

CHIEF DIRETORATE: OCCUPATIONAL HEALTH AND SAFETY

CONSTRUCTION EXPLOSIVES AND MHI



employment & labour

Department:
Employment and Labour
REPUBLIC OF SOUTH AFRICA



Definitions

1. In these regulations "the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and any word or expression to which a meaning has been assigned in the Act, has the meaning so assigned and, unless the context otherwise indicates—

"ammonium nitrate" means—

(a) ammonium nitrate as referred to in **SANS 10228: *The identification and classification of dangerous goods for transport by road and rail modes, and listed as UN number 1942***;

(b) uniform mixtures of ammonium nitrate as defined in paragraph (a) with inorganic compatible materials where the total nitrogen content exceeds 28% with not more than 0,2% total combustible substances, including any organic substance calculated as carbon; and

(c) solutions of ammonium nitrate as defined in paragraph (a) containing less than 40% (volume per volume) water.

"authorised explosive" means any article, substance or mixture that has the properties of an explosive and is approved by the Minister of Police and published by notice in the *Gazette* as an explosive;

Definitions

"blasting" means the firing of blasting explosives for such purposes as breaking rock or other material, moving material, or other similar activity approved by the chief inspector of explosives, and "blast" has a similar meaning;

"blaster" means a competent person who is in possession of a valid blasting permit issued by the chief inspector of explosives;

"burning grounds" means a fenced-in area with a controlled entrance where explosives may be exposed to a naked flame under safe controlled conditions;

"certificated person" means any person to whom a certificate of competency in explosives has been granted or issued by the South African Qualifications Authority, an accredited service provider or any other organisation approved by the chief inspector of occupational health and safety;

"chief inspector of explosives" means the chief inspector appointed in terms of section 2(1) of the Explosives Act, 1956 (Act No. 26 of 1956); or any other act that can supersede the above act;

Definitions

"class 1.1–1.6" means classes 1.1–1.6 of explosives as defined in **SANS 10228: The identification and classification of dangerous goods for transport by road and rail modes**;

"class 5.1" means a class of oxidizing substances as defined in **SANS 10228: The identification and classification of dangerous goods for transport by road and rail modes**;

"competent person" means a person who –

has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2008 (Act No 67 of 2008), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the act and the applicable regulations made under the Act;

"complex" means a group of danger buildings in the same danger area;

"danger area" means an area surrounded by a fence provided with a guarded entrance in which are situated explosives testing, manufacturing and storage buildings, and as much of the land surrounding them as is shown on the official explosives workplace site plan;

Definitions

"explosives **compatibility** groups" means explosives grouped together for their safe storage and transportation as defined in **SANS 10228**: *The identification and classification of dangerous goods for transport by road and rail modes*;

"explosives magazine" means any building licensed under these regulations for the storage of explosives;

"explosives manager" means a person appointed in terms of regulation 12(1)(a);

"explosives workplace" means any workplace licensed under these regulations for the manufacture, testing, use and storage of explosives, together with every mound, building and works therein or thereon for whatever purpose used;

"explosives workplace licence" means a licence referred to in regulation 4(2) or issued in terms of regulation 4(3) in respect of an explosives workplace for the manufacture, testing, use and storage of explosives;

Definitions

"non-detonatable explosive" means an explosive that needs extreme conditions to initiate;

"non-explosives worker" means an employee in an explosives workplace who normally performs his or her duties outside a danger area;

"non-sensitised explosive" means any explosive or substance that needs to be sensitised by the addition of a gassing agent, chemical sensitiser, gas bubbles, organic fuel or micro balloons, or the like, for it to be used as an explosive;

"official explosives workplace site plan" means a plan as contemplated in regulation 4(5)(b);

"operating instruction" means a document approved by the explosives manager setting out in detail the methods, materials, equipment, tools and precautions to be used in a given operation;

"permanent and full-time capacity" means employed by one employer only to work during all normal working hours of that employer;

Scope of application

2. (1) Subject to subregulation (2), these regulations will apply to any employer, self-employed person or user who operates an explosives workplace for the purpose of manufacturing, testing, storing or using explosives.

(2) These regulations will not apply to any place where the loading or reloading of cartridges for small arms is being carried out for private use and is not offered for sale, trade or any other use: provided that these regulations do not detract from the requirements of the Firearms Control Act, 2000 (Act No. 60 of 2000).

(3) The chief inspector of occupational health and safety may, upon receiving a written request, grant exemption, in writing, from any of these regulations on such conditions as he or she may determine to ensure the safe manufacture, storage, testing and handling of explosives.

(4) Any exemption granted under subregulation (3) may at any time in writing be withdrawn or the conditions amended by the chief inspector of occupational health and safety.

Licensing of explosives workplace

4. (1) Any person who desires to erect or operate a new explosives workplace for the manufacture, testing, use or storage of explosives must apply in writing in a prescribed form for a licence to the chief inspector of occupational health and safety.

(2) The chief inspector of occupational health and safety must acknowledge receipt of any application within 30 calendar days of receipt.

(3) The chief inspector of occupational health and safety may–

(a) issue a licence subject to compliance with these regulations and after consultation with the relevant employer, self-employed person or user and local government: provided that such licence will lapse after 12 months if the erection of the building has not started within that period;

(b) attach any condition to the licence that he or she deems reasonably necessary;

(c) alter the condition of an existing licence after consultation with the employer, self-employed person, user and employees;

(d) not issue a licence where an explosives manager has not been appointed in terms of [regulation 12](#)(1) or where the prescribed requirements have not been met;

(e) upon application in writing, transfer a licence into the name of another person: provided that the application will be made prior to the transfer and the transferee will have appointed an explosives manager;

Licensing of explosives workplace

(f) revoke any licence issued in terms of this regulation if the prescribed conditions are no longer being complied with or where no explosives manager is appointed; and

(g) issue, amend, replace or withdraw guidelines, codes, standards or best practices on any matter covered in these regulations.

(4) Any person applying for a magazine or explosives workplace licence must attach to such application—

(a) a written authorisation from the relevant local government for the proposed new magazine or workplace;

(b) the written approval from the chief inspector of explosives concerning security aspects for the area and buildings of the proposed workplace or magazine;

(c) the letter of appointment of the competent explosives manager, including the acceptance of the appointment;

Licensing of explosives workplace

- (h) The quantity of explosives, or any other partly or wholly mixed ingredients thereof, that he or she intends to use simultaneously in any danger room, danger building or complex;
- (i) The maximum number of persons that he or she intends to employ in each danger room, danger building or complex; and
- (j) Any additional information that may be required by the chief inspector of occupational health and safety;
- (k) a full written report on the risk assessment conducted and compiled by an approved inspection authority;
- (l) a structural assessment report compiled by a structural engineer.

Non-detonatable and non-sensitized explosives

5. (1) Ammonium nitrate fertilizers must be manufactured in such a way that the constituents cannot be separated mechanically from one another.

(2) Mixtures of ammonium nitrate with calcium carbonate, or dolomite, or calcium carbonate and dolomite, must be manufactured in such a way that the calcium carbonate or dolomite is incorporated in the prills or granules of the mixture and must be approved, in writing, by the chief inspector of explosives.

(3) Ammonium nitrate emulsions, gels and suspensions intermediate for blasting explosives, listed in SANS 10228 as UN number 3375, must pass test series 8 of the United Nations' *Manual of Tests and Criteria* and be authorised by the chief inspector of explosives.

Danger area

- (3) No person may—
 - (a) enter or exit the danger area through an unauthorised point of entry or exit;
 - (b) enter or exit the danger area without first submitting themselves to a search by the authorised gatekeeper **if so requested**;
 - (c) enter the danger area with—
 - (i) matches, lighters or other devices or articles capable of generating heat, flames or sparks: Provided that authorisation to enter with the articles contemplated in this paragraph may be granted by the explosives manager for specific authorised use;
 - (ii) intoxicating liquor or narcotics or under the influence of these substances;

Danger area

- (iii) any other substance which may have an effect on a person's abilities to function in an explosive area; or tobacco, food, medicine or drinkable fluids: provided that authorisation to enter with such articles may be granted by the explosives manager for purposes of consumption in licensed mess rooms and designated smoking areas: provided further that special rules for the control of such consumption and smoking, approved by the chief inspector of occupational health and safety will be made in writing and will be enforced by the employer, self-employed person or user;
- (iv) radio transmitters or cellular telephones without the authorisation of the explosives manager based on a risk assessment by an approved inspection authority: Provided that such devices will be used in accordance with any conditions or guidelines that may from time to time be issued by the chief inspector of occupational health and safety; or

Danger area

- (4) (d) do anything that will increase the risk or omit to do anything that will decrease the risk attached to work being performed in a danger area
- (5) An employer, self-employed person or user may not erect any buildings in the danger zone without first obtaining written approval from the chief inspector of occupational health and safety and complying with regulation 4(5).
- (5) An employer, self-employed person or user must fence in the danger area in accordance with the South African Police Service's minimum specifications for fencing of explosives magazines (SAPS 412).
- (6) An employer, self-employed person or user must ensure that hazard warning signs are maintained and displayed, **clearly visible**, at the entrance to any danger area, magazine or workplace.

Danger buildings

- (5) An employer, self-employed person or user must ensure that–
 - (a) every danger building is protected against lightning in accordance with **SANS 10313: Protection against lightning – Physical damage to structures and life hazard**;
 - (b) every lightning protection system is examined and tested by a person with sufficient knowledge, training and experience in lightning protection;
 - (c) the examination and testing contemplated in paragraph (b) is carried out before the start of each lightning season at least every 12 months, and the final submission must be done in the month of September/January;
 - (d) the results of every examination and testing contemplated in paragraph (b) are recorded in a register and are made available on the premises for inspection by an inspector;
 - (e) all danger buildings with metal walls or roofs, and all plant and machinery in such buildings, are adequately earthed and bonded in accordance with **SANS 10142: The wiring of premises, Part 1: Low-voltage installations**, and **SANS 10108: The classification of hazardous locations and the selection of apparatus for use in such locations**; and

Safeguarding of explosives workplace

(d) in respect of explosives workplaces–

- (i) there are escape routes;
- (ii) work in confined spaces is done in accordance with regulation 5 of the General Safety Regulations made under the Act and published in Government Notice No. R. 1031 of 30 May 1986;
- (iii) the safety of electrical machinery is as per **SANS 10086-1: *The installation, inspection and maintenance of equipment used in explosive atmospheres, Part 1: Installations including surface installations on mines***;
- (iv) the required lightning protectors are installed and are functional; and
- (v) there is no explosives processing or storage of explosives is allowed in a building that is located directly under overhead power lines;

(e) **all employees within the danger area are conversant with any applicable regulations, special rules and operating instructions and that copies of these are readily available to them; and**

Design, construction and manufacture

9. (1) No employer may use or require or permit the use of any building, installation, room, machine or equipment unless—
- (a) it has been designed and constructed in accordance with health and safety standards incorporated in these regulations in terms of section 44 of the Act;
 - (b) the employer is in possession of a written report with assessed risks, preventative and mitigation measures identified, prepared by an approved inspection authority contemplated in [regulation 18](#); and
 - (c) the employer, self-employed person or user is in possession of a certificate issued by the manufacturer of the machines or equipment, that lists the health and safety standards complied with in the design and construction thereof: provided that such certificate must be countersigned by an approved inspection authority.

Importation of explosives

10. Any person who obtains a permit to import or export explosives in terms of the Explosives Act, 1956, must within seven days of obtaining such permit provide the chief inspector of occupational health and safety with a copy thereof.

Supervision of explosives workplace

12. (1) (a) In order to ensure that the provisions of the Act and these regulations in relation to explosives workplaces are complied with, an employer, self-employed person or user must, subject to this regulation, in writing appoint a competent and certificated person, who is the holder of a valid explosives manager's certificate issued by chief inspector of occupational health and safety, and employed in a permanent and full-time capacity, to be explosives manager in respect of every workplace where explosives are being used, tested, stored or manufactured: Provided that the appointment of an explosives manager will not exempt the employer, self-employed person or user from any liability or responsibility contemplated in section 16 of the Act.

(b) An explosives manager may perform other functions for the employer, provided they do not interfere with the person's obligations as an explosives manager.

Supervision of explosives workplace

- (c) The explosives manager must ensure that any preventative and mitigating measures recommended by the approved inspection authority as contemplated in regulation 9(b) are taken into account in addressing the identified risks.
- (d) In issuing a person with an explosives manager's certificate for any workplace, the chief inspector of occupational health and safety must have regard to the appropriateness of the person's training and experience in the health and safety aspects of explosives for the workplace concerned.

(2) The chief inspector of occupational health and safety may, subject to the conditions that he or she may impose, permit an employer or user to appoint more than one person as explosives manager.

(3) An employer or user must appoint, in a permanent and full-time capacity, one or more persons, who are suitably qualified and experienced, as supervisor(s) to assist

Safe handling of explosives

3. (1) An employer, self-employed person or user must ensure that–
- (a) all explosives or ingredients thereof are at all times free of foreign material **that could create a risk to the health and safety of persons;**
 - (b) all reasonably practicable precautions are taken to prevent the spillage of explosives;
 - (c) cleaning procedures in the case of a spillage of explosives are stipulated in writing by the explosives manager and must require that any unusual spillage of explosives must be reported to the supervisor immediately;
 - (d) all waste, paper, timber, rags, cotton and similar materials that have been in contact with either explosives or an ingredient of an explosive are disposed of in a manner stipulated in writing by the explosives manager: Provided that at the end of the working day all waste and floor sweepings from danger buildings must be deposited in places designated **for this purpose by the explosives manager;**

Safe handling of explosives

- (e) the explosives or partly mixed explosives are conveyed as soon and as carefully as possible and taking such precautions and in such a manner as will effectively guard against any accidental ignition or explosion;
- (f) only containers provided for the conveyance of explosives are used for transporting explosives or partly mixed explosives and that such containers are at all times kept clean, free from grit and in a good state of repair;
- (g) vehicles containing explosives are left unattended only in places designated for this purpose **by the explosives manager**;
- (h) explosives are not exposed to direct rays of the sun or to rain, whether being transported or not, except for preparation on burning grounds or testing; and
- (i) manufactured explosives are removed as soon as is reasonably possible from the process building to an explosives magazine or that they are immediately dispatched.

Safe handling of explosives

- (4) An employer, self-employed person or user must ensure that—
 - (a) explosives are transported and stored together or separately in the explosives workplace in accordance with the compatibility group assignments given in **SANS 10228: *The identification and classification of dangerous goods for transport by road and rail modes***; and
 - (b) for purposes of manufacturing explosives, when explosives can be categorised in more than one group, they are deemed to belong exclusively to the higher risk compatibility group given in **SANS 10228: *The identification and classification of dangerous goods for transport by road and rail modes***.
- (5) No person may—
 - (a) by leaving explosives unattended allow unauthorised access to such explosives; or
 - (b) bury, dump, hide or abandon any explosives.

Safe handling of explosives

(6) No person may use any explosive material for **blasting purposes** unless—

(a) he or she is in possession of—

(i) documentary proof of relevant and **valid registration as a blaster** with the chief inspector of explosives;

(ii) **a valid explosives license** issued by the chief inspector of **occupational health and safety**; and

(iii) **an original, relevant and valid blasting permit** issued by the chief inspector of explosives.

(b) he or she is undergoing training while using such blasting material under the **immediate and constant supervision** of a person who is in possession of the documentation contemplated in paragraph (a); or

(c) he or she informs the chief director of provincial operations not less than 24 hours prior to such use.

Incidents

15. (1) An employer, self-employed person or user must—

(a) in addition to the requirements of [section 24](#) of the Act and any other legal requirements, whenever an incident involving explosives occurs, forthwith inform the explosives manager and by means of telephone, facsimile or any other method of communication the chief inspector of occupational health and safety, and must confirm this report in writing, stating full particulars of the incident within seven days of the incident;

(b) where there was a possibility of risk to the health and safety of persons, whether or not persons or property sustained injury or damage as a result, inform the chief inspector of occupational health and safety in writing every month of incidents involving the accidental ignition or detonation of explosives or a danger of such accidental ignition or detonation.

(c) after an incident revisit the risk assessment for the specific equipment/process/area concerned.

Incidents

(2) When an incident at an explosives workplace causes the immediate death of any person or had the potential to do so, the workplace must not, without the consent of the chief inspector of occupational health and safety, be disturbed or altered before it has been inspected by an inspector.

(3) Subregulation (2) does not apply to the extent that any disturbance or alteration is unavoidable to prevent further incidents, to remove injured persons or to safeguard persons from danger.

Competencies and standards of training

19.(1) The chief inspector of occupational health and safety may, after consultation with the National Explosives Council, from time to time determine, amend or withdraw minimum competency requirements for purposes of these regulations.

(2) Any competency and training relating thereto must be accredited in accordance with the South African Qualifications Authority standards.

Offences and penalties

20. (1) Any person who contravenes or fails to comply with the provisions of [regulation 3](#)(3), 3(4), [4](#)(1), 4(6), 4(7), 4(8), [5](#), [6](#), [7](#), [8](#), [9](#)(1), [10](#), [11](#), [12](#), [13](#), [14](#), [15](#) or [16](#) will be guilty of an offence and liable, on conviction, to a fine not exceeding R8000 or to imprisonment for a period not exceeding 12 months, or both, and, in the case of a continuous offence or failure to comply, to an additional fine of R800 for each day on which the offence continues or to additional imprisonment of one day for each day the offence continues: Provided that the period of such imprisonment will in no case exceed 90 days.

(2) The Minister may, from time to time and by publication in the *Gazette*, amend the amounts of the maximum fines in subregulation (1).

CONTACT DETAILS

MI Mohapi

Isaac.Mohapi@labour.gov.za

Cell: 072 469 3689

www.labour.gov.za

DP Sephodi

Dineo.Sephodi@labour.gov.za

Thank You...



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