ppm	Skin
584-84-9; 91-08-7	Toluene-2,4- or 2,6-diisocyanate (TDI)	0.005 ppm	0.02 ppm	SEN
95-53-4	o-Toluidine	2 ppm	4 ppm	Skin, T20
108-44-1	m-Toluidine	2 ppm	4 ppm	Skin
106-49-0	p-Toluidine	2 ppm	4 ppm	Skin, T20
126-73-8	Tributyl phosphate	0.2 ppm	0.4 ppm	
76-03-9	Trichloroacetic acid	1 ppm	2 ppm	
120-82-1	1,2,4-Trichlorobenzene	**C5 ppm		
71-55-6	1,1,1-Trichloroethane	350 ppm	450 ppm	
79-00-5	1,1,2-Trichloroethane	10 ppm	15 ppm	Skin
79-01-6	Trichloroethylene	50 ppm	100 ppm	
75-69-4	Trichlorofluoromethane	**C1000 ppm		
1321-65-9	Trichloronaphthalene	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Skin
96-18-4	1,2,3-Trichloropropane	10 ppm	15 ppm	Skin
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1000 ppm	1250 ppm	
52-68-6	Trichlorphon, (inhalable fraction <sup>++</sup> )	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
102-71-6	Triethanolamine	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
121-44-8	Triethylamine	1 ppm	3 ppm	Skin
75-63-8	Trifluorobromomethane	1000 ppm	1200 ppm	
2451-62-9	1,3,5-Triglycidyl-s-triazinetrione	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	
552-30-7	Trimellitic anhydride	**C0.04 mg/m <sup>3</sup>		

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table

CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> * or ppm*	15 minute average contamination limit mg/m <sup>3</sup> * or ppm*	Notation <sup>+</sup>
75-50-3	Trimethylamine	5 ppm	15 ppm	
25551-13-7	Trimethyl benzene (mixed isomer)	25 ppm	30 ppm	
121-45-9	Trimethyl phosphite	2 ppm	4 ppm	
118-96-7	2,4,6-Trinitrotoluene (TNT)	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
78-30-8	Triorthocresyl phosphate	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	Skin
603-34-9	Triphenylamine	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
115-86-6	Triphenyl phosphate	3 mg/m <sup>3</sup>	6 mg/m <sup>3</sup>	
7440-33-7	Tungsten, (as W):			
	metal and insoluble compounds	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
	soluble compounds	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
8006-64-2; 80-56-8; 127-91-3; 13466-78-9	Turpentine and selected monoterpenes	20 ppm	30 ppm	SEN
7440-61-1	Uranium (natural)			
	Soluble and insoluble compounds, (as U)	0.2 mg/m <sup>3</sup>	0.6 mg/m <sup>3</sup>	T20
110-62-3	n-Valeraldehyde	50 ppm	60 ppm	
1314-62-1	Vanadium pentoxide, as V <sub>2</sub> O <sub>5</sub> , dust and fume (respirable fraction <sup>++</sup> )	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	
_____	Vegetable oil mists	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	
108-05-4	Vinyl acetate	10 ppm	15 ppm	
593-60-2	Vinyl bromide	0.5 ppm	1.5 ppm	T20
100-40-3	4-Vinyl cyclohexene	0.1 ppm	0.3 ppm	T20
106-87-6	Vinyl cyclohexene dioxide	0.1 ppm	0.3 ppm	Skin, T20
75-02-5	Vinyl fluoride	1 ppm	3 ppm	T20
88-12-0	N-Vinyl-2-pyrrolidone	0.05 ppm	0.15 ppm	
75-35-4	Vinylidene chloride	5 ppm	10 ppm	
75-38-7	Vinylidene fluoride	500 ppm	625 ppm	
25013-15-4	Vinyl toluene	50 ppm	100 ppm	
8032-32-4	VM and P Naphtha	300 ppm	375 ppm	
81-81-2	Warfarin	0.1 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup>	
_____	Welding fumes	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
	Wood dust:			
_____	Softwoods	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	T20 (certain species), SEN* (certain species, see list at end of table)

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table

CAS Number	Substance	8 hour average contamination limit mg/m <sup>3</sup> ** or ppm*	15 minute average contamination limit mg/m <sup>3</sup> ** or ppm*	Notation <sup>+</sup>
_____	Certain hardwoods such as beech and oak	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	T20 (certain species), SEN* (certain species, see list at end of table)
1330-20-7; 95-47-6; 108-38-3; 106-42-3	Xylene (o, m-, p-isomers)	100 ppm	150 ppm	
1477-55-0	m-Xylene <i>alpha</i> , <i>alpha</i> '-diamine	**C0.1 mg/m <sup>3</sup>		Skin
1300-73-8	Xylidine, mixed isomers (inhalable fraction <sup>++</sup> and vapour)	0.5 ppm	1 ppm	T20, Skin
7440-65-5	Yttrium metal and compounds, (as Y)	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>	
7646-85-7	Zinc chloride fume	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	
13530-65-9; 11103-86-9; 37300-23-5	Zinc chromates, as Cr	0.01 mg/m <sup>3</sup>	0.03 mg/m <sup>3</sup>	T20
1314-13-2	Zinc oxide, fume and dust (respirable fraction <sup>++</sup> )	2 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	
7440-67-7	Zirconium and compounds, (as Zr)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	

**Notes:**

# - Trydimite removed

## - Fibres per cubic centimeter of air

**+ - Explanation of Notations:**

T20 – Substance is also In Table 20 and subject to Sections 306 and 311

Skin – Potentially harmful after absorption through the skin or mucous membranes

SEN – Well-demonstrated potential to produce sensitization

SEN\* – Wood species suspected of inducing sensitization (see Table D)

10 Aug 2007 SR 67/2007 s33.

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table

Table A

**Inhalable fraction:**

For the application of this limit, inhalable fraction is that fraction of the aerosol that passes a size selector with the following characteristics:

Particle Aerodynamic Diameter ( $\mu\text{m}$ )	Inhalable Particulate Mass (IPM) (%)
	100
1	97
2	94
5	87
10	77
20	65
30	58
40	54.5
50	52.5
100	50

Table B

**Respirable fraction:**

For the application of this limit, respirable fraction is that fraction of the aerosol that passes a size selector with the following characteristics:

Particle Aerodynamic Diameter ( $\mu\text{m}$ )	Respirable Particulate Mass (RPM) (%)
0	100
1	97
2	91
3	74
4	50
5	30
6	17
7	9
8	5
10	1

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

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#, ##, +, ++ See Notes at end of Table

Table C

**Thoracic fraction:**

For the application of this limit, thoracic fraction is that fraction of the aerosol that passes a size selector with the following characteristics:

Particle Aerodynamic Diameter (  $\mu\text{m}$  )      Particulate Mass

Particle Aerodynamic Diameter ( $\mu\text{m}$ )	Thoracic Particulate Mass (TPM) (%)
0	100
2	94
4	89
6	80.5
8	67
10	50
12	35
14	23
16	15
18	9.5
20	6
25	2

\*mg/m<sup>3</sup> - milligrams of substance per cubic metre of air; ppm - parts (volume) of substance per million parts (volume) of air

\*\*C - ceiling limit

#, ##, +, ++ See Notes at end of Table

Table D

## Commercially Important Tree Species Suspected of Inducing Sensitization

Common	Latin
<b>SOFTWOODS</b>	
California redwood	<i>Sequoia sempervirens</i>
Eastern white cedar	<i>Thuja occidentalis</i>
Pine	<i>Pinus</i>
Western red cedar	<i>Thuja plicata</i>
<b>HARDWOOD</b>	
Ash	<i>Fraxinus americana</i>
Aspen/Poplar/Cottonwood	<i>Populus</i>
Beech	<i>Fagus</i>
Oak	<i>Quercus</i>
<b>TROPICAL WOODS</b>	
Abirucana	<i>Pouteria</i>
African zebra	<i>Microberlinia</i>
Antiaris	<i>Antiaris africana Antiaris toxicara</i>
Cabreuva	<i>Myrocarpus fastigiatus</i>
Cedar of Lebanon	<i>Cedra libani</i>
Central American walnut	<i>Juglans olanchana</i>
Cocabolla	<i>Dalbergia retusa</i>
African ebony	<i>Diospryos crassiflora</i>
Fernam bouc	<i>Caesalpinia</i>
Honduras rosewood	<i>Dalbergia stevensonii</i>
Iroko or kambala	<i>Chlorophora excelsa</i>
Kejaat	<i>Pterocarpus angolensis</i>
Kotobe	<i>Nesorgordonia papaverifera</i>
Limba	<i>Terminalia superba</i>
Mahogany (African)	<i>Khaya spp.</i>
Makore	<i>Tieghemella heckelii</i>
Mansonia/Beté	<i>Mansonia altissima</i>
Nara	<i>Pterocarpus indicus</i>
Obeche/African maple/Samba	<i>Triplochiton scleroxylon</i>
Palisander/Brazilian rosewood/ Tulip wood/Jakaranda	<i>Dalbergia nigra</i>
Pau marfim	<i>Balfourdendron riedelianum</i>
Ramin	<i>Gonystylus bancanus</i>
Soapbark dust	<i>Quillaja saponaria</i>
Spindle tree wood	<i>Euonymus europaeus</i>
Tanganyike aningre	

**TABLE 22**  
[Section 465]

**Minimum Distances from Exposed  
Energized High Voltage Electrical Conductors**

Risk Factor		Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Voltage Phase to Phase	Voltage to Ground	Non- electrical Workers, Material, Equipment	Qualified Electrical Workers	Vehicles and Load	Limit of approach for utility tree trimmers using conducting objects exposed to energized parts	Limit of approach for utility tree trimmers using rated tools to exposed energized parts	Limit of approach for utility tree trimmers using rated insulating booms
<b>kV</b>	<b>kV</b>	<b>Metres</b>	<b>Metres</b>	<b>Metres</b>	<b>Metres</b>	<b>Metres</b>	<b>Metres</b>
<b>230</b>	<b>133</b>	<b>6.1</b>	<b>1.4</b>	<b>1.83</b>	<b>2.4</b>	<b>1.41</b>	<b>1.85</b>
<b>138</b>	<b>79.8</b>	<b>4.6</b>	<b>1</b>	<b>1.22</b>	<b>1.9</b>	<b>0.92</b>	<b>1.35</b>
<b>72</b>	<b>41.6</b>	<b>4.6</b>	<b>0.6</b>	<b>0.8</b>	<b>1.6</b>	<b>0.61</b>	<b>1.05</b>
<b>25</b>	<b>14.4</b>	<b>3</b>	<b>0.3</b>	<b>0.6</b>	<b>1.2</b>	<b>0.12</b>	<b>0.55</b>
<b>15</b>	<b>8.6</b>	<b>3</b>	<b>0.3</b>	<b>0.6</b>	<b>1.1</b>	<b>0.12</b>	<b>0.55</b>
<b>4.16</b>	<b>2.4</b>	<b>3</b>	<b>0.15</b>	<b>0.6</b>	<b>1.05</b>	<b>0.04</b>	<b>0.50</b>
<b>0.75</b>	<b>0.75</b>	<b>3</b>	<b>0.15</b>	<b>0.6</b>	<b>1.05</b>	<b>0.04</b>	<b>0.05</b>

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