

Workplace Safety and Health (Abrasive Blasting) Regulations 2008

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No. S 607

**WORKPLACE SAFETY AND HEALTH ACT
(CHAPTER 354A)**

**WORKPLACE SAFETY AND HEALTH (ABRASIVE BLASTING) REGULATIONS
2008**

In exercise of the powers conferred by section 65 of the Workplace Safety and Health Act, Mr Gan Kim Yong, Senior Minister of State, charged with the responsibility of the Minister for Manpower, hereby makes the following Regulations:

PART I

PRELIMINARY

Citation and commencement

1. These Regulations may be cited as the Workplace Safety and Health (Abrasive Blasting) Regulations 2008 and shall come into operation on 1st February 2009.

Definitions

2. In these Regulations, unless the context otherwise requires —

“abrasive” means any material used or intended to be used for blasting, and includes metal shot or grit but does not include water;

“blasting” means the cleaning, smoothing, roughening, cutting, preparation or removal of the surface or part of the surface of any building, ship or article using an abrasive propelled or blasted against the building, ship or article by compressed air or steam, by a wheel or by any similar means, excluding hydro-jetting;

“blasting cabinet” means a blasting enclosure where the person carrying out blasting does so from outside the enclosure;

“blasting chamber” means a type of permanent blasting enclosure into which persons may enter;

“blasting enclosure” means any chamber, cabinet or other structure, whether temporary or permanent, designed —

(a) to enclose or accommodate articles being blasted; and

(b) to isolate or minimise hazards of dusts or debris generated by blasting,

being a chamber, cabinet or structure that is used only for the purpose of blasting;

“competent person” means a person who has sufficient experience and training to perform the work required to be carried out;

“device” means a separator, grit recycling unit, dust collector, filter, condensate trap or any other apparatus or machine used in connection with the process of blasting.

Application

3. These Regulations shall apply in relation to all workplaces in which abrasive blasting is carried out.

PART II

ABRASIVES USED IN BLASTING

Abrasives used in blasting

4. It shall be the duty of —

- (a) the employer of any person carrying out any blasting in a workplace; or
- (b) the principal under whose direction any person carries out any blasting in a workplace,

to ensure that no sand or other substance containing free silica is used as an abrasive in blasting or is introduced into or present in any blasting equipment as an abrasive.

Abrasives not to be used again

5. It shall be the duty of —

- (a) the employer of any person carrying out any blasting in a workplace; or
- (b) the principal under whose direction any person carries out any blasting in a workplace,

to ensure that no substance which has been used as an abrasive in blasting is used again or be introduced into or be present in any blasting equipment as an abrasive unless, since last being so used, that substance has, so far as is reasonably practicable, been separated by means of a suitable and effective device from dusts and particles of materials arising from blasting.

PART III

PRECAUTIONS IN CONNECTION WITH BLASTING

Safety precautions

6.—(1) It shall be the duty of —

- (a) the employer of any person carrying out any blasting in a workplace; or
- (b) the principal under whose direction any person carries out any blasting in a workplace,

to ensure that the requirements of paragraphs (2) to (8) are complied with.

(2) Subject to paragraph (3), no blasting shall be carried out, so far as is reasonably practicable, except in a blasting enclosure.

(3) Where it is not reasonably practicable to carry out blasting in a blasting enclosure —

- (a) all reasonably practicable measures shall be taken to ensure that the dust generated from blasting is minimised and does not cause nuisance or pose any hazard to any person in the workplace at which the blasting is carried out;
- (b) adequate signs to warn of the hazards associated with blasting shall be provided at suitable locations in the workplace; and
- (c) no person shall be allowed to enter any area where there is a risk of exposure to dust arising from blasting unless the person is wearing suitable personal protective equipment as referred to in regulation 10.

(4) No person shall be allowed to enter any blasting enclosure except for the purpose of carrying out —

- (a) any blasting; or
- (b) the cleaning, repairing or maintenance of the blasting enclosure or any equipment, device or fixture situated therein.

(5) Nothing in paragraph (4) shall operate to interfere with or render unlawful any rescue work or other work necessary for ensuring the safety of life or for preventing damage to property.

(6) Except in the case of a blasting cabinet, every blasting enclosure shall be so constructed as to be safe for any person to enter or work within the blasting enclosure.

(7) All reasonably practical measures shall be taken to protect any person who is outside the blasting enclosure from exposure to dust generated by blasting.

(8) Every door of a blasting chamber shall —

- (a) be kept closed but shall not be securely locked while blasting is being carried out therein; and
- (b) be kept closed for a reasonable time after blasting has ceased.

Construction of blasting chamber

7.—(1) It shall be the duty of the occupier of a workplace in which blasting is carried out within a blasting chamber to ensure that the requirements of paragraphs (2), (3) and (4) are complied with.

(2) Every blasting chamber shall be —

- (a) of sound construction;

- (b) so situated or constructed as to prevent, so far as is reasonably practicable, dust escaping from it;
- (c) provided with suitable and adequate means of access which shall at all times be kept free from obstruction; and
- (d) provided with inspection ports placed at suitable locations.

(3) The interior of every blasting chamber shall, so far as is practicable, be free from projections on which dust might settle.

(4) The illumination of every blasting chamber shall not be less than 200 lux over all parts of the chamber measured in a horizontal plane at one metre above the floor.

Handling of heavy or bulky articles

8. It shall be the duty of —

- (a) the employer of any person carrying out any blasting in a workplace; or
- (b) the principal under whose direction any person carries out any blasting in a workplace,

to provide suitable and adequate means to secure in position any heavy or bulky article while such article is being blasted within the blasting enclosure.

Static electrical charges

9. It shall be the duty of —

- (a) the employer of any person carrying out any blasting in a workplace; or
- (b) the principal under whose direction any person carries out any blasting in a workplace,

to provide effective means for the discharge of static electrical charges from blasting nozzles used in blasting.

Personal protective equipment

10.—(1) It shall be the duty of —

- (a) the employer of any person carrying out —
 - (i) any blasting or other work connected with the blasting process;or

(ii) any cleaning, repairing or maintenance work;
within any blasting enclosure in a workplace; or

(b) the principal under whose direction any person carries out the work referred to in sub-paragraph (a) in a workplace,

to ensure that the requirements of paragraphs (2) to (5) are complied with.

(2) Every person carrying out any work referred to in paragraph (1) —

- (a) shall be provided with suitable overalls, boots and gloves; and
- (b) shall be provided with a supplied-air blasting helmet.

(3) Every supplied-air blasting helmet referred to in paragraph (2)(b) —

- (a) shall be supplied with sufficient breathing quality air;
- (b) shall be provided with an efficient pressure reducing or limiting device;
- (c) shall be provided with an efficient valve or other appliance as means for the person wearing it to regulate the flow of air to his needs;
- (d) shall be for use by a single person only; and
- (e) must not have been previously used by another person or, if it has been so used by another person, must have been thoroughly cleaned and disinfected since it was last used.

(4) No pipeline carrying gases, other than a pipeline carrying breathing quality air, shall be connected to the air-supply line for any supplied-air blasting helmet.

(5) Every personal protective equipment shall, when not in use, be kept in a storage accommodation that is free from dust arising from blasting.

PART IV

VENTILATION SYSTEM

Ventilation system

11.—(1) It shall be the duty of the occupier of a workplace in which blasting is carried out within a blasting chamber or within a blasting cabinet to ensure that the requirements of paragraphs (2) to (7) are complied with.

(2) Every blasting chamber and blasting cabinet shall be provided with —

- (a) an effective ventilation system to extract, by exhaust draught effected by mechanical means, all dust generated by blasting in the blasting chamber or blasting cabinet during blasting, or by the cleaning, repairing or maintenance of the blasting chamber or blasting cabinet;
- (b) a suitable air cleaning device to remove the dust extracted by the ventilation system; and
- (c) a dust collector of appropriate capacity to collect dust removed by the air cleaning device.

(3) Every duct, pipe and conduit through which the exhaust air passes shall be of sufficient capacity and appropriate size, and be fitted with testing holes and cleanout ports at all places where dust is likely to accumulate.

(4) Subject to paragraph (5), the ventilation system of every blasting chamber and blasting cabinet shall, so far as is reasonably practicable, be kept in continuous operation until such time the blasting chamber and blasting cabinet is free of dust.

(5) Where it is necessary to enter and carry out any cleaning, repair or maintenance within any blasting chamber and it is not reasonably practicable to keep the ventilation system in continuous operation, the blasting chamber shall be made safe for entry and for such work to be carried out therein.

(6) Every blasting cabinet shall be ventilated with air of a velocity of not less than 150 linear metres per minute through all operating openings.

(7) A switch for the purpose of starting and stopping the ventilation system shall be provided at a suitable position adjacent to the blasting chamber.

PART V

MAINTENANCE, CLEANING, INSPECTION AND RESTRICTION

Maintenance of blasting enclosure, ventilation system, equipment and devices

12.—(1) It shall be the duty of the occupier of a workplace in which blasting is carried out within a blasting enclosure to ensure that the requirements of paragraphs (2), (3) and (4) are complied with.

(2) Every blasting enclosure, ventilation system, equipment, personal protective equipment and device provided for blasting in a workplace pursuant to these Regulations shall be of good construction, sound material and adequate strength and shall be so

maintained.

(3) The walls, shelves, floors and interior roof construction of every blasting chamber (including all fixtures) in a workplace shall be thoroughly cleaned by vacuum cleaning or wet methods at regular intervals.

(4) Effective measures shall be taken in the workplace —

- (a) to dispose of dust which arises from cleaning done pursuant to paragraph (3) or which is extracted from the air cleaning device or dust collector of the blasting chamber and blasting cabinet so that it does not enter the air of any workroom; and
- (b) to prevent the inhalation of dust by any person engaged to clean any equipment or device outside the blasting chamber, or in doing any other work in relation to that equipment or device of such a nature that there is a danger of such inhalation.

Inspection and examination by competent person

13.—(1) It shall be the duty of the occupier of a workplace in which blasting is carried out within a blasting enclosure to ensure that every blasting enclosure, ventilation system, equipment and device provided for blasting pursuant to these Regulations is thoroughly inspected and examined by a competent person at least once in every 7 days.

(2) It shall be the duty of the competent person to immediately inform the occupier of the workplace of any defect in the blasting enclosure, ventilation system, equipment or device found during the inspection and examination carried out under paragraph (1).

(3) It shall be the duty of the competent person to exercise all due diligence when performing his functions in relation to the inspection and examination of any blasting enclosure, ventilation system, equipment and device carried out under paragraph (1).

(4) Any competent person who contravenes paragraph (2) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$5,000.

Duty of persons employed to report defect

14.—(1) It shall be the duty of any person who is aware of any defect in any blasting enclosure, ventilation system, equipment or device which may pose a risk to the safety and health of persons at work in the workplace, to immediately report such defect to —

- (a) the employer of any person carrying out any blasting in a workplace; or

(b) the principal under whose direction any person carries out any blasting in a workplace.

(2) Any person who contravenes paragraph (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.

Prohibition of blasting

15. Notwithstanding the foregoing provisions of these Regulations, it shall be the duty of—

- (a) the employer of any person carrying out blasting in a workplace; or
- (b) the principal under whose direction any person carries out blasting in a workplace,

to ensure that no blasting is allowed to be carried out if the carrying out of the blasting is likely to pose a risk to the safety and health of persons at work in the workplace.

PART VI

MISCELLANEOUS

Offence

16. If any person on whom a duty is imposed by regulation 4, 5, 6, 7, 8, 9, 10, 11, 12 or 15 contravenes any provision of that regulation, he shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 2 years or to both.

Revocation

17. The Factories (Abrasive Blasting) Regulations (Cap. 104, Rg 1) are revoked.

Made this 24th day of November 2008.

LEO YIP
*Permanent Secretary,
Ministry of Manpower,
Singapore.*

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(To be presented to Parliament under section 65(8) of the Workplace Safety and Health Act).