

GN. R. 1604
GG3648
8 September 1972

EXPLOSIVES REGULATIONS

[Amended by GN R 474 of 1973-03-30, GN R 2371 of 1973-12-14, GN R 155 of 1977-02-04, GN R 2153 of 1977-10-21, GN R 2135 of 1979-09-21, GN R 2292 of 1979-10-19, GN R 405 of 1981-02-27, GN R 2382 of 1985-10-25, GN R 2674 of 1990-11-16.]

The State President has, under the powers vested in him by section 30 of the Explosives Act, 1956 (Act 26 of 1956), made the regulations set forth hereunder:

COMMENCEMENT

These regulations shall come into operation with effect from the date of publication of this notice and shall be in substitution of the regulations published in Government Notice R. 2131 of 1962, as amended by Government Notices R. 848 of 1965, R. 568 of 1966, R. 753 of 1966 and R. 69 of 1968.

CHAPTER 1 INTERPRETATION OF TERMS

1.1 In these regulations-

Ammonium nitrate blasting agent shall mean an authorised explosive consisting of an intimate mixture of ammonium nitrate and non-explosive component parts;

blasting cartridges shall mean an authorised explosive of any of the classes 1 to 4 when enclosed in any case or contrivance or otherwise adapted or prepared so as to form a cartridge for use in blasting operations;

capped fuse shall mean a length of safety fuse to one end of which a detonator has been attached;

detonator shall mean a capsule or case which is of such strength and construction, and contains an explosive of the fulminate class, with or without the addition of any of the explosives of classes 1 to 4, in such quantity that the explosion of one capsule or case will communicate the explosion to other like capsules or cases. The term "detonator" shall not include a percussion cap;

detonating fuse shall mean a cord-like device used in blasting operations, containing an explosive which will explode at high velocity when suitably initiated by a detonator, such explosion initiating explosion in other lengths of detonating fuse or other explosives in close proximity;

local authority shall mean any Municipal Council, Borough Council, Town Council, Village Management Board, Health Committee, Peri-Urban Areas Board or Divisional Council having jurisdiction over the area;

master of a vessel shall include every person (except a pilot) having command or charge of a ship, boat or vessel;

percussion cap shall mean a capsule or case of metal containing not more than 35 milligrams of explosive of the fifth (fulminate) class, the said explosive being covered

and protected by a coating of tinfoil or other material approved by an inspector and the said capsule or case not containing an anvil: Provided that where the proportion of fulminate of mercury in the composition does not exceed 25 per cent, the above limit may be increased to 40 milligrams Provided further that the whole is of such strength and construction that the ignition of one such cap will not ignite other like caps;

port captain shall mean the officer appointed by the South African Railways and Harbours Administration to take charge of the marine department for the control of a harbour or the officer acting as such for the time being;

private use shall mean the use of explosives by individuals for a casual purpose not connected with any trade or business;

public building shall mean a church, university, college or school, hospital, public institution, town hall, court of justice, covered market, theatre, concert or recreation hall, office building, work shop, sports ground stand and erections of a like nature where persons are accustomed to assemble: Provided that the buildings and erections shall not be regarded as public buildings if they are vacated by order of the Chief Inspector of Explosives during periods specified by him;

safety fuse shall mean a fuse for blasting which burns and does not explode, and which does not contain its own means of ignition, and which is of such strength and construction, and contains an explosive in such quantity that the burning of such fuse will not communicate laterally with other like fuses;

safety manager means a person appointed as such in terms of regulation 2.6.1;

ship shall include every description of vessel used in sea, river or lake navigation irrespective of method of propulsion;

slurry explosive shall mean an authorised explosive consisting of an intimate mixture of ammonium nitrate, water and non-explosive ingredients with or without any nitro-compound;

storage underground shall mean storage in the workings in any mine, but shall not mean storage in any adit, tunnel or excavation, if such adit, tunnel or excavation does not communicate with any existing mine workings;

the Act shall mean the Explosives Act, 1956 (Act 26 of 1956), and any term defined in and for the purposes of the Act, shall bear the same meaning in these regulations as is assigned to it in the Act;

transport by rail shall mean transport over railway lines, whether public or private;

transport by road shall mean transport other than over railway lines, in a vehicle propelled by hand or by animal power, or by mechanical power and also transport by pack animal or carrier;

wharf shall mean a wharf, quay, dock or premises in or upon which any goods, when landed from ships, may be lawfully placed; and

Republic shall mean the Republic of South Africa and the Territory of South West Africa.

CLASSIFICATION OF EXPLOSIVES

1.2 Explosives are divided into eight classes, as follows-.

- Class 1 - Gunpowder class.
- Class 2 - Nitrate mixture class.
- Class 3 - Nitro-compound class.
- Class 4 - Chlorate mixture class.
- Class 5 - Fulminate class.
- Class 6 - Ammunition class.
- Class 7 - Fireworks class.
- Class 8 - Miscellaneous class.

1.3 When an explosive falls within the description of more than one class, it shall be deemed to belong exclusively to the class with the highest number.

CLASS 1 - GUNPOWDER CLASS

1.4 The term "gunpowder" shall include blasting powder and shall mean exclusively gunpowder ordinarily so-called, consisting of an intimate mixture of saltpetre (potassium nitrate), sulphur and charcoal, such saltpetre not containing as an impurity perchlorate of potash in greater quantity than 1 per cent.

CLASS 2 - NITRATE MIXTURE CLASS

1.5 The term "nitrate mixture" shall mean any preparation, other than gunpowder, formed by the mechanical mixture of a nitrate with any form of carbon or with any carbonaceous substance not possessed of explosive properties whether or not the preparation contains sulphur, and whether or not such preparation is mechanically mixed with any other non-explosive substance. The nitrate mixture class shall comprise such explosives as Anflex and explosives containing a perchlorate and not included in Class 3, Class 4 or Class 5.

CLASS 3 - NITRO-COMPOUND CLASS

1.6 The term "nitro-compound" shall mean any chemical compound that has explosive properties, or is capable of combining with metals to form an explosive compound, and which is produced by the chemical action of nitric acid (whether mixed or not with sulphuric acid) or of a nitrate mixed with sulphuric acid upon any carbonaceous substance, whether such compound is mechanically mixed with other substances or not.

The nitro-compound class shall consist of two divisions:

Division 1 shall comprise such explosives as dynamite, blasting gelatine, cordite, dynagel, gelignite, monobel, ajax, saxonite, freflo, and any chemical compound or mechanically mixed preparation that consists either wholly or partly of nitroglycerine, or of some other liquid nitrocompound.

Division 2 shall comprise such explosives as gun-cotton, nitro-cotton picrates, picric acid, trinitrotoluene, slurry explosives such as Sinex and any nitro-compound that is not included in Division 1.

CLASS 4 - CHLORATE MIXTURE CLASS

1.7 The term "chlorate mixture" shall mean any explosive containing a chlorate.

The chlorate mixture class shall consist of two divisions:

Division 1 shall comprise any chlorate preparation which consists partly of nitroglycerine or of some other liquid nitro-compound.

Division 2 shall comprise any chlorate mixture that is not included in Division 1.

CLASS 5 - FULMINATE CLASS

1.8 The term "fulminate" shall mean any chemical compound or mechanical mixture, whether included in the foregoing classes or not, that by reason of its great susceptibility to detonation is suitable for employment in percussion caps or any other appliance for developing detonation, or that by reason of its extreme sensitiveness to explosion and its great instability (that is to say readiness to undergo decomposition from very slight exciting causes) is especially dangerous.

The fulminate class shall consist of two divisions:

Division 1 shall comprise such compounds as the fulminates of silver and mercury, and preparations of these substances; any preparations consisting of a chlorate with phosphorus or certain descriptions of phosphorus compounds, with or without the addition of carbonaceous matter; and any preparation consisting of a chlorate mixed with sulphur or with sulphide, with or without carbonaceous matter.

Division 2 shall comprise such substances as the chloride and the iodide of nitrogen, fulminating gold and silver, lead azide and lead styphnate.

CLASS 6 - AMMUNITION CLASS

1.9 The term "ammunition" shall mean an explosive of any class when enclosed in any case or contrivance or otherwise adapted or prepared so as to form a cartridge or charge for small arms, cannon, or any other weapon, or for blasting, or to form any safety or other fuse for blasting or for shells or to form any tube for firing explosives or to form a percussion cap, a detonator, a shell, a torpedo, a war rocket, a railway detonator (fog signal) or other contrivance other than a firework. The ammunition class shall contain three divisions:

Division 1 shall comprise exclusively safety cartridges, safety fuses for blasting, railway detonators (fog signals) and percussion caps.

Division 2 shall comprise any ammunition that does not contain its own means of ignition, such as cartridges and charges for cannon, shell, mines, or other like purpose, electric fuses, electric primers, fuse lighters, instantaneous fuse and war rockets, if such rockets do not contain their own means of ignition.

Division 3 shall comprise any ammunition that contains its own means of ignition, and is not included in Division 1, such as detonators, percussion caps not included in Division 1, friction tubes, percussion primers, fuses for shell (such as time and percussion fuses), if such fuses contain their own means of ignition.

Note - Ammunition containing its own means of ignition shall mean ammunition that has an arrangement, whether attached to it or forming part of it, that is adapted to explode or fire it by friction or percussion.

CLASS 7 - FIREWORKS CLASS

1.10 The term "firework" shall comprise firework composition and manufactured fireworks.

The fireworks shall consist of two divisions:

Division 1 shall comprise firework composition, which term shall mean any chemical compound or mechanically mixed preparation of an explosive or inflammable nature that is used for the purpose of making manufactured fireworks and is not included in any other class of explosive, and also any star and any coloured fire composition that is not included in Division 2.

Division 2 shall comprise manufactured fireworks, which term shall mean an explosive of any class and any firework composition, when such explosive or composition is enclosed in any case or contrivance, or is otherwise manufactured or adapted for the production of pyrotechnic effects or pyrotechnic signals or sound signals, such as flights of rockets, mines, rockets, serpents, shells, rocket distress signals, Very's signals, wheels and coloured fire compositions when such compositions are of a nature not liable to spontaneous combustion, and in a quantity not exceeding 500 grams enclosed in a substantially constructed, hermetically closed metal case.

Note - Manufactured fireworks that are not liable to explode violently and which do not contain their own means of ignition shall be classed as "Shop Goods", such as firework showers, flashlight powders, fountains, golden rain, gerbs, lawn lights, pin wheels, devil-among-tailors, Roman candies, sparklers, toy caps, volcanoes, Chinese crackers when the length does not exceed 80 millimetres and the diameter 15 millimetres, and mines, Jack-in-the-boxes and Feu de Joie, not exceeding 500 grams gross mass and rockets not exceeding 120 grams.

CLASS 8 - MISCELLANEOUS

1.11 This class shall comprise miscellaneous materials not included in any of the other classes, which have been declared explosives, e.g. matches, Bengal matches, chlorates, ammonium nitrate.

CATEGORIES OF EXPLOSIVES

1.12 For the purpose of Safety Distances in connection with the issue of licences for factories and magazines, all authorised explosives shall be categorised either X, Y, Z or ZZ. These categories shall be defined as follows:

Category X- Explosives having fire or slight explosion risk or both, with only local effect.

Category Y - Explosives having mass fire risk, or moderate explosion risk, but not mass explosion risk.

Category Z - Explosives having mass explosion risk with serious missile effect.

Category ZZ - Explosives having mass explosion risk with minor missile effect.

CHAPTER 2 MANUFACTURE OF EXPLOSIVES IN EXPLOSIVES FACTORIES

- 2.1 An explosives factory may be established, erected and maintained only in accordance with the provisions of the Act.
- 2.2.1 Any person who desires to erect or carry on a factory for the manufacture of explosives shall make application, in writing, to the Chief Inspector of Explosives, attaching to such application a draft license together with diagrams and plans of the proposed factory, drawn to the scales prescribed in this regulation and the application shall set forth-
- (a) The situation and extent or area of the land on which it is proposed to erect the factory, together with the area of surrounding land which it is proposed to leave free of buildings;
 - (b) The several distances which it is proposed to maintain between the several danger buildings respectively, and between those danger buildings and other buildings or works used in connection with the factory.
 - (c) the building materials to be used in, and the mode of construction of, all danger buildings and works to be used on or in or in connection with the factory;
 - (d) the nature of the processes of manufacture to be used in the factory, the place at which each process of manufacture and each description of work is intended to be carried on in the factory, and the places on or in which it is proposed to keep in store any ingredients of explosives or other articles which are liable to spontaneous ignition or combustion or which are otherwise dangerous;
 - (e) the quantity of explosives or of any partly or wholly mixed ingredients thereof which it is proposed to use simultaneously in or near any building or machine;
 - (f) the maximum number of persons which it is proposed to employ in each danger building in the factory; and
 - (g) any further particulars which the Inspector of Explosives may require, having regard to any special circumstances arising from the locality or construction of any building or works or to the nature of any process to be carried on therein.
- 2.2.2 The plans required in terms of regulation 2.2.1 shall be drawn to the following scales:
- (a) Site plan - one to 1 000;
 - (b) plans for buildings and mounds - one to 50; and
 - (c) plans of machinery - one to 10.
- 2.3 The following table of distances shall form the basis on which applications for permission to establish explosives factories will be considered:

TABLE OF SAFETY DISTANCES
(All distances are in metres)

Nett explosives Quantity (kilograms)	To magazines			To and between process buildings			To main offices and workshops		
	Mounded or unounded		Mounded	Mounded or unounded		Mounded	Mounded or unounded		
	Category		Category	Category		Category	Category		Category
	X	Y	Z or ZZ	X	Y	Z or ZZ	X	Y	Z or ZZ
50	9	9	9	9	10	18	15	23	24
75	9	9	10	9	13	20	17	26	28
100	9	9	11	9	15	22	18	30	32
200	9	9	14	9	18	27	22	37	50
300	9	10	16	9	21	30	25	42	68
400	9	11	18	9	23	33	29	47	82
500	9	13	19	9	25	36	31	50	94
600	9	13	20	9	27	40	32	53	106
700	9	13	21	9	28	44	33	56	117
800	9	14	22	9	29	48	34	58	130
900	9	14	23	9	31	53	35	62	140
1000	9	14	24	10	32	56	36	63	150
1200	10	15	25	13	34	63	37	68	170
1500	11	15	27	16	36	72	38	72	190
2000	12	17	30	19	40	85	40	80	230
2500	13	18	32	21	43	96	42	86	260
3000	14	19	35	22	46	106	43	91	280
5000	17	21	40	25	54	135	46	108	360
10000	21	28	50	27	68	175	50	136	470
20000	25	37	65	27	85	225	55	170	600
40000	27	50	80	27	110	285	60	220	760
80000	27	65	100	27	135	360	65	270	950
150000	27	90	125	27	170	440	70	340	1180
250000	27	105	150	27	200	520	70	400	1400

- 2.4 The terms of the license issued for an explosives factory shall be duly observed, and the manufacture or keeping, or any process in or work connected with the manufacture or keeping of explosives shall not be carried on except in accordance with those terms.
- 2.5 No part of an explosives factory shall be used for any purpose not authorised by the license.
- 2.6.1 The occupier of an explosives factory shall appoint in writing a full-time employee, who shall be responsible for the management and control of the factory, as safety manager in order to assist the occupier in the performance of any duty imposed on him by or under the Act.
- 2.6.2 The appointment of a safety manager shall not exempt the occupier from any duty referred to in regulation 2.6.1.
- 2.7 The occupier of an explosives factory shall-
 - (a) make a copy of the Act and of the regulations contained in Chapter 2 available for perusal by persons in his employ;
 - (b) take all reasonable steps to ensure that the provisions of the Act and of these regulations are observed by every person in his employ who performs any work in the danger area, as referred to in regulation 2.8.1;

- (c) in the interest of safety, enforce discipline in the danger area;
- (d) ensure that work in the danger area is performed under the general supervision of a person who has the knowledge and experience necessary to assess the hazards associated with the performance of such work;
- (e) cause all employees to be instructed regarding the scope of their authority;
- (f) establish, as far as is reasonable, what dangers to the safety of persons may arise from the performance of any work, or the processing, use, handling storing or transport of any article or the use of any machinery in the danger area and, further, what precautionary measures must be taken with respect to such work, article or machinery in order to promote the safety of persons;
- (g) provide the necessary means in respect of the precautionary measures referred to in paragraph (f);
- (h) take such steps as may be necessary to remove any danger or potential danger to the safety of persons as far as is practicable;
- (i) as far as is reasonable, cause every employee to be made fully conversant with the dangers to his safety attached to any work he has to perform, any article he has to process, use, handle, store or transport and any machinery he is required or permitted to use, and also with the precautionary measures which are to be taken and observed with respect to those dangers; and
- (j) as far as is reasonable, not permit any employee to do any work or to process, use, handle, store or transport any article or to operate any machinery unless the precautionary measures introduced in terms of paragraphs (f) and (h) or any precautionary measures as may be prescribed, are complied with.

2.8.1 In every explosives factory the explosives manufacturing and storage sections and so much of the land surrounding them as may be shown on the official factory site plan shall be fenced in and shall be known as the "danger area" of the factory. Entrance into a danger area shall be made only through a gate stipulated by the safety manager and any person entering shall submit to being searched by a person authorised thereto by the safety manager. A register shall be kept of every person entering or leaving a danger area together with the time he enters and the time he leaves.

2.8.2 In every explosives factory the provisions of the regulations dealing with machinery made under the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983), shall apply mutatis mutandis. Any reference in the said regulations to a "Chief Inspector" and an "Inspector" shall for the purposes of this regulation be deemed to refer to an inspector as defined in section 1 of the Act.

2.9.1 Every person who is employed in or about a danger area or who enters a danger area for any reason whatsoever shall take all due precautions for the prevention of accidents and shall abstain from any act whatsoever which tends to cause fire or explosion, and is not reasonably necessary for the purpose of the work in the factory.

2.9.2 Every employee shall carry out a lawful order given to him and shall obey the rules and procedures prescribed or introduced by his employer, the safety manager or any other person authorised thereto by the employer or safety manager.

- 2.9.3 Every employee shall, where a potentially unsafe situation at or near his workplace comes to his attention, immediately report such situation to a supervising official.
- 2.10.1 Only persons or vehicles authorised thereto by the safety manager shall be permitted to enter any danger area.
- 2.10.2 No person shall take or attempt to take intoxicating liquor or narcotics into or through any danger area unless he is authorised thereto in writing by the safety manager. No person shall when under the influence of intoxicating liquor or a narcotic enter or be in such danger area. Any person who has entered a danger area or been found there in a state of intoxication shall be arrested immediately by the safety manager or any other person authorised thereto by him and be handed over to the South African Police.
- 2.10.3 No person shall take, or attempt to take, tobacco, in whatever form, matches, cigarette lighters or any means of producing a naked flame into or through any danger area, or smoke in a danger area, except under such conditions as determined by the occupier.
- 2.10.4 Every person entering a danger area shall make certain by searching himself that he has about him no articles prohibited in terms of the regulations and the security guard or other person authorised by the safety manager shall also question such person as to such articles.
- 2.10.5 No food, medicine or drinkable fluids shall be taken into or consumed within a danger area, except in the recognised messrooms or other places designated by the safety manager: Provided that water may be consumed under safe and uncontaminated circumstances.
- 2.10.6 Any person entering or leaving the danger area through the normal points of entry or exit designated by the safety manager shall ensure that the gatekeeper, security guard or other person authorised by the safety manager has identified him, and any person entering, leaving or found in the danger area shall submit to being searched by the gatekeeper, security guard or other person authorised thereto by the safety manager.
- 2.10.7 No person may enter or leave a danger area at any point other than the normal points of entry or exit, unless he has obtained special permission therefor from the safety manager or a supervising official appointed by him, and in such case the person shall immediately advise the gatekeeper, security guard or other person authorised thereto by the safety manager, at a designated point of control, of his entry to or exit from the danger area.
- 2.11.1 Every building in which explosives may, under the terms of the license, be manufactured or kept, shall be used only for such purposes as are provided for in the license and for the keeping of approved receptacles, tools or implements necessary for such purpose.
- 2.11.2 All buildings shall be maintained in good order and the interior of every building in which any, manufacturing process is carried on or which may, at any stage of the process of manufacture, contain explosives or any ingredients thereof, either mixed or partially mixed, including the benches, shelves and fittings in such buildings, shall, so far as is reasonably practicable, be kept clean and free of grit.

- 2.11.3 Buildings used in connection with the manufacture of explosives but in which no material of an explosive nature is made, used or kept, shall not be deemed to be danger buildings and the relative schedules of the license distinguishing such buildings from danger buildings shall be deemed to be a certificate to this effect.
- 2.11.4 Every danger building shall be protected against lightning in accordance with the SABS code of practice, unless exempted, in writing, by an inspector, and all danger buildings having metal walls or roofs, including all plants and machines in such buildings, shall be efficiently earthed.
- 2.11.5 No charcoal, whether ground or otherwise, oiled or oily cotton rags or cotton waste, or any article whatsoever liable to spontaneous ignition shall be taken into any danger building except for the purpose of immediate supply and work, or for immediate use in such building, and upon the cessation of such work or use it shall be removed forthwith.
- 2.11.6 Before repairs are done to or in any danger building such building shall, so far as is practicable, be cleaned by the removal of all explosives and ingredients thereof, whether mixed or otherwise, and, if necessary, by the thorough washing out of the building or part of the building to or in which repairs are required. After the building has so been cleaned it shall not be deemed to be a danger building for the purpose of the Act and these regulations until explosives or the ingredients thereof are again taken into it.
- 2.11.7 The official number of the building shall be kept constantly affixed on the outer wall of every building within the danger area and near the main door thereof. Inside every danger building there shall be constantly affixed, in a conspicuous position, where it can be easily read, an extract from the factory license that refers to the building, which indicates the quantities of explosives or ingredients thereof allowed to be in the building, the operations that may be carried on therein and the number of persons allowed to be in the building. A copy of these regulations and of the instructions relating to the operations in the building approved by the safety manager and issued in terms of regulation 2.11.16 shall be kept readily available inside each danger building. Such regulations, extract from the factory license and instructions and any other requirements shall be printed or typed in English and Afrikaans.
- 2.11.8 Any person entering the danger area shall be issued with and shall wear such protective clothing as determined by the safety manager.
- 2.11.9 Any vehicle or receptacle in which explosives, or the partly mixed ingredients thereof, are conveyed, shall contain only such explosives and ingredients, and shall be closed or otherwise properly covered. The explosives and ingredients shall be conveyed as quickly and carefully as possible and with such precaution and in such manner as will effectively guard against any accidental ignition or explosion.
- 2.11.10 No person under the age of 18 years shall be employed in or enter any danger building, except in the presence and under the supervision of a person over the age of 21 years.
- 2.11.11 No person shall be employed in any danger building unless there is a competent, properly trained person, capable of speaking English or Afrikaans fluently, in charge.
- 2.11.12 Every ingredient that is manufactured into explosives that either by itself possesses explosive properties or which when mixed with any other ingredient or object also present in any danger building is capable of forming an explosive mixture or an explosive compound shall be removed as quickly and carefully as possible from such

building as soon as the authorised process connected with those ingredients that is carried on in such building is completed, and all finished explosives shall be removed as quickly and carefully as possible to a factory magazine or dispatched immediately from the factory, and such explosives and ingredients shall be loaded or unloaded as quickly and carefully as possible.

2.11.13 When the presence of foreign matter in the explosives or any ingredient thereof constitutes a danger, all ingredients to be made or mixed into explosives shall, before being so made or mixed, be carefully examined, sifted or otherwise treated for the purpose of removing therefrom or excluding, so far as practicable, all such dangerous foreign matter.

2.11.14 If, in the opinion of the safety manager, or a supervising official appointed by him, the approach or development of a thunderstorm in the vicinity of the factory constitutes a danger, the danger buildings shall be closed and every person engaged in or about them shall be withdrawn.

Where an operation is in progress the stopping of which would constitute a danger, the operation shall be continued, to the point at which it can be suspended with safety and no such operation shall be recommenced while the thunderstorm, in the opinion of the safety manager or a supervising official appointed by him, continues to constitute a danger.

2.11.15 As much of the land around a danger building as may be necessary to minimise the risk of veld fires shall be kept clear of grass and other vegetation.

2.11.16 The safety manager shall approve, in writing, the methods, materials, equipment and tools to be used in each of the manufacturing operations.

2.11.17 Supervising officials shall ensure that all operators under their control are acquainted with these regulations and the applicable operating instructions and any other requirements laid down by the occupier.

2.11.18 Visitors to a danger area who are not acquainted with the routes within the danger area shall be escorted while in the danger area by a guard or other factory official detailed for this purpose.

2.11.19 All employees shall proceed to and from their places of work by the most direct authorised route.

2.11.20 No person may visit or remain at any danger building or any place in a danger area, except in the normal course of his duties.

2.11.21 Every person in a danger area shall at all times behave in an orderly manner.

2.11.22 The speed of any vehicle in a danger area shall not exceed 35 km/h. Vehicles conveying explosives shall at all times have the right of way over all other vehicular traffic. Pedestrians using roads in the danger area shall as far as practicable walk facing the oncoming traffic.

2.11.23 A manually propelled vehicle, whether or not it contains explosives, shall not be moved faster than at a walking pace. A manually propelled vehicle shall not be released until it has first been brought to a stop. Unauthorised interference with the brakes of such

- vehicles is prohibited. Vehicles containing explosives shall not be left unattended except at designated places.
- 2.11.24 Only containers specially provided for the conveyance of explosives shall be used for the transporting of explosives and such containers shall at all times be kept clean, free from grit and in a good state of repair.
- 2.11.25 Explosives or materials contaminated with explosives or containers which house explosives or which are contaminated with explosives shall not be taken into a building which is not licenced to contain explosives.
- 2.11.26 Containers of explosives shall be handled in the approved manner only.
- 2.11.27 Movable objects in a danger building or objects contaminated with explosives shall be handled in the approved manner only.
- 2.11.28 Under no circumstances may explosives be exposed to the direct rays of the sun or direct to rain, and shall be properly covered during transport.
- 2.11.29 The conditions as laid down in the license of a danger building shall be observed.
- 2.11.30 All trainee operators in danger buildings shall wear a red arm band until their training period is completed.
- 2.11.31 Notwithstanding authorised license limits, it shall be accepted as a firm practice that whenever the quantity of explosives or the number of operators can be reduced this shall be done.
- 2.11.32 Every person in a danger area shall perform his work in a careful and regular manner and shall avoid any act involving shock, friction or the slightest risk of fire and explosion. Any operation which appears to require the exertion of unusual force shall be suspended at once and the matter reported to a supervising official. All tools equipment and movable objects shall be handled with the greatest care and shall not be thrown down or allowed to fall.
- 2.11.33 In the event of any mishap occurring, abnormal conditions being discovered or any unusual occurrence taking place, operations shall be stopped immediately, except where this is not possible owing to the nature of the process, in which case immediate action shall be taken in accordance with the relevant procedures laid down and a report shall be made to a supervising official as soon as possible. No further action shall be taken until instructions have been received, except that in an emergency immediate action shall be taken by the operator on the spot in accordance with prescribed procedures in order to render conditions safe and a report shall be made as soon as possible to a supervising official.
- 2.11.34 An operator shall report without delay if any plant or equipment under his control requires attention.
- 2.11.35 All plant and equipment and the environs of danger buildings shall be kept clean. The sweepings and waste from danger buildings shall be dealt with according to prescribed procedures.

- 2.11.36 The operator in charge of a danger building shall at all times be in a position to exercise control of the operations in the danger building. When operations are terminated the operator in charge shall ensure that the building and equipment are clean. He shall then lock up the building and deposit the keys at the designated place.
- 2.11.37 All the doors of a danger building shall remain unlocked and unbolted while operations are in progress. Doors shall not be allowed to slam. A clear passage shall be kept to all entrances and exits at all times.
- 2.11.38 No metal or glass article or anything likely to cause a fire or explosion may be taken into danger buildings by operators, except objects authorised for manufacturing, maintenance or construction purposes.
- 2.11.39 All reasonable precautions shall be taken to prevent foreign materials such as, grit, stones and nails from finding their way into danger buildings or explosives. Should any foreign material be found in explosives or in the ingredients, operations shall be stopped and the matter shall be reported at once to a supervising official.
- 2.11.40 Only those tools, equipment or movable articles entered on the loose article list authorised by the safety manager that is posted up in a danger building may be used in the danger building while explosives are present, unless otherwise authorised by the safety manager. Such tools, equipment and articles shall not be removed from the building without authority and when not in use they shall be kept in their appointed places in the building. No such articles may be used unless they are in a good state of repair.
- 2.11.41 All reasonable precautions shall be taken to prevent the spillage of explosives from equipment, handling equipment or containers. The spillage of explosives for which cleaning procedures have been laid down in the special rules for the particular danger building shall be dealt with in the appropriate manner by the operator in charge. Any unusual spillage of explosives for which no cleaning procedures have been laid down in the special rules shall be reported immediately by the operator to the supervising official, who shall then deal with the spillage in the appropriate manner.
- 2.11.42 Flexible bonding (earthing) straps shall be inspected by the operator in charge of a danger building before operations are allowed to commence.
- 2.11.43 No danger building may be operated unless the atmospheric temperature and relative humidity inside the building and the temperature of the explosives in the building are within the prescribed limits.
- 2.11.44 In the event of a dangerous gas escaping or being emitted, all persons shall immediately leave the building and/or evacuate the area and shall inform the supervising official, who shall handle the situation in accordance with prescribed procedures.
- 2.11.45 Any person who has inhaled, or thinks that he might have inhaled, fumes of oxides of nitrogen or any other poisonous gas shall report the matter to the supervising official without delay and such person shall subject himself to an examination by a medical practitioner and to such treatment as he may prescribe. The supervisor concerned shall ensure that a person who has inhaled or might have inhaled or has been exposed to conditions under which he might have inhaled fumes of oxides of nitrogen or any other poisonous gas is treated as a stretcher case and is examined by a medical practitioner without delay.

- 2.11.46 No material, plant, equipment, tools, product or explosive may be removed from danger areas unless it is accompanied by a permit issued by a supervising official, authorised by the safety manager. All operators shall search themselves before leaving their building to ensure that explosive material is not inadvertently carried out of the building.
- 2.11.47 All explosive waste paper, timber, rags, cotton, waste and similar materials, which have been in contact with explosives, shall be disposed of in the authorised manner. At the end of the day the operator in charge shall ensure that all waste and floor sweepings from danger buildings are deposited in the designated place.
- 2.11.48 All material which is sent to factory workshops outside a danger area for repair shall be accompanied by a permit signed by a person authorised by the safety manager. This permit shall clearly certify that the material has not been in contact with explosives or that it has been decontaminated in the approved manner. The permit shall not be destroyed before the repair has been completed and the material returned to the danger area.
- 2.11.49 All fire fighting appliances and emergency equipment provided throughout the danger area shall be so placed and kept that they are readily visible and accessible for use when required. Such appliances shall not be used for any purpose other than fire fighting, an emergency, training or testing. Any person who has used a fire fighting appliance or emergency equipment shall report the fact, in writing, to a supervising official.
- 2.11.50 Whenever a factory closes down for an indefinite period, or permanently, the occupier or safety manager shall give at least three months' notice of such intention to the Chief Inspector of Explosives and shall render a return of all explosives and ingredients thereof in the factory. Such explosives and ingredients shall be disposed of in a manner to be approved by an inspector.
- 2.11.51 Except with the permission in writing of an inspector, no explosives shall be kept on the premises of a factory which has closed down.
- 2.12 Explosives, the manufacture of which is not provided for in this Chapter, shall be manufactured only at such place and in such manner as may be prescribed, in writing, by an inspector.
- 2.13 The Chief Inspector of Explosives may, at his discretion, give written exemption from the provisions of this Chapter and may prescribe, in writing, such additional conditions as he may deem necessary.

PENALTY

- 2.14 Any person who by any act or omission commits a breach of any of the regulations under this chapter, shall be guilty of an offense and liable on conviction to a fine not exceeding six hundred rand (R600) or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment.

CHAPTER 3 PACKING AND MARKING OF EXPLOSIVES

- 3.1 In this Chapter-

outer package shall mean a box, bag, barrel, case or cylinder of wood, metal, fibreboard, or other solid material of such strength, construction and character that it will not be broken or accidentally opened, nor become defective or insecure whilst being conveyed and will not allow any explosives to escape;

inner package shall mean a substantial case, bag, canister or other receptacle, made and closed so as to prevent any explosives from escaping;

propellant shall mean an authorised explosive of Class 3 adapted and intended exclusively for use as a propelling charge in cannon, small arms or rockets; and

special authority shall mean a written authority granted by the Chief Inspector of Explosives to which may be attached such conditions as may in his opinion be necessary to meet the special requirements of the case.

- 3.2 The interior of every package shall be free from grit and otherwise clean.
- 3.3 Save as hereinafter provided there shall not be any iron or steel in the construction of any package unless the same is covered with suitable material so as effectually to prevent the exposure of such iron or steel: Provided that this Regulation shall not apply to the package of explosives comprised in Division 1 of Class 6 and in Division 2 of Class 7.
- 3.4.1 Every package when actually used for the packing of one explosive shall not be used for the packing of any other explosive or of any other article or substance.
- 3.4.2 A package, whether "inner" or "outer", that has once been used for the packing of explosives shall not again be used for any other purpose except with the written permission of the Chief Inspector of Explosives.
- 3.5 Subject to the preceding regulations of this Chapter, the following shall be the method of packing authorised explosives of the various classes respectively, and the maximum amounts that may be in any one package:

Class of explosives	Method of packing	Gross mass or number	Amount in any one inner package
Class 1	In an inner as well as an outer package except where the mass of explosives to be conveyed is not more than 3 kg when an inner package is not necessary	30 kg	25 kg
Class 2	As for Class 1	30 kg	25 kg
Class 3, Division 1, other than propellants and nitroglycerine	As for Class 1	30 kg	25 kg
Class 3, Division 1, propellants	As for Class 1	60 kg	50 kg
Class 3, Division 1, nitroglycerine	Shall be packed in accordance with conditions set forth in a special authority	-	-
Class 3, Division 2, other than-			
(a) Nitrocellulose	As for Class 1	30 kg	25 kg
(b) cyclotrimethylenetrinitramine (R.D.X.)	As for Class 1	30 kg	25 kg
(c) pentacrythritoltetranitrate (P.E.T.N.)	As for Class 1	30 kg	25 kg
(d) nitroresorcinol (styphnic acid)	As for Class 1	30 kg	25 kg
Class 3, Division 2, nitrocellulose	In an inner as well as an outer package, the explosive being so wetted with water or alcohol that there is not less than 1 kilogram water to 4 kilograms dry material or 1 kilogram alcohol to 3 kilograms dry material, the inner or outer packages being of such a nature and so closed as to prevent any material loss of water or alcohol during	250 kg	-

	conveyance		
Class 3, Division 2, cyclotrimethylenetrinitramine (R.D.X.) pentaerythritoltetranitrate (P.E.T.N.) nitroresorcinol (styphnic acid)	In an inner as well as an outer package, the explosive being so wetted with water that there is not less than 1 kilogram water to 3 kilograms dry material, the inner and outer packages being of such a nature and so closed as to prevent any material loss of water	30 kg	25 kg
Class 4, Division 1	As for Class 3, Division 1, other than propellants and nitroglycerine	30 kg	5 kg
Class 4, Division 2	As for Class 3, Division 1, other than propellants and nitroglycerine	30 kg	25 kg
Class 5, Division 1	The explosive shall be packed wet containing not less than 1 kilogram water to 3 kilograms dry material and shall, in this condition be, enclosed in a treble package; the innermost package containing the wet explosive shall be a bag of heavy cotton cloth or other suitable material of close mesh but permeable to water; the intermediate package shall contain all the individual packages and sufficient water to keep the explosive in them constantly wet, and may, consistent with the security of the whole package, be in the form of a rubber bag, or of a case, or of such special lining to the outer packages as will efficiently attain this object, and it must itself be constantly surrounded by or saturated with water; the outer package shall be of such construction and material as will not allow water to escape	100 kg	10 kg
Class 5, Division 2	Shall be packed in accordance with the conditions set forth in a special authority	-	-
Class 6, Division 1	In an outer package so that the point of any bullet cannot come into contact with the cap of any cartridge; Regulation 3.3 of this Chapter shall not apply to explosives of this Division	Unlimited	-
Class 6, Division 2	Explosives made into cartridges or charges for cannon, shells, torpedoes, mines, blasting or other like purposes shall be packed in such manner and in such quantity as is required for the same explosive when not so made up; where a double package is required the enclosing case of such cartridges or charges may, if it satisfies the conditions required for the inner package, be held to be such inner package	-	-
	Other ammunition of this Division may be packed in a single outer package	60 kg	-
Class 6, Division 3, other than detonators, electric detonators, delay action electric detonators and capped fuses	In an inner as well as an outer package	25 kg	1 kg or 10 in number whichever may be the greater
Class 6, Division 3, detonators	(a) Not exceeding 2 000 - In an inner as well as an outer package; if the inner package is of metal or other solid material, it shall be lined throughout with paper or other soft material and a layer of felt or other soft yielding material shall be replaced on top of and underneath the detonators and so secured that both ends of the detonators shall at all times be resting on and be covered by the said layer; the detonators shall fit snugly in the inner package and the detonators and all space in the inner package shall be filled so far as practicable with fine sawdust or other similar material, and the package shall be closed securely against leakage of the contents; the inner packages shall be placed inside a substantial case of wood, metal or other approved material so made and closed as to prevent any of the inner packages from escaping therefrom and such case shall be placed inside the outer package in such manner and so secured as to leave a space of not less than 15 millimetres between the case and every part of the interior of the outer package and the said space shall either be kept clear with a light framework or battens of wood to keep the said case in position in the outer package or may be filled with sawdust, straw or other approved material	2 000	200
	(b) Exceeding 2 000 - As for (a) except that the space between the case and the outer package shall be not less than 25 millimetres and when the number of detonators therein exceeds 5 000, the outer package shall be provided with handles or other suitable contrivance by means of which it can safely and conveniently be carried	10 000	100
Class 6, Division 3, electric detonators, delay action electric detonators	In an inner and an outer package	1 500	100
Class 6, Division 3, capped fuses	In an outer package; the capped fuses shall be packed in bundles of not more than 25 capped fuses	1 000	-
Class 7, Division 1	In an inner as well as an outer package, the inner package being hermetically closed	10 kg	500 grams
Class 7, Division 2	In an inner as well as an outer package; Regulation 3.3 of this Chapter shall not apply to explosives of this Division	30 kg	-
Class 8	Shall be packed in accordance with the conditions set forth in a special authority	-	-

3.6 Nothing, in these regulations shall be deemed to prohibit the use of an additional package, whether inner or outer, unless such additional package is of a character prohibited, in writing by an inspector.

3.7 An explosive which is not an authorised explosive shall be packed and marked in such manner as may be directed by a special authority with reference to such an explosive.

MARKING OF PACKAGES

- 3.8.1 Subject to the provisions of this regulation on every outer package containing explosives there shall be affixed in conspicuous characters by means of a brand, or securely attached label, or other mark, the word "Explosive" or the word "Ontploffbaar", and the name of the explosive, the number of the class and division to which it belongs, the number of the transport group to which it belongs and the name of the manufacturer or sender.
- 3.8.2 In the case of explosives of Classes 2, 3 and 4 there shall be added the date of manufacture and the date of issue from the factory or such sign indicating such date as may be approved by the Chief Inspector of Explosives.
- 3.8.3 In the case of cartridges or other charges for ordnance, shells, mines, blasting, or other like purpose, that do not contain their own means of ignition, the marking shall be as for the explosive when not so made up.
- 3.8.4 In the case of explosives of Class 6, Division 1, there shall be the added words "Not liable to explode in bulk" or "Nie onderhewig aan massaontploffing nie".
- 3.8.5 In the case of blasting materials, in addition to other markings required, the name and address of the purchaser or consignee shall be marked clearly on the outer package, before dispatch or handing over to the purchaser.
- 3.8.6 In the case of fireworks, in addition to the markings prescribed in these regulations, each firework, before importation, shall bear conspicuously the name and address of the importer, as stated on the import permit covering the consignment, except fireworks weighing less than 4 grams each and fireworks of the kinds known as aluminium or magnesium torches (sparklers) and jumping crackers, which shall bear the name and address of the importer conspicuously on every container in which they are imported, including both the containers in which they are to be, sold to the public and the containers for consignment in bulk: Provided always that when the fireworks, after importation, are to be consigned directly to a licensed explosives factory, the marking of the name and address of the importer on the fireworks or the containers may be effected, under conditions approved by an inspector, in the factory before dispatch to the dealers or the public.
- 3.9 The Chief Inspector of Explosives may, at his discretion, give written exemption from any of the foregoing regulations and may prescribe, in writing, such additional conditions as he may deem necessary.

PENALTY

- 3.10 Any person who by any act or omission commits a breach of any of the regulations under this Chapter, shall be guilty of an offense and liable on conviction to a fine not exceeding R100 or to imprisonment for a period not exceeding three months or to both such fine and such imprisonment.

CHAPTER 4 IMPORTATION AND EXPORTATION OF EXPLOSIVES

- 4.1 Except with the written permission of the Chief Inspector of Explosives no explosive other than an authorised explosive shall be imported into the Republic of South Africa.

- 4.2 No explosive shall be imported, whether for use in the Republic of South Africa or for transit through any part of the Republic, except under and in accordance with the conditions of a permit issued by an inspector or on the express authority of an inspector and such explosive shall be of good quality and shall be packed add marked or labelled in accordance with these regulations.
- 4.3 Applications for permits to import or export explosives shall be made to the Chief Inspector of Explosives and, in each instance, the explosives in respect of which application is made, shall not be dispatched or shipped from the supplier until authority has been granted.
- 4.4.1 Applications for import permits shall give-
- (a) the name in full and address of the applicant;
 - (b) the name, exact description and quantity of the explosive to be imported;
 - (c) the country from which the explosive is to be imported;
 - (d) the name and address of the manufacturer of the explosive;
 - (e) the address of the licensed magazine or store in which the explosive is to be stored on arrival;
 - (f) the purpose for which the explosive is to be used in the Republic; and
 - (g) a declaration that the supplier has been advised of the packing and marking requirements in the Republic for the explosives to be imported.
- 4.4.2 The information called for in regulation 4.4.1 shall be submitted in the form of two copies of the pro forma indent, indent, or similar document. In the case of a registered company, the indents must be submitted under cover of a letter reflecting the name, registered address and names of the directors of the company. In the case of a syndicate and a partnership, the full names of all the partners shall be given and the name or style of the partnership.
- 4.4.3 As soon as practicable after dispatch of the explosives, but not less than seven days before the expected arrival of the explosive in the Republic, the importer or his agent shall advise the Chief Inspector of Explosives of the date of the expected arrival of the explosive, the place or port of entry, the number of packages in the consignment, together with the gross mass of, each and, if by sea, the name of the ship conveying the explosive.
- 4.4.4 The import permit will be issued on receipt of two identical copies of an invoice giving the information called for in regulation 4.4.3. The invoices shall be obtained by airmail from the country of origin and submitted to the Chief Inspector of Explosives by airmail.
- 4.5 Applications for export permits shall give-
- (a) the name in full and address of the applicant;

- (b) the name, exact description and quantity of the explosive to be exported and the place of exportation;
- (c) the name and address of the person to whom the explosive is to be consigned; and
- (d) the final destination of the explosive.

4.5A. Regular exporters of explosives may be issued with continuous export permits.

4.6.1 Where explosives are imported via any foreign port, such explosives prior to being consigned from the said port to the Republic, shall be examined, when necessary, at the port by an inspector for the Republic and the inspector may remove such samples as are', reasonably necessary for the purpose of analysis or test.

4.6.2 The importer of such explosives shall bear all the expenses incurred in respect of the subsistence and travelling expenses of such inspector, and, in addition, may be called upon to refund to the Government a sum, not exceeding in amount the pay of such inspector for every day during which he is necessarily absent from his station in consequence of such duty.

4.7 On receipt, after importation, of a consignment of explosives at the destination magazine or store, the importer or his agent shall send immediately notification thereof to the Chief Inspector of Explosives.

4.8 Advice of the dispatch of explosives for export shall be sent without any delay to the Chief Inspector of Explosives.

PENALTY

4.9 Any person who imports, exports, or attempts to import or export any explosive in contravention of the regulations of this Chapter shall be liable on conviction to a fine not exceeding R600 or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment and the explosive in respect of which the contravention has taken place shall be forfeited.

CHAPTER 5 HARBOUR REGULATIONS

5.1 Except as otherwise provided for in this Chapter, ships with explosives on board in transit by sea for a port outside the Republic may not enter any port in the Republic.

5.2 Ships with explosives on board for destinations in the Republic or for transportation through the Republic to a neighbouring territory shall discharge such explosives at the first port of call of the ship.

5.3 The representative in the Republic of the ship carrying explosives, shall arrange for extracts of the particulars of the explosives contained in the ship's manifest, to be sent by airmail from the country of origin and, immediately upon receipt of the extract, four copies shall be sent by airmail to the Chief Inspector of Explosives, P.O. Box 4570, Johannesburg, so as to reach him not less than 14 days before the expected arrival of the explosives in the Republic, two copies to the System Manager (South African Railways Administration), one copy to the port captain and one copy to the port goods superintendent at the first Republic port of call of the vessel.

- 5.4 The master of every ship having explosives, other than its own supplies of signalling and life-saving equipment on board shall, immediately upon the ship's arrival at a harbour, give notice to the port captain of the nature, quantity and destination of such explosives.
- 5.5 The master of every ship having explosives on board shall anchor or berth the ship only in such a position as has been assigned to the ship by the port captain.
- 5.6 The master of every ship having explosives on board shall whilst the ship is within the limits of the harbour, keep conspicuously exhibited at the fore, by day, a red flag (B. International Code), and in addition to the lights ordinarily required by night and in such a position as to be above them, a red light showing a clear uniform unbroken light all round the horizon visible on a clear night at a distance of one kilometre from such ship.
- 5.7 Ships with explosives on board shall, when berthed alongside a wharf, have a fireman in constant attendance, the cost thereof to be borne by the ship as provided by the Harbour Regulations framed under section 3 of the Railways & Harbours Control and Management (Consolidation) Act, No. 70 of 1957.
- 5.8 No explosives shall be discharged except-
- (a) under the direction and superintendence of the port captain or his authorised deputy whose orders shall be implicitly obeyed;
 - (b) on production by the ship's agent of the permit provided for in section 8 of the Act;
 - (c) on production of a certificate, on oath, of a duly qualified chemist, to the effect that the explosives have been shipped in good order and condition, packed and labelled in accordance with the regulations of the Republic of South Africa and are safe to be shipped through the tropics and handled in a warm climate; in the case of explosives of a nature requiring the application of the Abel Heat Test, the certificate shall state further that no ingredient, capable of masking such a test, is present in the explosives; and
 - (d) on production of the permit authorising the transfer of the explosives, issued in terms of regulation 6.1.1 of these regulations, if the explosives are shipped from one port of the Republic to another.
- 5.9 Ships with explosives on board may, at the discretion of the port captain, be brought alongside a wharf specified by him for discharge: Provided that-
- (a) the work of discharging is carried out as expeditiously as possible from one hold at a time, due regard being given to safety;
 - (b) a hold containing explosives is opened only when discharging from that hold is about to begin;
 - (c) whilst explosives, except ammunition of Groups (transportation) 5, 6, 7, 7A, 8, 9, 11, 12, 13 and 15, are being loaded into or discharged from a hold no other work shall be performed on board the ship without the written authority of the port captain;
 - (d) the ship keeps main engines ready to move the ship from the wharf at any time;

- (e) a fireman with stand pipe and hose connected stands by the whole time and, if the pressure on the mains is insufficient, he stands with chemical extinguishers ready for immediate use; and-
- (f) a gangway is provided at or near the hold being worked, for the sole use of the fireman and those persons directly concerned with the discharging of the explosives.
- 5.10 No explosives shall be shipped, from, discharged at, brought to, or deposited upon any wharf or place except such place as the port captain or his authorised deputy shall from time to time direct and such wharf or place shall be barricaded off to the satisfaction of the port captain or his authorised deputy and the quantity of explosives to be conveyed to and allowed on such wharf or place shall be regulated by the port captain or his authorised deputy; no other goods or articles shall be handled in such wharf or place at the same time with explosives, and no persons other than those actually engaged in or superintending the work of loading or unloading shall be allowed within the barricades.
- 5.11 During the time a ship is loading or discharging explosives no other ship shall approach within 30 metres of the side of the ship.
- 5.12 During the loading or unloading of explosives there shall be no naked lights or fires on board the ship, nor shall artificial lights be allowed at the open hatches or in the hold in which explosives are stowed or within the barricades referred to in regulation 5.1.0: Provided that-
- (a) this regulation shall not prevent the use of a safety lamp of a construction approved by an inspector of explosives nor shall this regulation prevent the employment of an artificial light or ship's signal lights which in the opinion of the port captain are constructed and disposed in such a manner as to prevent any risk of fire or explosion; and
- (b) this regulation shall not be held to apply to engine-room fires when the same have been previously carefully banked.
- 5.13 Explosives shall not be loaded or unloaded between sunset and sunrise, except with the written permission of and subject to any conditions which may be imposed by the port captain.
- 5.14 No person shall smoke in or within 30 metres of the hold of a ship that is being loaded or unloaded or within the barricades referred to in regulation 5.10 nor shall any person, whilst engaged in handling explosives, carry matches or any other means of producing ignition, or wear boots or shoes with steel or iron heels, tips or exposed nails of any kind.
- 5.15 All persons on board the ship or within the barricades referred to in regulation 5.10 shall, during the loading and unloading of explosives, abstain from any act whatsoever which might tend to cause either a fire, ignition or explosion.
- 5.16 Packages containing explosives shall not be dragged or rolled, but such packages shall be carefully lifted, deposited or stowed, and shall not be thrown or dropped when handled. All ship's and stevedoring gear used shall be of a suitable nature for the safe handling of explosives. When wharf cranes or ships loading/discharging gear are not

available, packages shall be landed from ship to shore or loaded from shore to ship by being passed from hand to hand.

- 5.17 In the event of any packages of explosives being found to be leaking or damaged, either before or after breaking bulk, the fact shall immediately be reported to the port captain, and such packages shall not be discharged or destroyed without the special permission of the Chief Inspector of Explosives.
- 5.18 Any expense incurred in superintendence, provision of watchmen, or any other facility in connection with the handling, loading and unloading of explosives, shall be borne by the owners of the ship or their agents.
- 5.19 Ships having no explosive cargo on board other than the undermentioned, shall be exempted from regulations 5.1, 5.2, 5.6, 5.7, 5.9, 5.10 and 5.11:
- (a) Safety fuse, fireworks, fuseheads, fuse igniters, igniter cord, safety cartridges, such other explosives as the port captain may be advised of by the Chief Inspector of Explosives; and
 - (b) any other explosives not exceeding 25 kilograms net mass stored in a magazine to the satisfaction of the port captain.
- 5.20 Notwithstanding anything to the contrary contained in this Chapter, ships with explosives on board stored in magazines well forward or aft, to the satisfaction of the port captain, and requiring bunker coal or oil fuel, ship's stores, provisions or water, may, at the discretion of the port captain, be brought alongside a wharf specified by him: Provided that-
- (a) the coal, oil fuel, ship's stores, provisions or water, as the case may be, are taken on board as expeditiously as possible;
 - (b) the holds containing explosives are not opened or entered except for inspection and the taking of temperatures and then only under the supervision of the port captain or his authorised deputy;
 - (c) the ship keeps main engines ready to move the ship from the wharf at any time, should this, in the opinion of the master or the port captain, be necessary; and
 - (d) a fireman with stand pipe or hose connected stands by the whole time and, if the pressure on the mains is insufficient, he stands with chemical extinguishers ready for immediate use.
- 5.21 Ships of war fitted with proper magazines to the satisfaction of the port captain, and capable of being flooded, may be exempted from any or all of the regulations of this Chapter.

WHALE-CATCHERS WORKING FROM PORTS IN THE REPUBLIC

- 5.22 Whale-catchers serving a factory within the Republic of South Africa whilst within the port at which such factory is situated shall comply with regulations 5.23, 5.24 and 5.25 but shall be exempted from the provisions of regulations 5.1 to 5.21 inclusive of this Chapter.

- 5.23.1 The whale-catcher shall have fitted in the hold a magazine, to a design approved by an inspector, in which to keep its supply of gunpowder and in the captain's cabin or gunner's cabin a special locker in which to keep the percussion caps and friction or time fuses.
- 5.23.2 Beneath the gunpowder magazines a wooden tray shall be fitted for use when shells are filled.
- 5.23.3 In the coaming of the hatch a "danger-no smoking" notice approved by an inspector shall be affixed. A license from an inspector shall be required in respect of the magazine and locker. Application for the license shall be made to the Chief Inspector of Explosives and shall be accompanied by plans in duplicate of the hold and magazine, as follows:
- (a) The plans of the hold, drawn to a scale of 1:50 shall show-
 - (i) the situation of the magazine in ground plan, front and side elevations; (Note - The magazine should be so placed that there is ample light for the safe working of the magazine);
 - (ii) the position of any cupboard and tanks in the hold;
 - (iii) the position of the coaming of the hatch where the "danger-no smoking" notice is to be affixed; and
 - (iv) the position of any oil tanks in the vicinity of the hold.
 - (b) The plans of the magazine, drawn to a scale of 1:10 shall show-
 - (i) the design and specifications of the proposed magazine;
 - (ii) that the exterior is covered with heavy gauge galvanised iron;
 - (iii) that the interior is close-lined with tongued and grooved boarding; and
 - (iv) that the door is close-fitting, and has a brass mortice lock and brass butt hinges.
 - (c) The application shall contain-
 - (i) the name of the harbour and of the factory from or to which the whale-catcher will be working;
 - (ii) a specimen of the "danger-no smoking" notice to be posted up in the coaming of the hatch; and
 - (iii) a description of the locker to be used from the percussion caps and fuses, and where it is to be kept.
- 5.24.1 The master of the whale-catcher shall ensure that-
- (a) he is in possession of a valid license issued by an inspector in respect of the magazine and locker, before he takes on board any explosives and the explosives are kept only in their approved places of storage;
 - (b) the aforementioned license is posted up on the inside of the door of the magazine and a copy of this regulation, in both official languages and in that of the ship's company, printed on linen or other approved material, and in good condition, is posted in a prominent position in the hold in which the magazine is situated,
 - (c) the magazine and locker are kept locked at all times except when necessarily opened for inspection, issue or taking in supplies;

- (d) the magazine and locker are maintained in good condition, are kept scrupulously clean and are used only for the storage of those explosives authorised by the license;
- (e) the notices required to be posted up are maintained in a legible condition;
- (f) the keys are available for inspection of the magazine and locker by an inspector, the port captain, or any other person deputed in writing by the port captain;
- (g) whilst the magazine contains explosives-
 - (i) no naked light or light attached to a trailing cable is taken into or used within the hold;
 - (ii) no smoking is allowed in the hold;
 - (iii) no repairs are done inside the hold or to the outside of the vessel round that hold;
 - (iv) if, whilst at sea, through unforeseen circumstances it becomes necessary to do repairs in or about the hold, the contents of the magazine are removed to a safe place at least six metres away; and
 - (v) shells are filled only on the wooden tray provided and any spillage is swept up immediately and thrown overboard;
- (h) whilst in harbour and the vessel has explosives on board other than its own supply -of pyrotechnic articles used in connection with signalling or life saving-
 - (i) code flag B if flown by day, and by night a red light is shown at the masthead or on the triatic stay;
 - (ii) no tin, canister or other package containing explosives is opened;
 - (iii) the vessel is not placed in a dry dock or on a slipway without the permission, in writing, of the port captain; and
 - (iv) the vessel does not remain in the harbour longer than 24 hours without the written permission of the port captain.

5.24.2 Any person who fails to comply with any lawful order given by the master in terms of this regulation or who ignores the danger notices posted in terms of this regulation shall be guilty of an offense.

5.25 The license referred to in regulation 5.24.1 (a) may be suspended by an inspector or the port captain if, in the opinion of either of them, the conditions of the license or the regulations are not being complied with.

GENERAL

5.26 The handling and loading or unloading of explosives shall be subject to such further requirements and restrictions as the port captain may impose from time to time.

PENALTY

5.27 Any person who by any act or omission commits a breach of any of the regulations of this Chapter, shall be guilty of an offense and liable on conviction to a fine not exceeding R300 or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment, and the explosive, if any, in respect of which the contravention or non-compliance has taken place, may be forfeited.

CHAPTER 6

TRANSPORT OF EXPLOSIVES TRANSPORT GENERALLY

- 6.1.1 No person shall sell to or buy from any other person any explosive or transfer or cause or permit the transfer of any such explosive from one place to another within the Republic except under a permit issued by or under the authority of an inspector and subject to the conditions of that permit: Provided always that no such permit shall be necessary for the transfer of such explosive from the magazine to the adjacent workings operated by the owner of the magazine. (For the purposes of this regulation, a Municipal, Divisional Council or similar area shall not be considered as one works.)
- 6.1.2 "Shop goods" fireworks shall be exempt from the provisions of this Chapter, except regulations 6.6, 6.6A, 6.7, 6.9 and 6.16.1.
- 6.1.3 Notwithstanding anything to the contrary contained in regulation 6.1.1 of these regulations, a person who is the holder of a valid firearm license issued in terms of the Arms and Ammunition Act, 1969, may on production of such license obtain 500 grams of nitrocellulose propellants. For this purpose such valid firearm license shall be deemed to be a permit issued in terms of section 7 (5) of the Explosives Act, and regulation 6.1.1 of these regulations.
- 6.1.4 Any person who obtains nitrocellulose propellants under the exception contained in regulation 6.1.3, shall at the time of such acquisition, furnish the supplier with a certificate declaring the purpose for which the propellant is to be used and giving his own full name and residential address, his identity number, and the number, place of issue and date of issue of the firearm license. The number of the firearm license shall be quoted on the way-bill/invoice.
- 6.1.5 Notwithstanding anything to the contrary contained in regulation 6.1.1 of these regulations, a person who is the holder of a valid dealer's license issued in terms of the Arms and Ammunition Act, 1969, may on production of such license or certified copy thereof obtain 50 kilograms of nitrocellulose propellants. For this purpose such valid dealer's license shall be deemed to be a permit issued in terms of section 7 (5) of the Explosives Act, No. 26 of 1956, and regulation 6.1.1 of these regulations. The number of the dealer's license shall be quoted on the way-bill/invoice.
- 6.2.1 When applying for a permit the applicant shall state-
- (a) the quantity and nature of the explosives he wishes to purchase;
 - (b) the name and address of the person or concern from whom he wishes to make the purchase;
 - (c) the purpose for which the explosives are to be used;
 - (d) the address of the place where the explosives are to be used;
 - (e) the date on which the explosives are to be dispatched;
 - (f) the mode of transport to be used for conveying the explosives; and
 - (g) the distance involved.

- 6.2.2 Permits shall be made available for a reasonable period to allow of the explosives reaching their destinations within that period, but, except as provided in regulation 6.3, a permit shall be available for one consignment of explosives only, which shall be taken in one load.
- 6.3 Regular users of explosives procuring their supplies from sources within the Republic may be issued with "continuous" permits.
- 6.3A(1) If at any time the holder of a permit issued in terms of the regulations of this Chapter is in the opinion of an inspector guilty of a contravention of any of the explosives regulations, or of any misconduct, such inspector may immediately suspend or cancel such permit.
- (2) In the event of the holder of the permit being dissatisfied with the action of the inspector, he may within 14 days appeal against the suspension or cancellation to the Chief Inspector of Explosives, whose decision after investigation shall be final.
- 6.4 The permit shall accompany the consignment throughout the whole journey, except that in the case of a continuous permit, the number thereof shall be quoted on the way-bill.
- 6.5 The consignee, on receipt of the explosives, shall immediately advise the Chief Inspector of Explosives and any discrepancy or defect in the consignment shall be notified to him at the same time.
- 6.6 No person shall transmit explosives of any description or in any quantity whatsoever through the post.
- 6.6A No person shall convey or cause or permit to be conveyed any explosive by air, except with the written permission of an inspector and under conditions prescribed by him.
- 6.7 No person shall convey or cause or permit to be conveyed on any public road, path or railway any explosive not packed and marked in accordance with the provisions of Chapter 3 of these regulations.
- 6.8.1 The person responsible for the conveyance of explosives shall-
- (a) when the explosives are being loaded personally count the number of packages loaded on to the vehicle and endorse this number on the way-bill;
 - (b) ensure that the correct grade, size, type, length, packing, etc., of explosives as specified on the way-bill is loaded;
 - (c) ensure that the vehicle proceeds with all due diligence at all times to its proper destination; and
 - (d) on arrival at the destination, personally count the number of packets off-loaded and endorse this number on the way-bill.
- 6.8.2 When explosives that are being conveyed reach the final destination, the owner of the explosives or his agent shall ensure that the explosives are placed without delay in a magazine or place of storage licensed under these regulations or else are put to immediate use.

- 6.9 For the purpose of conveyance, explosives shall be divided into groups indicated by numbers. In the list of authorized explosives published in the Government Gazette from time to time the group number of every authorised explosive shall be indicated. Explosives belonging to different groups shall not be loaded together on to the same vehicle except as hereunder:
- (a) Transport groups 1, 2, 3 and 4-together.
 - (b) Transport groups 5, 6, 7 and 8-together.
 - (c) Transport group 7A-alone.
 - (d) Transport groups 9 and 11-together.
 - (e) Transport groups 6A and 10-together.
 - (f) Transport group 12-alone.
 - (g) Transport group 13-alone.
 - (h) Transport group 15-alone.
 - (i) Transport group 16-alone.
 - (j) Transport group 17-alone.
 - (k) Transport group 18-alone.

TRANSPORT BY RAIL

- 6.10 The General Manager of the South African Railways and Harbours may appoint fixed days for the acceptance of explosives.
- 6.11 Explosives shall be loaded or unloaded only at points approved by the General Manager of the South African Railways and Harbours or at a private siding.
- 6.12 The consignor may be required to give to the officer-in-charge of the forwarding station at least 24 hours' notice of the proposed dispatch of explosives.
- 6.13.1 Prior to dispatch, the consignor shall hand to the officer-in-charge of the station the transport permit together with a declaration form stating-
- (a) the exact quantity and description of the explosives; and
 - (b) that the consignee has been advised of the proposed dispatch of the consignment:
- Provided that, in the case of a continuous permit, it shall not be necessary to hand the permit to the officer-in-charge of the station, but the number thereof shall be quoted on the consignment note and declaration form.
- 6.13.2 The officer-in-charge of the station shall not accept for dispatch greater quantities of explosive than those covered by the permit, whether such permit be a continuous permit or otherwise.
- 6.14 The consignor shall advise the consignee of the proposed dispatch of explosives and request him to make arrangements to take delivery as expeditiously as possible.
- 6.15 Trucks loaded with explosives from different groups shall not be conveyed together on the same train, except as hereunder:
- (a) Transport groups: 1, 2, 3, 4, 5, 6, 7, 7A, 8, 9, 11, 12, 13 and 15-together.
 - (b) Transport groups: 6A and 10-together.
 - (c) Transport group: 16-alone.

- (d) Transport group 17-alone.
 - (e) Transport group: 18-alone.
- 6.16.1 No person shall take any explosive in a passenger coach of a train except as provided in regulation 6.37 of this Chapter.
- 6.16.2 Explosives may be conveyed by rail as follows:
- (a) By a special explosives train;
 - (b) by ordinary goods train in quantities not exceeding 110 metric tons gross mass; or
 - (c) by mixed train (i.e. a train carrying passengers and goods) in quantities not exceeding 10 metric tons cross mass on sections of lines where there are no ordinary goods trains.
- 6.17 Trucks containing explosives conveyed by special explosives train or ordinary goods train shall be placed as near the centre of the train as possible, and in all cases, except with the consent of and under conditions prescribed in writing by an inspector at least three short trucks or two bogies shall intervene between the engine and any truck containing explosives and also between the guard's van and any truck containing explosives. In shunting operations and on private sidings, the intervening trucks referred to may be reduced to two short trucks or one bogie. No such intervening trucks shall be necessary within the danger area of an explosives factory.
- 6.18 Trucks containing explosives conveyed by a mixed train shall, except with the consent of and under conditions prescribed, in writing, by an inspector, be separated from the engine and from any passenger coach by at least three short trucks or two bogies.
- 6.19 Trucks containing explosives shall not be marshalled next to trucks containing lime, forage, heavy machinery, projecting timber, rails, telegraph poles, inflammable materials, acids, chemicals, compressed gases, fireworks, matches, substances liable to spontaneous combustion and other similar dangerous articles. Except with the permission, in writing, of an inspector, trucks conveying explosives shall not be placed on the same train as petrol tank trucks (loaded or empty).
- 6.20 Trucks containing explosives shall not form part of a "combined" train.
- 6.21 Trucks containing explosives shall be shunted, marshalled or coupled with the utmost caution. Such trucks shall not be detached from a train until the train has been brought to a dead stop. Loose or fly shunts shall be strictly prohibited.
- 6.22 Except in cases of emergency, trucks may be loaded with explosives only under the supervision of the station master or his authorised deputy. Access to trucks shall be allowed only to persons necessarily engaged in the process of loading, and, as soon as a truck is loaded, it shall be securely closed and set apart.
- 6.23 Explosives shall be conveyed only in a truck which is completely closed in, locked and in good condition in every respect. Every truck, before being loaded with explosives, shall be carefully swept out, and, if necessary washed out and dried. All exposed iron and steel inside a truck shall be covered with wood, cloth or other suitable material, or the cases of explosives shall be completely enveloped in a covering such as will prevent cases coming into contact with any metal.

- 6.24 Every truck conveying explosives shall have the word "Explosives", in both official languages, displayed in conspicuous characters on the sides. Every special explosives truck shall be marked with the mass of explosives the truck is authorised to carry. Every other truck shall be marked with its mass carrying capacity.
- 6.25 No person shall load or unload explosives or cause or allow them to be loaded or unloaded, within 30 metres of a fire, naked light or flare, nor shall any person light a fire or bring a naked light or flame nearer than 30 metres to a truck which is loaded with explosives, or into which explosives are being loaded or unloaded.
- 6.26 No person shall load or unload a truck with explosives between the hours of sunset and sunrise.
- 6.27 No person shall smoke within 30 metres of a place where explosives are being loaded or unloaded into a truck nor shall any person engaged in handling explosives at such a place carry matches or any other means of producing ignition, or wear boots or shoes with steel or iron heels, tips or exposed nails of any kind.
- 6.28.1 Explosives, except "shop goods" fireworks, and nitrocellulose propellants packed in sealed metal containers with a maximum capacity of 500 grams each and packed in outside containers of not more than 5 kilograms and not exceeding a total mass of 50 kilograms, gunpowder packed in sealed metal containers with a maximum capacity of 500 grams each and packed in outside containers of not more than one kilogram and not exceeding a total mass of one kilogram, and railway detonators (also known as fog signals) shall not be stowed in the same truck with other goods.
- 6.28.2 No goods other than explosives shall be conveyed on a special explosives train.
- 6.29 No person shall load any special explosives truck beyond the mass marked thereon, nor shall any other truck containing explosives be loaded beyond 75 per cent of the mass-carrying capacity marked thereon.
- 6.30 Trains conveying explosives shall be despatched without avoidable delay. An explosives train shall be given, subject to the necessary detention for examination, a through schedule to its destination. So far as is practicable, the composition of special explosives trains shall not be altered en route.
- 6.31.1 At the destination by rail of a consignment of explosives, the officer-in-charge shall, as soon as possible, notify the consignee of the expected or actual arrival of the consignment and shall call upon him to take delivery of and remove the consignment without delay.
- 6.31.2 In the event of the officer-in-charge being unable to contact the consignee or the consignee failing to take delivery without delay after being advised of the arrival of the consignment, the officer shall report the facts by telegram to the Chief Inspector of Explosives, telegraphic address "Detonators", Johannesburg, who shall give instructions regarding the disposal of the explosives.
- 6.31.3 Whenever it may appear to an inspector to be necessary for the security of explosives conveyed by rail, the consignor, the consignee or the General Manager of the South African Railways and Harbours, as the case may be, shall, on the request of the inspector, place a watchman or watchmen on guard over trucks containing explosives.

- 6.32.1 During the time explosives are on railway premises awaiting despatch or removal, the officer-in-charge or his authorised deputy, shall take every precaution to ensure safety and shall place trucks containing explosives in as safe a place as possible.
- 6.32.2 Explosives shall not be stored in a goods shed or in any other building but shall be kept in the truck in which they have arrived or in the truck in which they are to be conveyed to a further destination.
- 6.33.1 Explosives shall be off-loaded only at the destination or transhipping station, except in case of emergency. Where explosives are off-loaded at a railway siding or stopping place, this shall be done under the supervision of the guard of the train. The supervising official shall satisfy himself that the correct consignments are offloaded and that any explosives remaining in a truck are properly stowed and secured.
- 6.33.2 Where explosives are unloaded at a private siding the consignee or his magazine master shall supervise the unloading, comply with the relevant regulations, and ensure that the correct consignment is removed from the truck. Should there be any explosives remaining for any other destination, these are required to be properly stowed and secured immediately by the consignee of the explosives just removed or by his magazine master. The truck shall then be sealed in a manner approved by the South African Railways Administration.
- 6.33.3 Explosives shall be stowed in trucks in such a manner as to prevent any displacement of the packages in transit and shall be loaded and secured in such a manner as will prevent their falling out when the truck doors are opened. All layers (including the uppermost one if practicable) shall be complete, and the uppermost one, if not complete, shall be secured in such a manner as will prevent any displacement of the packages.
- 6.34 No person, except an inspector or a person duly authorised by him, whether acting on behalf of the customs authorities or otherwise, shall open any package of explosives at a railway station.
- 6.35.1 Except as provided below, no passenger shall travel by a train conveying more than 10 metric tons gross mass of explosives save in cases of emergency and with the written authority of the General Manager or a System Manager of the South African Railways and Harbours, or of the officer-in-charge of a station. Such written authority shall be handed to the guard of the train who shall hand it to his relief or attach it to his journal and hand it in at his destination station, as the case may be.
- 6.35.2 Railway servants, postal telegraph and telephone electricians travelling on duty, and attendants accompanying livestock, may be allowed to travel on a train conveying explosives, without the above-mentioned authority.
- 6.35.3 Any passenger allowed to travel by a train conveying explosives shall occupy the seat allotted to him by the guard.
- 6.35.4 Any person who, while travelling by a train conveying explosives, commits or attempts to commit any act liable to affect the safe working of the train, shall be guilty of an offense and shall forthwith be removed from the train by the guard.
- 6.36 An inspector may inspect consignments of explosives and the trucks or trains in which they are being conveyed, provided that in so doing he does not unnecessarily impede

the traffic. An inspector may travel by any train conveying explosives. The railway officials shall give such inspector all information and assistance required.

- 6.37 Notwithstanding anything to the contrary in these regulations, inspectors may take with them, by any train, samples of explosives in such quantities as are reasonably necessary for the purpose of analysis, test or experiment.

TRANSPORT BY ROAD

- 6.38.1 No person other than an inspector, during the course of his duties, shall transport explosives or cause or permit them to be transported in any vehicle propelled by mechanical power, unless the vehicle has been specially converted for the purpose and been licensed, in writing, by an inspector, and except in accordance with the conditions of the license.

- 6.38.2 The licensee of a vehicle licensed in terms of regulation 6.38.1 shall send the following documents to the Chief Inspector of Explosives, P.O. Box 4570, Johannesburg, during September each year:

- (a) A certificate of condition worded as follows:

"CERTIFICATE OF CONDITION

I being a qualified *motor mechanic/mechanical engineer, hereby certify that I personally examined vehicle and that the vehicle and all its equipment are now in thoroughly good condition.

Date
 Signature
 Designation
 Address

To be countersigned by the owner or manager of the Company owning the vehicle.

Date
 Signature
 Designation
 Name of Company
 *Delete whichever does not apply."

- (b) A certificate worded as follows:

"I, hereby certify that I have checked from time to time and found that the person/s placed in charge of vehicles was/were fully acquainted with Chapter 6 of the Explosives Regulations and the conditions of the license. I also found that he/they complied with these regulations and conditions."

- (c) The "Monthly Examinations Sheet" which shall be kept as follows:

"MONTHLY EXAMINATIONS SHEET

The vehicle and all its equipment must be examined by a qualified motor mechanic in the first week of each month, and the result of the examination must be recorded on a

separate sheet of paper in the manner as shown below. The examination must be made whether explosives have been carried in the vehicle during the month or not.

N.B.-If at any time repairs to the vehicle are considered necessary, the repairs must be carried out immediately and the vehicle may not be used until this has been done.

Date	Signature and designation	Result of examination	Repairs and renewals effected and date when done"
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- 6.39.1 No person shall transport explosives or cause or permit them to be transported by pack animal, handpropelled and animal-drawn vehicle, except with the permission, in writing, of an inspector and except in accordance with the conditions of the permit.
- 6.39.2 An inspector may, at his discretion, refuse to allow the use of pack animals, hand-propelled and animal-drawn vehicles for the conveyance of explosives.
- 6.39.3 The conveyance of explosives by bicycle is prohibited.
- 6.40 Except with the special permission, in writing, of an inspector, no explosive shall be conveyed on the same vehicle with goods of a dangerous character such as inflammable materials, acids, chemicals, compressed gases, forage, matches, substances liable to spontaneous combustion, waste, machinery or parts thereof, metal implements such as tools, ploughshares, iron standards and the like or any materials having exposed iron or steel.
- 6.41 No person shall load or unload explosives or cause or permit them to be loaded or unloaded within 30 metres of a fire, naked light or flame, nor shall any person light a fire or bring a naked light or flame within that distance of a vehicle which is loaded or being loaded with explosives or from which explosives are being unloaded.
- 6.42 No person shall smoke within 30 metres of where explosives are being loaded on to, or unloaded from, a vehicle, or within 5 metres of a loaded vehicle on which the explosives have been suitably covered, nor shall any person who is engaged in handling the explosives, or who travels on the vehicle, carry matches or any other means of producing ignition, or wear boots or shoes with steel or iron heels, tips or exposed nails of any kind.
- 6.43.1 The owner of the explosives or his deputy shall ensure that every consignment of explosives is, throughout the whole journey, under the constant supervision of a trustworthy person whose name shall be recorded on the way-bill. Under no circumstances shall a consignment of explosives be left unattended. The person in charge of the consignment shall be responsible for its safety in transit and for the due observance of these regulations.
- 6.43.2 The person in charge of the magazine or other places of storage from which the explosives have been removed shall be responsible for the loading of the vehicle and shall ensure that explosives are loaded only on a vehicle which is in good order as required by these regulations and that the loading of the explosives thereon is done in accordance with these regulations.
- 6.44 No person shall use or cause or permit to be used a vehicle for the conveyance of explosives unless the vehicle is in serviceable condition.

- 6.45.1 Persons conveying explosives shall avoid towns and villages as far as practicable and it shall be lawful for any local authority to prescribe the route by which explosives shall be conveyed within its area of jurisdiction, subject to reasonable facilities being given for reaching any required destination.
- 6.45.2 Should it be necessary to halt during a night on a journey, this shall be done at least 500 metres from inhabited buildings and 200 metres from a public road and the person in charge shall keep a constant watch over the explosives.
- 6.45.3 No person shall use a radio transmitter, which is fitted or transported in a vehicle in which explosives are conveyed, during the conveyance of electric detonators unless such detonators are packed in the original packing in which they were received from the manufacturers.
- 6.46 During a thunderstorm, vehicles carrying explosives shall be halted off the road at least 500 metres from inhabited buildings.
- 6.47 Explosives shall not be unloaded from a vehicle, en route except in the event of a breakdown of the vehicle. Should it be absolutely necessary to unload the whole or part of a consignment of explosives en route, all possible care shall be taken to protect the explosives from fire, shock and damp. On no account shall such explosives be placed near inhabited buildings, and the person in charge shall warn persons against loitering near the explosives. The explosives shall be reloaded and the journey shall be continued as soon as possible. The Chief Inspector of Explosives shall be notified immediately of the circumstances necessitating the unloading of the explosives en route.
- 6.48 An inspector may detain any vehicle conveying explosives, to ascertain whether these regulations are being complied with.
- 6.49 The Chief Inspector of Explosives may, in his discretion, give written exemption from any of the foregoing regulations and may prescribe, in writing, such additional conditions as he may deem necessary.

PENALTY

- 6.50 Any person who by any act or omission commits a breach of the regulations under this Chapter, shall be guilty of an offense and liable on conviction to a fine not exceeding R300 or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment.

CHAPTER 7 LICENSING AND CONSTRUCTION OF MAGAZINES

- 7.1 A magazine may be erected or used only in accordance with the provisions of section 22 of the Act.
- 7.2.1 Application for permission to erect a magazine shall be made to an inspector and shall be accompanied by-
- (a) a statement showing the types of explosives and the quantity of each required to be stored therein, and the full address of the proposed site of the magazine;

- (b) four copies of a plan, drawn to a scale of either 1:500, 1:1000, 1:2000 or 1:2500, according to the size of the property, showing the site of the proposed magazine and fence in relation to neighbouring roads (which shall also include the access road to the magazine), railways, buildings and boundaries of properties, as well as the contour of the land on which the magazine is to be erected and the plan shall have drawn thereon, with the site as centre, circles, with radii proportionate to the distances prescribed for the quantity of explosives in the table in regulation 7.3.1 of this Chapter;
- (c) a plan or plans, in triplicate, drawn to a scale of 1:100 or 1:50 or 1:25, showing the design and specifications of the proposed magazine and mounds.

7.2.2 When the application is approved, one set of the plans, suitably endorsed, shall be returned to the applicant and until these plans have been received, building of the magazine and mound shall not be commenced.

7.2.3 The permission granted for the erection of a magazine, shall lapse if the magazine has not been completed within six months of the date of grant of such permission.

7.3.1 The following table of distances shall form the basis on which applications for magazine licences will be considered:

TABLE OF DISTANCES
(All distances in metres)

Net explosives	25-kilogram cartons	To other magazines			To railways, roads, open sportsground, navigable water, or dwelling-house in same ownership as magazine and occupied by the owner of an employee			To other dwelling-houses or public buildings*		
		Quantity kilograms	Number	Cat. X mounded or unmounded	Cat Y mounded or unmounded	Cat Z or ZZ mounded	Cat X mounded or unmounded	Cat.Y mounded or unmounded	Cat Z. or ZZ mounded	Cat. X mounded or unmounded
500	20	9	12	19	15	25	47	31	50	95
750	30	9	13	22	17	29	61	33	57	122
1000	40	9	14	24	18	32	75	36	63	150
1250	50	10	15	26	18	34	85	37	68	170
2500	100	13	15	32	21	43	130	42	86	260
5000	200	17	21	40	23	54	180	46	108	360
10000	400	21	28	50	25	68	235	50	136	470
12500	500	23	30	55	26	73	255	52	146	510
15000	600	24	33	58	27	78	270	54	156	540
20000	800	25	37	65	28	85	300	55	170	600
25000	1000	26	40	70	29	90	320	57	180	640
30000	1200	27	45	75	30	100	345	60	200	690
40000	1600	27	50	80	30	110	380	60	220	760
50000	2000	27	55	85	30	115	400	60	230	800
75000	3000	27	65	100	32	135	470	65	270	940
100000	4000	27	75	110	33	145	510	65	290	1020
150000	6000	27	90	125	35	170	590	70	340	1180
200000	8000	27	95	135	35	180	640	70	360	1280

*For definition of "public building" refer to Chapter 1.

7.3.2 The distance between two buildings shall be the shortest distance between the nearest walls of such buildings.

7.3.3 When a magazine is erected in the vicinity of a power line the magazine shall be separated from the power line by a horizontal distance, not less than the following:

- (a) For power lines with spans up to 30 metres: 15 metres;

- (b) for power lines with spans greater than 30 metres and up to 150 metres: 20 metres;
- (c) for power lines with spans greater than 150 metres: 30 metres'
- 7.4.1 The inspector shall be advised immediately a magazine has been completed and until a license, in terms of section 22 of the Act has been issued, the magazine shall not be used.
- 7.4.2 The maximum quantity and the nature of the explosives that may be stored in the magazine shall be stated on the license and the license shall be valid only for the person to whom the license is issued; -the license shall be posted up in a conspicuous place inside the magazine.
- 7.5 A magazine may not be situated in a tunnel or cutting or disused mine working which communicates with any existing mine working.
- 7.6 The design for a magazine and the materials to be used in its construction shall be as determined by the Chief Inspector of Explosives and may vary according to local conditions.
- 7.7 Except with the special sanction of the Chief Inspector of Explosives, no mine magazine shall be licensed to contain more than 15 000 kilograms of explosives.'
- 7.8.1 Every magazine shall be efficiently protected against lightning, in accordance with written specifications prescribed by the Chief Inspector of Explosives.
- 7.8.2 At every magazine efficient provision shall be made for draining the area.
- 7.8.3 Every magazine shall be surrounded by a substantial fence in accordance with specifications prescribed by the Chief Inspector of Explosives.

PENALTY

- 7.9 Any person who by any act or omission commits a breach of any of the regulations of this chapter, shall be guilty of an offense and liable on conviction to a fine not exceeding R100 or to imprisonment for a period not exceeding three months or to both such fine and such imprisonment.

CHAPTER 8 STORAGE OF BLASTING MATERIALS

- 8.1.1 The licensee of every magazine shall appoint a trust-worthy person, acceptable to the Chief Inspector of Explosives, as magazine master, to be solely in charge of the magazine and to be responsible for compliance with these regulations.
- 8.1.2 The appointment shall be made in writing and the original letter of appointment, bearing the signature of the licensee making the appointment, as well as the signature of the appointee, accepting the appointment, shall be sent forthwith to the Chief Inspector of Explosives and a copy thereof shall be posted up in the lobby of the magazine.
- 8.1.3 In the event of failure to appoint such a magazine master, the licensee shall be deemed to be the magazine master.

- 8.1.4 It shall not be necessary for the Chief Inspector of Explosives to give any reasons why a magazine master is not acceptable to him.
- 8.1.5 The magazine master may depute a trustworthy person, who is thoroughly acquainted with the regulations of this Chapter and of Chapter 6, to assist him in operating the magazine and such person shall have the same responsibility under these regulations as the magazine master, but the appointment shall not be taken to relieve the magazine master of his personal responsibility under these regulations.
- 8.2 The licensee of a magazine shall-
- (a) ensure that at all times the magazine, including the mound, drainage system, lightning protection system and fence, is kept in good condition and that no new budding or work is erected or constructed within the outer zone applicable to the magazine in terms of the table of distances in regulation 7.3 of Chapter 7 of these regulations and shown on the official site plan for the magazine, without the prior written approval of an inspector;
 - (b) ensure that the lightning protection system is thoroughly examined and tested at least once a year, not later than 30 September, by a competent person, the result of the examination and test to be entered in the book referred to in regulation 8.4 in addition to being reported forthwith to the Chief Inspector of Explosives, the method of testing shall be in accordance with the procedure prescribed by the Chief Inspector of Explosives;
 - (c) provide the tools and equipment necessary to enable the magazine master to comply with these regulations;
 - (d) provide two sets of keys for all magazine doors and gates in the fence surrounding the magazine, one set for use by the magazine master and the other set to be kept in such manner as to be immediately available at any time for emergency use or for inspection of the magazine;
 - (e) whenever the appointed magazine master is necessarily away from his place of work due to illness or for any reason whatsoever, ensure that a competent person is appointed in accordance with regulation 8.1.1 to act as his deputy;
 - (f) ensure that the exterior of the magazine is painted red and the words "Explosives Magazine" or "Magasyn vir Ontploffbare Stowwe" are painted in white on the door, except that where, for the purpose of reducing temperature, it is considered advisable, the magazine exterior may be painted white and the inscription shall then be red;
 - (g) ensure that the official registered number of the magazine is painted on the outer face of the outside door of the magazine; and
 - (h) ensure that during September each year a certificate worded as follows is sent to the Chief Inspector of Explosives, P.O. Box 4570, Johannesburg:

"I hereby certify that magazines numbered stocked under continuous transport permit number are still in good condition and that no new structures, roads, railways, etc. have come into existence within the danger zones of the

magazines, as shown on the site plans mentioned on the licences of the relative magazines.

I certify further that the lightning conductors were tested on September 19..... and that the resistance to earth was found to be ohms in respect of magazines numbered respectively.”

- 8.3.1 A magazine shall not be used for the storage of any goods or articles not mentioned in the license, except that the tools and equipment necessary to comply with these regulations may be kept in the magazine.
- 8.3.2 A larger quantity of explosives, than that stipulated on the license shall not be stored in a magazine, nor shall any explosives be stored in the lobby or passage.
- 8.3.3 A magazine shall be kept locked at all times save only when necessary to place explosives in or remove explosives from the magazine or to perform any other necessary operation.
- 8.3.4 No person shall take a radio transmitter inside a magazine.
- 8.4 A book (register) shall be kept in every magazine in which shall be entered forthwith, in ink, a record of all receipts and issues of explosives in the form prescribed by an inspector, no erasures shall be made in the book and any alteration shall be initialled by the person making it. The book shall not be destroyed until after the lapse of one year from the date of the last entry in the book.
- 8.5.1 A reliable maximum and minimum thermometer shall be kept in the storage chamber of a magazine and a record of the minimum and maximum temperatures registered since the previous visit, but not more frequently than once every day, shall be entered in the - book referred to in regulation 8.4.
- 8.5.2 The Chief Inspector of Explosives shall be informed forthwith whenever temperatures in excess, of 35 °C (95 °F) and lower than 2 °C (35,6 °F) are recorded.
- 8.6.1 In every magazine, in a place where they can be conveniently read, the following shall be kept posted up:
- (a) A copy of the regulations of this Chapter in both official languages;
 - (b) the license issued in respect of the magazine, which shall be framed and the frame fixed with brass screws;
 - (c) a copy of the original letter of appointment of the magazine master; and
 - (d) the specimen, supplied by an inspector according to which the records referred to in regulation 8.4 shall be kept.
- 8.6.2 So often as the posted notices become defaced, obliterated or destroyed they shall be renewed with all reasonable despatch.
- 8.7 In the lobby of every magazine shall be kept-

- (a) tools necessary for opening cases of explosives, which shall be only of wood, copper or brass;
 - (b) a soft brush and a broom with no metal fittings, for cleaning out the magazine; and
 - (c) two pairs of large size magazine shoes (goloshes) in good condition, for use when the storage chamber has to be entered.
- 8.8 The floor of a magazine shall at all times be kept scrupulously clean and dry.
- 8.9.1 No person shall smoke or make or have a fire or naked light within the fence surrounding a magazine nor shall any person take into this area, any pipe, tobacco, cigarette or matches or any means of making a naked light.
- 8.9.2 No person entering a magazine shall wear boots or shoes containing any exposed metal.
- 8.10.1 Every magazine shall be effectively protected from veld fires, and, to this end, grass within the fence surrounding a magazine shall be kept as short as practicable and this area shall be kept free of combustible material such as timber, bush, dry grass, newspapers, boxes, cartons and the like.
- 8.10.2 Boxes, cartons and paper beds that have contained explosives shall not be used again for any purpose, but shall be destroyed by burning as soon as practicable after being emptied of their explosive contents.
- 8.11.1 The explosives in a magazine shall be kept in the original packing as received from the supplier.
- 8.11.2 The cases or cartons shall not be stacked more than 1 900 millimetres high and the stacks shall be so arranged that the code markings on every case or carton can readily be seen.
- 8.11.3 The explosives shall, so far as is practicable, be issued in the same rotation as they are received.
- 8.12 Cases or cartons of explosives shall not be opened in the storage chamber of a magazine, but may be opened singly either in the lobby or outside the magazine.
- 8.13.1 Except by special permission, in writing, of an inspector, explosives which have been taken to a working place or have been underground or which are damp, soiled or in any way defective shall not be kept in or returned to a magazine, nor shall any damp, soiled or defective package be kept in or returned to a magazine, except that explosives or packages thereof, which have become damp, soiled or defective in transit from the supplier, may be placed temporarily in a magazine to await instructions as to disposal from an inspector to whom the circumstances shall be reported immediately by the quickest method.
- 8.13.2 Whenever any blasting cartridges are found to show signs of exudation or it is suspected for any reason whatsoever that an explosive has deteriorated, these explosives shall not be used but full particulars thereof shall be reported to an inspector by the quickest possible means and the explosives shall be disposed of as directed by such inspector.

- 8.13.3 An inspector may order the disposal by destruction or otherwise of any explosives which he considers to be unsafe for storage or use and the owner of the explosives shall be responsible for the disposal of the explosives as instructed and for any expenses incurred in connection with such disposal.
- 8.13.4 Blasting cartridges and authorised explosives of classes 1 to 4 that have been in stock in a magazine for over three months and other blasting explosives in stock for over six months, shall not be issued for use or be used, without the prior permission in writing of an inspector. Whenever such blasting explosives are present in a magazine the magazine master shall forthwith report to the Chief Inspector of Explosives the types and quantities of each concerned and the reasons why they are still in stock.
- 8.13.5 Whenever blasting explosives have to be destroyed for any reason whatsoever the destruction shall be carried out only by a blaster or person specially authorised by an inspector in a manner approved by such inspector and the quantities destroyed, together with the reasons for their destruction, shall be reported to the Chief Inspector of Explosives.
- 8.13.6 Notwithstanding anything to the contrary in regulation 8.13.1, detonating fuse and igniter cord may be taken to a working place on the reels as supplied by the manufacturers, and any unused detonating fuse and igniter cord on a reel may be returned to the magazines, provided that every precaution is taken to ensure that the reels are not damp, soiled or in any way defective when returned, and that the quantity returned is entered in the magazine book (register).
- 8.14 Blasting materials shall be issued from a magazine-
- (a) when required by the owner for use in the adjacent workings, only upon the written order of a person authorised by the owner; and
 - (b) when required for any other purpose, only on production of a written order and of a valid permit issued by an inspector authorising the issue.
- 8.15 Blasting materials shall be handled in a magazine only during the hours of daylight, except with the special permission, in writing, of an inspector and under conditions prescribed by him.
- 8.16.1 Repairs to a magazine containing explosives shall not be carried out except with the permission, in writing, of an inspector and under conditions prescribed by him.
- 8.16.2 Whenever any repairs are made to a magazine, including the mound, full particulars thereof shall be reported immediately to the Chief Inspector of Explosives.
- 8.17.1 No unauthorised person shall loiter or be permitted to loiter in the vicinity of a magazine, and the owner of the magazine or any employee of the owner may order any such person to leave the vicinity of the magazine, and any such person who fails to comply with any such order shall be guilty of an offence.
- 8.17.2 No unauthorised person shall enter or be permitted to enter within the fence surrounding a magazine.
- 8.18 It shall be the responsibility of the magazine master and his deputy to ensure that persons working at or in a magazine, do so in a safe manner and any person who fails to

obey any order given in the interests of safety by the magazine master or his deputy shall be guilty of an offense.

- 8.19.1 A magazine shall be visited at least once every twenty-four hours to ascertain whether the magazine as been interfered with.
- 8.19.2 Whenever a magazine has been broken into or been interfered with in any way the matter shall be reported immediately to the nearest police station and to the Chief Inspector of Explosives.
- 8.19.3 The license shall place a watchman or watchmen in charge of a magazine and any such watchman who neglects the duties so imposed on him shall be guilty of an offense. An inspector may at his discretion, give written exemption from his regulation and may prescribe, in writing, such additional conditions as he may deem necessary.
- 8.20.1 Whenever the licensee of a magazine ceases to use explosives, or stops operations whether temporarily or permanently, the licensee shall immediately notify the Chief Inspector of Explosives of this fact and shall render a return of all explosives, if any, in the magazine. Such explosives shall be disposed of in a manner approved by an inspector.
- 8.20.2 Except with the express permission, in writing, of an inspector, explosives shall not be stored in a magazine on a mine or works that has closed down.
- 8.20.3 Whenever an inspector has reason to believe that a magazine or other building or structure has become contaminated with explosives he may require the licensee or the owner of such magazine, building or structure to render it safe and the licensee or owner, as the case may be, shall be responsible for any expenses incurred in connection therewith.
- 8.20.4 No person shall abandon a magazine without the prior permission of an inspector and without first having cleared it of all explosives and having rendered it safe from possible contamination with explosives to the satisfaction of an inspector.
- 8.21 Whenever a magazine is abandoned without prior notification to the Chief Inspector of Explosives or when there is reasonable suspicion that a magazine or building contains explosives in contravention of the Act and these regulations, and reasonable enquiry has failed to locate the owner, an inspector may take such steps as he may deem necessary to gain entrance to such magazine or building and any explosives found there shall be dealt with as he may deem fit. The owner of such magazine or building shall be responsible for any expenses incurred in the safe disposal of such explosives.

STORAGE OF EXPLOSIVES FOR PRIVATE USE

- 8.22.1 Notwithstanding anything to the contrary contained in the previous regulations, of this Chapter, persons may keep on or in the neighbourhood of their, premises, for private use and not for sale or other trade, such quantities and types of blasting materials, for such periods and subject to such conditions as shall be prescribed, in writing, by an inspector, provided that such premises are not within any town or village.
- 8.22.2 The blasting cartridges and detonators shall be kept locked up in wooden boxes in separate places and not less than 25 metres from any inhabited building or public road.

STORAGE OF NITROCELLULOSE PROPELLANTS

- 8.23.1 Notwithstanding anything to the contrary contained in these regulations, persons who are in possession of one or more valid firearm licences issued in terms of the Arms and Ammunition Act, 1969 (Act 75 of 1969), may in respect of each such license keep on their premises 600 grams of nitrocellulose propellants for the private reloading of cartridges of small arms only and not for sale or other trade: Provided that the total amount of nitrocellulose propellants so kept shall not at any time exceed 2 400 grams in mass.
- 8.23.2 The nitrocellulose propellants shall be kept locked up in a sturdy cupboard.

STORAGE OF FIREWORKS

- 8.24 Except with the permission, in writing, of an inspector, shop goods fireworks in excess of 1 000 kilograms gross mass and all other fireworks shall be stored only in a magazine constructed and licensed in terms of Chapter 7 of these regulations. Regulations 8.1.1 to 8.4, 8.6.1, 8.6.2, 8.8 to 8.10.2, 8.16.1, 8.16.2, 8.19.1 to 8.21, of this Chapter shall apply to fireworks magazines.

STORAGE OF OTHER EXPLOSIVES

- 8.25 Any explosives, for the storage of which provision is not made in the preceding regulations of this Chapter shall be stored only in such place and manner as may be prescribed, in writing, by an inspector.

PENALTY

- 8.26 Any person who by any act or omission commits a breach of any of the regulations of this Chapter, shall be guilty of an offense and liable on conviction to a fine not exceeding three hundred rand (R300) or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment, and the explosive, if any, in respect of which the contravention or non-compliance has taken place, may be forfeited, in which case the cost of disposal thereof shall be borne by the accused.

CHAPTER 9

STORAGE AND SALE OF BLASTING MATERIALS AND FIREWORKS BY LICENSED DEALERS

GENERAL

- 9.1 For the purposes of the regulations of this Chapter-

fireworks shall mean explosives of Class 7, Division 2, shop goods only;

premises shall mean any building or room in which explosives are stored, kept or handled for the purpose of sale; when a building is divided into more than one room, each room so used shall be considered to be separate premises;

retail dealer shall mean a person or concern that, for the purposes of trader supplies explosives to any person for use or consumption by that person and not for re-sale;

wholesale dealer shall mean a person or concern that, for the purposes of trade, supplies explosives to any other dealer for resale.

- 9.2 No person, other than the manufacturer, shall sell or deal in blasting materials and fireworks unless he is in possession of a license issued by an inspector, and except in accordance with the conditions of that license.
- 9.3 Application for the license referred to in regulation 9.2 shall be made to the Chief Inspector of Explosives. In the application shall be stated-
- (a) the full name under which the business is to be carried on,
 - (b) the full name(s) of the proprietor(s), several partners, or in the case of a company, the full name of the local secretary and manager;
 - (c) the type of explosive it is desired to trade in, and
 - (d) the full address (number, street and town) at which the business is to be carried on.
- 9.4 Every dealer shall keep records in a manner and form as may be prescribed by the Chief Inspector of Explosives and shall make such returns as may be required by him.

BLASTING MATERIALS

- 9.5 A dealer in blasting materials shall keep his supply of explosives in magazines erected, licensed and maintained in accordance with the provisions of Chapters 7 and 8 of these regulations.
- 9.6 A dealer in blasting materials shall not supply explosives to any person who is unable to produce a permit authorising the purchase, issued by or under the authority of an inspector.
- 9.7 A dealer in blasting materials shall keep on his premises a book (register) of a size and form prescribed, in writing, by an inspector in which he shall record details of all transactions in explosives. Such book shall be kept available for inspection at any time and shall not be destroyed until after the lapse of two years from the date of the last entry in the book. No erasures shall be made in the book and any alteration shall be initialed by the person making it.
- 9.8.1 A dealer licensed to trade in blasting materials shall not sell any explosives which are in any way damaged or defective.
- 9.8.2 When any explosives in his possession are found to be damp, to exude liquid or, for any reason whatsoever, are suspected of being defective, the explosives shall not be sold but the licensee shall forthwith report the circumstances by the quickest means possible to an inspector and the explosives shall be disposed of as directed by the inspector.
- 9.9 Blasting materials before being supplied or handed to any person shall be packed in accordance with the provisions of Chapter 3 of these regulations.
- 9.10 No blasting materials shall be sold supplied or banded to any person under the apparent age of 18 years or to any other person except in accordance with the conditions of these regulations.

FIREWORKS

- 9.11.1 All fireworks manufactured in the Republic or imported into, or which are offered for sale within the Republic shall be marked, labelled and packed in accordance with the provisions of Chapter 3 of these regulations and any person found in possession of fireworks not so marked and labelled shall be deemed to be in possession of "unauthorised explosives" and guilty of an offense.
- 9.11.2 Fireworks shall be . packed by the manufacturer or importer in suitable cartons which shall be sealed ready for sale to the public, before despatch to a dealer.
- 9.12.1 Premises in which fireworks are handled preferably should have at least two exits. Where any premises have only one exit the fireworks shall be kept at the rear (relative to the exit) of the premises.
- 9.12.2 The doors to the exits shall be kept unlocked and unbolted during trading hours and a clear passage shall exist between the counters holding the fireworks and the exits and no obstacles shall be placed in these passages.
- 9.12.3 Fireworks shall not be displayed in any window or any other place where such fireworks can be interfered with by the public.
- 9.13.1 Every retail dealer shall have affixed-
- (a) to the outside of his. premises in a prominent position adjacent to every entrance, notices reading "Dealer in Fireworks" or "Handelaar in Vuurwerke"; and
 - (b) in prominent positions inside the premises, "No Smoking" signs in both official languages.
- 9.13.2 These notices shall have red letters not less than 100 millimetres high on a white background.
- 9.14.1 Every dealer and every person employed in or about the premises shall take all due precautions for the prevention of accidents by fire and for preventing unauthorised persons having access to the fireworks and shall abstain from any act whatsoever which tends to cause fire. Goods of a dangerous nature such as inflammable liquids, acids, alkalies and the like shall not be kept on the same premises together with fireworks and safety matches, and Bengal matches shall be kept at least 5 metres away from the fireworks.
- 9.14.2 No person shall smoke in, or take a naked light or fire into, premises where fireworks are kept, stored or being handled, nor shall any person be allowed to do so.
- 9.14.3 Every person on such premises shall abstain from any act whatsoever which tends to cause fire.
- 9.14.4 Any person on such premises who fails to comply with a request made by the licensee or his employees in the interests of safety, shall be guilty of an offense.

- 9.15.1 A dealer in fireworks when purchasing or obtaining fireworks shall demand from the seller or supplier a properly executed, signed and dated invoice which he shall retain for a period of at least two years for production on demand of an inspector.
- 9.15.2 A manufacturer or wholesale dealer shall furnish a properly executed, signed and dated invoice with each sale or supply of fireworks.
- 9.16 A wholesale dealer in fireworks shall at no time have on his premises more than 1 000 kilograms gross mass of fireworks, contained in the original inner packings as received from the manufacturer or other supply magazine.
- 9.17.1 A manufacturer or wholesale dealer shall supply fireworks only to a dealer who is in possession of a valid license issued in terms of these regulations, and the number of such license shall be quoted on the invoice.
- 9.17.2 The manufacturer or wholesale dealer shall keep a register in which full particulars of each transaction and the aforementioned license number shall be recorded. This register shall be kept up to date and be available for inspection at any time and shall not be destroyed until after the lapse of two years from the date of the last entry in it.
- 9.18 A retail dealer in fireworks-
- (a) may keep on his premises not exceeding 500 kilograms gross mass of fireworks, provided the fireworks, contained in their inner or outer packings, are kept on shelves or other fittings separated from goods of an inflammable or combustible nature;
 - (b) shall not interfere with the inner packing of the fireworks, or allow or permit it to be interfered with;
 - (c) shall supply fireworks to the public only in the sealed inner packing as received from the manufacturer or wholesale dealer, provided that the packages are still in good condition;
 - (d) shall not sell or allow or permit to be sold any firework to a child under the apparent age of 16 years;
 - (e) shall furnish each employee engaged in selling fireworks with a copy of the regulations of part "Fireworks" of this Chapter and of the conditions attaching to his license to deal.
- 9.19 No person shall allow or permit any children under the age of 16 years to handle or use fireworks except under the supervision of an adult person.

NITROCELLULOSE PROPELLANTS

- 9.20.1 A person licensed to deal in arms and ammunition in terms of the Arms and Ammunition Act, 1969 (Act 75 of 1969), may also deal in nitrocellulose propellants. For this purpose such valid dealer's license shall be deemed to be a license issued in terms of section 7 (1) of the Explosives Act.
- 9.20.2 There shall be a strongroom suitable for the safe storage of nitrocellulose propellants on the premises of the aforementioned licensed dealer.

- 9.20.3 The licensed dealer may keep in the strongroom on his premises, for purposes of sale, a quantity of nitrocellulose propellants, not exceeding 50 kilograms in total mass, in sealed metal containers with a maximum capacity of 500 grams each.
- 9.20.4 Any licensed dealer in arms and ammunition who also deals in nitrocellulose propellants, shall keep on his premises a separate register in which particulars are entered of the date, quantity and type of all nitrocellulose propellants received by him, together with the name and address of the supplier. The register shall also reflect the full name and residential address of every person to whom a nitrocellulose propellant is supplied, together with the date of the transaction, particulars of the quantity and type of propellant supplied, and the number, place of issue and date of issue of the firearm license. All entries in the register shall be made immediately after any nitrocellulose propellants have been either received or supplied and the register shall at all times be open to inspection by an inspector or any policeman.

PENALTY

- 9.21 Any person who by any act or omission commits a breach of any of the regulations of this Chapter, shall be guilty of an offense and liable, on conviction, to a fine not exceeding three hundred rand (R600) or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment, and the explosive, if any, in respect of which the contravention or non-compliance has taken place, may be confiscated, in which case the cost of disposal thereof shall be borne by the accused.

CHAPTER 10 USE OF BLASTING MATERIALS

- 10.1 In these regulations-

blaster shall mean a person who is in possession of a valid permit referred to in section 9 (1) (a) of the Act;

breaker shall mean any implement used for breaking or loosening rock, shale, earth, ground or any material which it was found necessary to blast;

learner blaster shall mean a person not under the age of 18 years appointed in writing as such by the manager to be trained to become a blaster or to be an assistant to the blaster; and his appointment shall be registered with the Chief Inspector of Explosives before he commences his training,

misfire shall mean a drill hole or part thereof in which the blasting material, or any portion thereof, charged into the hole has failed to explode, or of which the contents are unknown;

primer cartridge shall mean a blasting cartridge into which the detonator of a capped fuse, electric detonator or delay action electric detonator has been inserted;

public place shall mean and include any street, road, square, thoroughfare, sanitary lane, park, recreation or sports grounds or any open space which is used by the public or which is open for the use of the public or any section of the public,

socket shall mean any portion of a hole which may remain after all the blasting materials charged into the hole have exploded and which is proved by examination not to be a misfire;

stemming shall mean inert material used as filling in blast holes;

tamp shall mean the consolidation of stemming and blasting materials in a blast hole.

- 10.2.1 A person wishing to obtain a permit in terms of section 9 (1) (a) of the Act, to use blasting materials shall-
- (a) produce evidence satisfactory to the. inspector that he has had at least 60 shifts of experience as a learner blaster in the use of blasting materials acceptable to the inspector; and
 - (b) submit to an examination on his knowledge of the applicable regulations and of blasting practice.
- 10.2.2 If the inspector is satisfied that the applicant has the necessary experience and knowledge to use blasting materials correctly, that he may be safely entrusted with the use of blasting materials add that there is necessity for his using the same, he shall issue to him a blasting permit.
- 10.2.3 The blasting permit shall be valid only for the work and the place stipulated on the permit and for a period sufficient to complete that work.
- 10.2.4 It shall not be necessary for an inspector to give any reasons why he refuses to issue a blasting permit.
- 10.3.1 If at any time the holder of a blasting permit is, in the opinion of an inspector, guilty of negligence in the execution of his duties, or of any misconduct, or, suffers from any infirmity likely to hamper him in the discharge of his duties, such inspector may immediately suspend or cancel such permit.
- 10.3.2 If at any time the holder of a blasting permit is, in the opinion of the manager, appointed in terms of regulation 10.5.1, guilty of a breach of any of these regulations, such manager may immediately suspend and retain such permit, and shall forthwith report any such suspension to an inspector who after investigation may confirm or rescind the suspension or may cancel the permit.
- 10.3.3 In the event of the blaster being dissatisfied with the action of the inspector, he may within 14 days thereof appeal against the suspension or cancellation to the Chief Inspector of Explosives, whose decision, after investigation, shall be final.
- 10.4.1(a) No person other than a blaster or a learner blaster working under the direct and constant supervision of the blaster shall use blasting materials or prepare them for use.
- (b) Once the blasting materials have arrived at or near the blast site, no person may handle or be permitted to handle such blasting materials unless he is acting under the instructions and direct supervision of the blaster.
- 10.4.2 Every blaster shall be in possession of a copy of the regulations of this Chapter.

- 10.4.3 A blaster shall keep records, in the form prescribed, in writing, by an inspector, of every blast he sets off. All entries in the book (register) shall be made forthwith, in ink or with a ballpoint pen; no erasures shall be made in the book, and any alteration shall be initialled by the blaster.
- The manager shall keep the book (register) or ensure that it is kept in safe custody by a responsible senior official for a period of two years from the date of the last entry therein.
- 10.5.1 Where blasting materials are used, a manager, acceptable to the Chief-Inspector of Explosives, shall be appointed to be responsible for the control, management and direction of the work. The appointment shall be made in writing, and the original letter of appointment, bearing the signature of the person making the appointment, as well as the signature of the appointee, accepting the appointment, shall be sent forthwith to the Chief Inspector of Explosives and a copy thereof shall be retained by the appointee. Whenever the appointed manager is necessarily away from his place of work owing to illness or for any other reasons whatsoever, he shall ensure that a competent person is appointed, as aforesaid, to act as his deputy.
- 10.5.2 In the event of failure to appoint such a manager the owner of the premises on which the blasting materials are used shall be deemed to be the manager or where the blasting operations are being carried out by a contractor, the contractor on the site shall be deemed to be the manager.
- 10.5.3 Every manager shall be in possession of a copy of these regulations.
- 10.5.4 It shall not be necessary for the Chief Inspector of Explosives to give any reasons why a manager is not acceptable to him.
- 10.6.1 The manager shall provide the tools and equipment required under these regulations and shall take all reasonable steps to ensure that these are used properly and maintained in good order and repair. The manager shall by regular inspections ensure that these regulations are complied with.
- 10.6.2 At any site where blasting materials have been used the manager shall appoint a blaster to be in constant attendance while work involving excavating, drilling or the use of a beaker is carried on at the blast site. Any blaster who neglects the duty so placed on him shall be guilty of an offense. The appointment shall be made in writing, and the original letter of appointment, bearing the signature of the manager, as well as the signature of the blaster accepting the appointment, shall be retained by the manager.
- 10.7.1 At workings where more than one blaster is employed, the manager shall appoint one of the blasters to act as foreman over the other blasters. The appointment shall be made in writing, and the original letter of appointment, bearing the signature of the manager, as well as the signature of the foreman blaster accepting the appointment, shall be retained by the manager.
- 10.7.2 The foreman blaster shall-
- (a) during charging operations ensure that one blaster, with his supply of blasting materials, does not approach closer than 10 metres to another blaster and his supply of blasting materials;

- (b) when electric detonators are used, personally comply with the provisions of regulation 10.10 (c), (g) and (h); and
 - (c) personally supervise the lighting or firing of all explosive charges.
- 10.8.1 Every blaster shall be provided with two specially constructed strong waterproof wooden or wood-lined boxes equipped with hinged lids that can be locked. In one he shall keep his immediate requirements of blasting cartridges and detonating fuse (if any) and in the other his detonators (all types) until required for use.
- 10.8.2 The boxes shall be painted red and conspicuously marked with the words "Explosives-Springstowwe" in white block letters. They shall be kept securely locked at all times except when it is necessary to place explosives therein or during charging operations or when the boxes or their contents are being inspected. The keys shall be kept in the possession of the blaster.
- 10.8.3 Not more than 25 kilograms of blasting cartridges and one reel of detonating fuse or 500 detonators (all types), including detonating relays, and one reel igniter cord shall be kept in these boxes at any one time.
- 10.8.4 The boxes when containing explosives shall be kept in a safe and dry place and not less than 2 metres from each other or from a hole that is being charged and except as provided for in regulation 10.7.2 not less than 15 metres from any other work in progress.
- 10.8.5 The blaster shall not place or cause or permit to be placed in the said boxes any other materials or any implements or tools.
- 10.8.6 Blasting materials shall not be withdrawn from any magazine and taken to a blast area until all the holes for the blast have been drilled, finally checked and found to be suitable for charging operations to commence. The blaster shall make an accurate estimate of his requirements of blasting materials for the blast and ensure that the correct quantities, sizes and types are ordered in writing. The person collecting the blasting materials shall ensure that the correct quantities, sizes and types as stated on the order are obtained from the magazines.
- 10.9.1 When ordinary detonators with safety fuse are used, the detonators shall be securely attached to the safety fuse by means of a type of crimping pliers approved by the Chief Inspector of Explosives.
- 10.9.2 When electric detonators are used the manager shall-
- (a) provide an efficient shot-firing apparatus fitted with a removable operating handle or key or with a locking arrangement to secure it against unauthorised use;
 - (b) provide a testing apparatus approved by the Chief Inspector of Explosives for testing the continuity of circuits;
 - (c) ensure that these instruments are kept in efficient working order, are marked with serial numbers and that a record is kept of all examinations and tests carried out on them and by whom this was done; and

- (d) ensure that the testing apparatus is sealed with a distinctive seal in such a manner that the internal parts of the instrument cannot be interfered with without the seal being destroyed, and that the apparatus is examined or repaired only by a competent person who shall personally renew the seal before returning the instrument for use.
- 10.9.3 Primer cartridges shall be made only as required for immediate use for each round of blasting and in their making the detonator shall not be pressed into the explosive without first having made a hole of sufficient diameter and depth in the cartridge with a pricker of non-ferrous metal. The detonator shall be securely fastened to the cartridge in such a manner that it cannot pull out from the cartridge when the primer is lowered into the hole.
- 10.10 When using electric detonators (all types) the blaster shall-
- (a) when testing for continuity of circuits, use only a type of tester which has been approved by the Chief Inspector of Explosives, and which still has the seals intact;
- (b) test each detonator for continuity before use, this test shall be carried out not less than 15 metres from other explosives and under suitable precautions to guard against possible injury due to accidental ignition of the detonator during the test;
- (c) whilst on duty keep on his person the operating handle or key of the shot-firing apparatus,
- (d) use only a firing cable which is in good order and of sufficient length to provide for the firing of charges from a safe distance and also ensure that the cable cannot come into contact with any other cable or electric apparatus; the ends of the firing cable adjacent to the shot-exploder shall be shorted at all times other than when they are connected to the shot-exploder, in accordance with regulation 10.10 (g) or, when a test for continuity is being carried out, in accordance with regulation 10.10 (f);
- (e) personally connect the firing cable to the detonator wires of any charge or charges only after he has completed all firing preparations other than those referred to in paragraphs (f) and (g) of this regulation;
- (f) except when a photo-electric type of tester is used, not apply any electrical test to the firing circuit otherwise than through the firing cable and from a place of safety;
- (g) not connect the firing cable to the terminals of the shot-exploder until immediately before firing or attempting to fire;
- (h) immediately after firing or attempting to fire, disconnect both leads of the firing cable from the shotexploder or other firing apparatus and there and then remove the operating handle or key of the shot-exploder or secure the locking arrangement of the shot-firing apparatus and remove the key, as the case may be.
- (i) ensure by using recognised equipment or by employing the services of experts in the field of the use of blasting materials that, at the place where he intends using them, such detonators cannot be detonated by any electro-magnetic waves which may be emanated to that place by any radar, radio, television, or other transmitter, or in any other manner.
- 10.11.1 No person shall drill or permit to be drilled any hole at any place and in any direction other than that indicated by the blaster.

- 10.11.2 The blaster shall be in attendance during the drilling of the holes and shall ensure that the holes are drilled at the places indicated by him with wax crayon or paint and in the direction indicated by him.
- 10.11.3 Immediately a hole has been drilled to the desired depth the blaster shall plug it effectively and no such plug shall again be removed, except for the purpose of inspection, until the hole is required to be charged.
- 10.11.4 Only the blaster under whose attendance the holes were drilled shall charge or attempt to charge such holes; except that with the written permission of an inspector the charging may be done by any other blaster.
- 10.11.5 No person shall drill or permit to be drilled any hole nearer than 150 millimetres to any socket or in such a direction as to approach nearer than 150 metres to any socket, nor shall any person deepen or permit to be deepened any hole which has been left unplugged.
- 10.11.6 No person shall use or permit to be used any breaker nearer than 150 millimetres to any socket.
- 10.12.1 Only blasting materials that are in good outward condition shall be used in charging a hole.
- 10.12.2 All drill holes shall be sufficiently large to admit freely the insertion of the blasting cartridges.
- 10.12.3 The wrapper of a blasting cartridge shall not be interfered with in any way except for the opening of one end when making a primer cartridge or for attaching detonating fuse as required by regulation, nor shall a blasting cartridge be broken, cut or otherwise tampered with.
- 10.12.4 All holes charged with blasting materials shall be stemmed. Only clay, sifted earth, fine sand or water shall be used as stemming.
- 10.12.5 Stemming shall not be allowed to come between blasting cartridges charged into a blast hole, except only when detonating fuse is used for initiating the charge.
- 10.12.6 Tamping shall be done only with properly constructed wooden rods or other approved rods. The rods shall be an easy fit in the holes to be charged, shall be kept clean and free from grit and the ends shall be kept cut off square. No undue force shall be used during tamping operations and cartridges shall not be subjected to blows.
- 10.12.7 No person shall extract or attempt to extract blasting material from a hole which has once been charged.
- 10.13.1 A blaster shall prepare only such charges as he intends exploding at the next blast and he shall not start preparing the charges until all persons not necessarily needed to assist him in this work have been removed to a safe place. The charges shall be fired as soon as possible after charging operations have been completed.
- 10.13.2 While charging blast holes, the blaster shall not have more than two persons to help him.

- 10.14.1 Before firing a charge the blaster shall-
- (a) take every precaution to prevent possible injury to persons or damage to property;
 - (b) give audible warning at least three minutes before the blast is fired;
 - (c) place a notice board with the following wording: "Danger-Blast Area-Keep Out-Gevaar-Skietgebied-Bly Weg" in block letters not less than 100 millimetres in height on a contrasting background and station a competent person carrying a red flag at each avenue of approach at a point beyond the probable range of flying, material projected by the blast, to stop persons from approaching; and
 - (d) personally examine the danger zone to make certain that all persons have retired therefrom to a place well beyond the probable range of flying debris from the blast, or to a safe shelter.
- 10.14.2 The blaster shall not fire a charge while any person is within the probable danger zone from the blast.
- 10.14.3 Every person within the danger zone shall retire to a place beyond the probable range of flying debris from the blast or to a safe shelter immediately upon hearing the warning referred to in regulation 10.14.1 (b).
- 10.14.4 Any person who, after having been warned to stop in accordance with regulation 10.14.1 (c), approaches closer to the blasting site shall be guilty of an offense.
- 10.15.1 A blaster, after charges have been fired, shall-
- (a) not enter or allow any person to enter the place in which such firing has occurred, until the fumes caused by the explosion shall have been sufficiently dissipated, and if safety fuse was used, not until after the expiry of at least 30 minutes;
 - (b) personally make an examination of the working place for misfires, exposed blasting materials and dangerous ground and until he has done so and has taken all reasonable steps to make the place safe, shall not allow or permit any persons except those necessary to assist him in making safe, to enter or approach such place;
 - (c) carefully examine the place for misfires while the debris is being cleared and shall personally instruct the persons engaged in clearing the broken rock to report to him immediately the finding of any explosives or electrical wires or fuses that may lead to a misfire, he shall carefully trace such wire or fuse to determine whether a misfire had occurred;
 - (d) clean and examine the site where blasting had taken place with a view to discovering holes and shall examine every exposed hole to determine whether it is a misfire or a socket; and
 - (e) place a watchman or watchmen to prevent any persons who are not under his direct control or supervision from entering the site until the debris has been cleared and the foregoing provisions of this regulation have been complied with.
- 10.15.2 At any site where blasting materials have been used the blaster shall-

- (a) after examining and cleaning exposed holes, plug the sockets with wooden plugs painted red, such plugs shall not again be removed, except temporarily for the purpose of inspection, until the drill holes in the immediate vicinity have been charged, or until all work in connection with the excavation has been completed;
- (b) mark the holes to be drilled clearly with wax crayon or paint, indicating the position of the holes and the direction in which they shall be drilled;
- (c) before personally marking holes, remove or cause to be removed all loose rock or ground to a distance of at least 2 metres in all directions from the place where a hole is to be drilled with a view to discovering misfires and sockets; and
- (d) before allowing a breaker to be used, remove or cause to be removed all loose rock or ground to a distance of at least 2 metres in all directions from the place where the breaker is to be used with a view to discovering misfires and sockets.

10.16 On locating a misfire the blaster shall immediately withdraw all persons from the site, except those necessary to assist him. He shall then-

- (a) withdraw the stemming carefully with a wooden spoon or copper scraper, preferably with the use of water, to expose the charge, and then place a fresh primer cartridge on top of the charge which he shall fire subject to the normal safety precautions being taken; or
- (b) cause a hole to be drilled under his personal supervision, parallel to, at least 150 millimetres deeper than, and not nearer than 1 metre to the misfire, which he shall charge and fire and then recover the explosives liberated from the misfire.

10.17.1 When blasting is to be done within 500 metres of any building, railway, public thoroughfare, powerline, telephone line, pipeline, sports field or any place where people congregate, the manager shall-

- (a) prepare a site plan (or sketch) with the relevant distance to all structures and services within 500 metres of the blasting site shown thereon. (For blasting in built-up areas it will be sufficient to show the blasting site and immediate surroundings with distances indicated.);
- (b) obtain written confirmation from-
 - (i) the South African Railways Administration concerning occupation times of the railway track and other safety precautions to be observed before blasting near railway lines and shutdown times and other safety precautions to be observed before blasting near petroleum pipelines;
 - (ii) the Department of Posts and Telegraphs concerning the re-laying of telephone and telegraph lines or the attendance of a technician prior to blasting;
 - (iii) Escom concerning the protection of powerlines;
 - (iv) water boards and local authorities, concerning the protection of water mains, gas mains, sewers and sewerage mains and electric cables;
 - (v) the Division of Sea Fisheries, authorising blasting in the sea;
 - (vi) the Provincial Administration, authorising blasting in dams, rivers, lakes or any other inland waters; and
 - (vii) any other authorities who may have jurisdiction in the area;

- (c) ensure, by using recognised formulae or by employing the services of experts in the field, that no damage will be caused by blasting vibrations. (Prior to blasting, it may be advisable to check structures in the immediate vicinity, in the presence of the owners, for cracks and other damage and to record such observations.);
- (d) keep the plans, sketches and records required in terms of this regulation and regulation 10.17.2 (c), or ensure that they are kept in safe custody by a responsible senior official, for a period of two years.

10.17.2 When blasting is to be done within 500 metres of any building, railway, public thoroughfare, powerline, telephone line, pipeline, sports field or any place where people congregate the blaster shall-

- (a) satisfy himself of the existence and accuracy of the letters, documents and plans required in terms of regulation 10.17.1;
- (b) prevent damage by flying debris,
- (c) keep a record of every blast in a logbook, reflecting the following:
 - (i) Name of contractor;
 - (ii) address of place of work;
 - (iii) purpose for which blasting materials were used;
 - (iv) name of blaster and permit number;
 - (v) name of manager (regulation 10.5.1);
 - (vi) date and time of blast;
 - (vii) depth and diameter of holes;
 - (viii) number of holes charged and fired;
 - (ix) burden and spacing of holes;
 - (x) number of blasting cartridges per hole;
 - (xi) size and grade of blasting cartridges (alternatively, when ammonium nitrate blasting agents are used, a record of the mass per hole and charge length must be kept);
 - (xii) length of detonating fuse used;
 - (xiii) number and delay interval of detonating relays used;
 - (xiv) number and type of detonators used; and
 - (xv) a sketch showing the pattern of placing and firing of the holes, when multiple rows of holes are charged and fired.

10.17.3 When blasting in any built-up area, the blaster shall use only an instantaneous electric detonator in conjunction with detonating relays or short period (millisecond) delay action electric detonators, in both cases with detonating fuse, which shall extend down the full depth (length) of each hole, for initiating the charge, and tie holes shall be effectively covered by means of suitable material such as steel mats, rubber mats, sand bags or -timber baulks so as to prevent any debris being projected into the air.

10.17.4 When blasting in any built-up area, where persons are likely to congregate to watch the work, the manager shall, unless specially exempted in writing by an inspector, ensure that the site is completely boarded in to a height of at least two metres on all sides abutting on streets.

- 10.18.1 When deep holes or a large number of holes have to be charged the required blasting cartridges and detonating fuse shall not be kept all together in the blast area, but shall be distributed in piles of unopened cases or cartons of not more than 250 kilograms each.
- 10.18.2 The piles shall not be less than 20 metres from each other or from a drill hole being charged and not less than 50 metres from any other work in progress or from any road or office.
- 10.18.3 The piles shall be under continuous guard, and in each case the blasting materials shall be placed on a wooden platform and be covered with a tarpaulin.
- 10.18.4 Not more than 25 kilograms of blasting cartridges and one reel of detonating fuse shall at any one time be at a drill hole being charged.
- 10.18.5 The detonator or detonators needed for setting off the blast shall not be brought into the blast area until all holes have been charged and the necessary connections made.
- 10.19.1 In all drill holes of greater depth than three metres, the charges shall be initiated only by means of detonating fuse. The end of the detonating fuse shall be threaded through the first cartridge to be charged into the hole, or be firmly attached to it by means of tape, string or thin copper wire and the cartridge let down until it rests on the bottom of the hole.
- 10.19.2 Before any further cartridges are charged, the detonating fuse shall be cut off the reel at a point not less than 150 millimetres beyond the collar of the hole and the reel removed to a safe place not less than two metres from the hole. The cut end of the fuse shall be firmly anchored to prevent it from slipping down the hole.
- 10.20 When blasting pole holes, and in other similar work where the holes have no free face to which the blasting materials can break except the surface, detonating fuse shall be used for setting off the charges, except when only a primer is used per hole.
- 10.21 In every quarry the manager and the blaster shall-
- (a) keep the surface soil and loose overburden cleared back from the working face for a distance of at least 3 metres;
 - (b) not allow any portion of the face to be undercut;
 - (c) not allow any person to work at any place with an inclination of more than 45 degrees where inadvertent slipping or overbalancing may result in his sliding down a vertical distance exceeding 2 metres unless he is secured by a life line;
 - (d) not allow any person to work on a face that is higher than 5 metres or on the floor of such quarry unless he wears a hard hat of a type approved by an inspector;
 - (e) not allow any person to drill into or hammer on any boulder or loose rock broken by previous blasting, until the boulder or rock has been examined on all sides and found to be free of explosives;
 - (f) not allow any person to work on the floor of the quarry front of a face that is being charged;

- (g) ensure that all loose rock is crowbarred from the face and not allow any other person not engaged on this operation to work in front of the face until this has been done; and
 - (h) in weathered, loose or friable rock or ground not allow a face to exceed 3 metres in vertical height, but shall carry the face in terraces of 3 metres or at an angle of not greater than 60° from the horizontal.
- 10.22 When blasting materials are used in the making of excavations the manager and the blaster shall-
- (a) cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares or whereby the safety of persons may be endangered to be-
 - (i) adequately protected by a barrier or fence at least 1 metre high and as close to the excavation as practicable;
 - (ii) provided with red warning lights at night,
 - (b) except for the purpose of erecting shoring or bracing, not require or permit any person to, and no person shall, work in an excavation under unsupported overhanging material or in an excavation which is more than one and a half metres deep and which has not been adequately shored and braced: Provided that shoring and bracing shall not be necessary where the sides of the excavation are sloped to at least the angle of repose of the earth or where such excavation is in solid rock;
 - (c) cause all shoring and bracing to be supported by cross-braces of adequate strength, cleated and wedged into position or secured by other suitable means. Where the width of the excavation is such that crossbracing is not possible, supporting braces shall bear against footings so arranged as to prevent the braces from kicking out;
 - (d) ensure that the shoring and bracing is of sufficient strength to support all excavated or other material, equipment or other loads;
 - (e) ensure that all excavated or other material and equipment is prevented from falling into the excavation;
 - (f) cause convenient and safe means of access to be provided to every excavation in which persons are required to work and which is more than one and a half metres deep: Provided that where an excavation is longer than 45 metres a safe means of access shall be provided at intervals of not more than 45 metres,
 - (g) ascertain as far as practicable the location and nature of underground services likely to be affected by the excavation and take such steps as may be necessary to prevent danger to persons;
 - (h) where the stability of a structure is likely to be affected by an excavation, take adequate steps to ensure the stability of the structure and such steps as are necessary to ensure, the safety of persons,
 - (i) cause every excavation which is more than one and a half metres deep, including all bracing and shoring, to be inspected by a person who is competent to do so, at least once in every shift and before the commencement of work after rain, to ensure the safety of persons;

- (j) provide free of charge and maintain in good condition adequate protective clothing, appliances and material including, where necessary, safety belts, safety helmets, goggles, gloves or footwear, for any person who is exposed to the danger of falling, or to danger from falling or flying objects, or who is exposed to wet or dusty work which may be injurious to health, or for any person where required by an inspector.

10.23.1(a) No person shall bury, submerge, hide or abandon any explosive;

- (b) no person shall leave explosives unattended so that it will be possible for other persons to have access thereto.

10.23.2 No person in charge of explosives shall relinquish such charge until some other person lawfully accepts charge thereof or such explosives are placed in a magazine as provided for in these regulations and such magazine has been securely locked.

10.23.3 No person shall take away or attempt to take away from any workings any explosives without the written permission of the manager, who shall advise the Chief Inspector of Explosives immediately of the issue of any such permit.

10.23.4 Except as provided for in these regulations no person shall meddle or interfere in any way with explosives or any box containing explosives.

10.23.5 No person shall convey, or cause or permit to be conveyed, any explosives unless the explosives are contained in the original unopened containers as packed by the manufacturers or in receptacles of a design and construction approved for the purpose by an inspector.

10.23.6 All blasting materials found among the debris after a blast may not be charged into a blast hole but shall be collected immediately and be placed in two specially constructed strong, waterproof, wooden or wood-line boxes equipped with hinged lids that can be locked. In one box recovered blasting cartridges and detonating fuse shall be kept and in the other recovered blasting accessories such as detonators (all types).

The boxes shall be painted red and conspicuously marked with the words "Old Explosives-Ou Springstowwe" and words indicating the type of explosives to be placed and kept in them, in white block letters. A hole shall be provided in the lid to allow for the easy insertion of the blasting materials.

The boxes shall be kept securely locked except when it is necessary to remove the blasting materials therefrom or when the boxes or their contents are being inspected. The keys shall be kept in the possession of the blaster.

The boxes shall be cleared at least once at the end of each day and the contents destroyed.

10.23.7 Empty boxes, cartons or packets which have previously contained blasting cartridges, such as dynamite, gelnite or similar explosives shall not be used for any purpose, but shall be destroyed daily by burning in the open air.

10.24 On the approach of or during a thunderstorm, the blaster shall suspend all blasting operations and no person shall remain or be caused or permitted to remain within an area where he may be injured by the accidental detonation of blasting materials.

- 10.25 Except with the permission, in writing, of an inspector and under conditions prescribed by him, blasting materials shall not be used during, the hours of darkness from half an hour after sunset to half an hour before sunrise.
- 10.26.1 No person shall keep, carry handle-or use any blasting material within 15 metres of a fire or naked light nor shall any person smoke in or about any place where explosives are being kept, carried, handled or used; except that on confined sites in built-up areas near streets, this distance may be reduced to 5 metres, but notices with red letters not less than 75 millimetres high on a white background, warning persons against smoking or making a naked light, shall be prominently displayed on the site.
- 10.26.2 Every person in a quarry or boarded-in excavation or at any other place where explosives are being used or prepared for use, shall refrain from any act whatsoever which tends to cause fire or explosion and any such person who fails to comply with an instruction from the manager, foreman or blaster in the interests of safety, shall be guilty of an offense.
- 10.27 No person under the influence of intoxicating liquor or narcotics shall handle or attempt to handle blasting materials and the manager and the blaster shall take all reasonable steps to prevent a person under such influence from handling, approaching or remaining within the vicinity of blasting materials.
- 10.28 Explosives suspected of being frozen shall not be used or handled.
- 10.29.1 A blaster shall take all reasonable measures to safeguard all persons who may be at or in the vicinity of his working place against accident in any way, whether such persons are under his direct supervision or not.
- 10.29.2 No person shall do work or allow work to be done which involves excavating, drilling or the use of a breaker at any place where explosives had previously been used, unless the blaster is in attendance.
- 10.30 Any person who obstructs or hinders any manager, foreman or blaster in the discharge of his duties, or who fails to comply with the lawful orders given in terms of these regulations shall be guilty of an offense.
- 10.31 An inspector or the local authority may prohibit or restrict the use of blasting materials in places where, owing to the close proximity of buildings or other works, blasting may appear to endanger life or property: Provided that any person who is dissatisfied with the ruling of the inspector or the local authority may appeal to the Chief Inspector of Explosives whose decision shall be final.
- 10.32 In addition to other regulations, in so far as they are applicable, the regulations published in terms of section 12 of the Mines and Works Act, 1956 (Act 27 of 1956), shall apply to any sinking shaft or tunnel.
- 10.33 The Chief Inspector of Explosives may, in his discretion, give written exemption from any of the foregoing regulations, and may prescribe. in writing, such additional conditions as he may deem necessary.

USE OR EXPLODING OF FIREWORKS

- 10.34 It shall be unlawful for any person to use or explode any firework-

- (a) within 500 metres of any explosives magazine, explosives factory, petroleum depot, or gasometer;
- (b) in any building or on any public thoroughfare; or
- (c) on any public place or resort, except with the prior written permission of the local authority.

10.35.1 No person shall operate a public display of fireworks on any premises without the written permission of the Chief Inspector of Explosives.

10.35.2 Such permission shall stipulate the conditions to be complied with and non-compliance with any of these conditions shall constitute an offense under this regulation.

10.36 Application for permission to operate a public display of fireworks shall be made in writing and shall set forth-

- (a) the name of the person or organisation sponsoring the display together with the names of the persons actually in charge of the firing of the display who shall be at least 18 years of age and competent for the work;
- (b) the date and time of day at which the display is to be held;
- (c) the exact location planned for the display;
- (d) a description setting forth the age and qualifications of the persons who are to do the actual discharging of the fireworks;
- (e) the numbers and kinds of fireworks to be discharged and the value of the display;
- (f) the manner and place of storage of such fireworks prior to the display, and
- (g) a diagram of the grounds on which the display is to be held showing-
 - (i) the point at which the fireworks are to be discharged, which shall be at least 100 metres from the nearest building, road or railway, and at least 20 metres from the nearest telephone, telegraph or powerline, tree or other overhead obstruction;
 - (ii) the direction in which aerial fireworks, if any, are to be fired;
 - (iii) the area to be kept clear of persons which shall extend at least 50 metres from the front and to the sides of the point at which the fireworks are to be discharged;
 - (iv) the area to be kept clear on which falling residue from aerial fireworks is expected to drop, which shall extend for at least 100 metres to the rear of the firing point; and
 - (v) the location of all buildings and roads within 200 metres of the firing site and of all trees, telegraph or telephone lines or other overhead obstructions at or adjacent to the firing site.

10.37 At a public display of fireworks it shall be an offense-

- (a) for any person willfully to enter on or remain in that area reserved for receiving falling residue from aerial fireworks; and

- (b) for any unauthorised person wilfully to proceed beyond the area demarcated by the organisers of the display for spectators.

USE OF OTHER EXPLOSIVES

- 10.38 Any explosives for the use of which provision is not made in the preceding regulations of this Chapter, shall be used only in such manner and under such conditions as may be prescribed, in writing by an inspector.

PENALTY

- 10.39 Any person who by any act or omission commits a breach of any of the regulations of this Chapter, shall be guilty of an offense and liable on conviction to a fine not exceeding R600 or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment, and the explosive, if any, in respect of which the contravention or non-compliance has taken place, may be confiscated.

CHAPTER 11 ACCIDENTS AND INQUIRIES

- 11.1.1 Whenever an accident occurs-

- (a) at an explosives factory, resulting in injury to a person or damage to property;
- (b) at an explosives magazine;
- (c) in any tunnel, quarry or excavation in which explosives have been or are being used in terms of these regulations, resulting in injury to a person or damage to property;
- (d) in connection with any mode of transport for explosives;
- (e) by fire or explosion in or about any premises occupied by a dealer in explosives (including fireworks);
- (f) as a result of the use of explosives (including fireworks);
- (g) in connection with the ignition or detonation of explosives at any other place subject to these regulations,

the person in official charge at the factory, magazine, tunnel, quarry or excavation, the owner or person officially in charge of the transport, the owner or manager of the premises, or the person using the explosives, as the case may be, shall forthwith give notice thereof in writing, and also by telegraph or telephone, to the Chief Inspector of Explosives, stating full particulars of such accident.

- 11.1.2 Whether injury to persons or damage to property is caused or not, every accident or occurrence in connection with the accidental ignition or detonation of explosives or their ingredients, the fracture or failure of any essential part of any machinery whereby the safety of persons may be endangered, extensive caving in or subsidence in the ground or works and the failure of any mode of transport used for explosives, shall be reported immediately to the Chief Inspector of Explosives.

- 11.1.3 Whenever an accident occurs in connection with the accidental ignition or detonation of explosives or their ingredients, or as a result of the use of explosives and in any other accident reportable under these regulations, which causes death or grievous bodily harm to any person, the place where the accident occurred shall not be disturbed or altered before the arrival or without the consent of an inspector, unless such interference is unavoidable to prevent further accidents, to remove the dead or injured, or to rescue persons from danger.
- 11.1.4 When injury results in the death of the injured person after the official report has been forwarded, the person who is officially in charge shall give notice thereof to the Chief Inspector of Explosives.
- 11.2.1 An inspector may at his discretion conduct an inquiry into any incident.
- 11.2.2 For the purposes of an inquiry referred to in regulation 11.2.1 , an inspector may by notice in writing summon any person to appear before him on a day and at a place specified in the notice and to give evidence or to produce a book, document or thing which in the opinion of the inspector has a bearing on the subject of the inquiry.
- 11.2.3 The inspector may call any person present at the place where the inquiry is conducted to appear before him, irrespective of whether or not such :person was summoned under regulation 11.2.2, and may-
- (a) examine such person or cause such person to be examined by any other person;
 - (b) require such person to produce a book, document or thing specified in the summons or which he may have with him;
 - (c) retain for a reasonable period any book, document or thing produced by such person or seize it if in his opinion it may serve as evidence at the trial of any person charged with any offense under the Act, these regulations or the common law.
- 11.2.4 Whenever at an inquiry evidence is given from which it may reasonably be presumed that a person has committed an offense in connection with the incident which is being inquired into, or in any manner whatsoever may be held responsible for the said incident, such person may-
- (a) cross-examine any person who at such inquiry has given evidence or produced a book, document or thing, or cause such person to be cross-examined by his legal representative;
 - (b) request the inspector to summon a person required by him as a witness at the inquiry to give evidence or to produce a book, document or thing.
- 11.2.5 Upon receiving a request referred to in regulation 11.2.4 (b) the inspector shall summon that person in accordance with regulation 11.2.2 to appear before him or to give evidence or to produce the book, document or thing in question: Provided that if in the inspector's opinion it is not necessary for the said person to give evidence or to produce such book, document or thing, he shall not summon that person unless the person who made the request deposits with the inspector an amount adequate to cover any witness fees which the State has to pay to the said person in terms of regulation 11.2.8.

- 11.2.6 Whenever the inspector deems necessary, he may direct any person to give his evidence on oath or affirmation, and the inspector may administer the oath to, or accept an affirmation. from, such person.
- 11.2.7 The law relating to privilege as applicable to a person summoned to give evidence or to produce a document or thing before a court of law shall be applicable in connection with the examination or the production of a book, document or thing by any person for the purposes of an inquiry under this section.
- 11.2.8 Any person summoned to appear before an inspector shall be entitled to receive as witness fees, from moneys appropriated by Parliament for the purpose, an amount equal to the amount which he would have received as witness fees had he been summoned to attend criminal proceedings in a magistrate's court held at the place specified in the summons.
- 11.2.9 The examination of a witness at an inquiry shall take place in public unless the inspector otherwise directs.
- 11.2.10 The evidence given at any inquiry under this section shall be recorded and shall be submitted in writing by the inspector with his report to the Chief Inspector and in the case of an incident in which or in consequence of which any person died or was seriously injured or became seriously ill, the inspector shall submit a copy of the said evidence and report to the Attorney-General within whose area of jurisdiction such incident occurred.
- 11.2.11 Notwithstanding anything to the contrary contained in any law the report referred to in regulation 11.2.10 or a copy thereof shall not be disclosed for purposes of any judicial proceedings.
- 11.2.12 An inquiry under this section may at any stage be continued by an inspector other than the inspector before whom the proceedings commenced, and may again be continued by the inspector before whom the proceedings commenced.
- 11.3.1 The provisions of regulations 11.2.1 to 11.2.12 shall not affect the provisions of any law requiring and regulating judicial inquests or other inquiries in case of death resulting from other than natural causes, and in respect of each incident referred to in those regulations in which or in consequence of which any person has died there shall be held, in addition to an inquiry under those regulations, such judicial inquest or inquiry as is required by any such law: Provided that an inquiry under the said regulations and a judicial inquest held by a magistrate under the Inquests Act, 1959 (Act 58 of 1959), may be held jointly.
- 11.3.2 At such a joint inquiry and inquest the magistrate shall preside and the provisions of the Inquests Act, 1959, shall apply in such case but the inspector and the magistrate shall each make the report required of them by regulation 11.2.10 and that Act, respectively.

PENALTY

- 11.4 Any person who by any act or omission commits a breach of the regulations of this chapter shall be guilty of an offense and liable on conviction to a fine not exceeding five hundred rand (R500) or to imprisonment for a period not exceeding six months or to both such fine and such imprisonment.

CHAPTER 12 TRESPASS

- 12.1 Save as provided in section 23 of the Act-
- (a) no person shall pass within the fence surrounding any danger building or group of danger buildings within the premises of an explosives factory, nor, where such danger buildings are not specially fenced in, shall any person approach within 50 metres of the same, unless he shall be in possession of a permit signed by or on behalf of the owner or occupier of such factory, authorising him to do so;
 - (b) no person shall enter any explosives magazine or pass within the fence or mound of any such magazine except with the permission of the occupier of the magazine;
 - (c) no person shall enter on any premises where, under paragraphs (b), (c), (d) and (e) of section 6 (i) of the Act, explosives are kept or stored, except with the permission of the occupier.

PENALTY

- 12.2 Any person who by any act or omission commits a breach of this Chapter shall be guilty of an offense and liable on conviction to a fine not exceeding R300 or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment.

CHAPTER 13 APPEALS

- 13.1.1 Where, as provided in section 25 of the Act, any person is not satisfied with a decision or instruction given by an inspector, he may, within 14 days, lodge a written appeal with the Chief Inspector of Explosives.
- 13.1.2 The appellant may ask for either-
- (a) the decision of the Chief Inspector of Explosives; or
 - (b) the decision of a special commission.
- 13.2 In either case, action shall be taken by the Chief Inspector of Explosives as soon as possible and either decision shall be final.
- 13.3 In applying for the decision of the Chief Inspector of Explosives the appellant shall file with the Chief Inspector of Explosives a written statement setting out the grounds upon which the appeal is based.
- 13.4 In applying for the decision of a special commission, the appellant shall deposit with the Chief Inspector of Explosives the sum of R100.
- 13.5 The special commission shall consist of five members, namely the chairman, who shall be the Chief Inspector of Explosives or his representative, two members appointed by the Chief Inspector of Explosives and two members appointed by the appellant.
- 13.6 In the event that the decision of the special commission is given against the appellant in any respect, the appellant may be ordered to pay the entire cost of this commission, or

such proportion thereof as this commission may determine, as well as any fees payable to any witness who may have been summoned to appear, and the deposit lodged with the Chief Inspector of Explosives may be forfeited in whole or in part for these purposes.

- 13.7 In the event that the decision of the special commission is given in favour of the appellant the sum deposited by him shall be returned to him forthwith.
- 13.8 The members of such special commission, other than Government officials, shall each receive a remuneration of R6 per day with all reasonable travelling expenses while engaged in the actual examination.

CHAPTER 14 TEST OF EXPLOSIVES

- 14.1 All applications to have an explosive declared an authorised explosive shall be addressed to the Chief Inspector of Explosives.
- 14.2 Every application shall give particulars of-
- (a) the nature and composition of the explosive;
 - (b) the limiting percentage of each ingredient of the explosive,
 - (c) any substitute or substitutes it may be desired to have approved for any specified ingredient; and
 - (d) in the case of a new explosive the process by which it is proposed to carry out its manufacture.
- 14.3 When, in the opinion of the Chief Inspector of Explosives, an explosive in respect of which an application is made may properly be considered for authorisation, and is such as may, under regulations then in force, be forwarded by rail or other available means of conveyance, the Chief Inspector shall send instructions to the applicant as to the samples required and the manner of forwarding them.
- 14.4 No person shall send a sample of an explosive to the Chief Inspector of Explosives-unless such person has first received the instructions referred to in regulation 14.3.
- 14.5 Explosives submitted for authorisation shall be subject to such of the following tests as the Chief Inspector of Explosives may consider necessary or desirable:
- (a) Physical properties, including properties such as consistency, reaction, absorptive power for moisture, segregation in transport, or otherwise, of the constituents, exudation, behaviour at low temperatures, specific gravity and such other physical properties as may be considered necessary.
 - (b) Chemical composition - Determination of the percentage composition of the ingredients forming the explosives, and the quality of the ingredients employed in its manufacture;
 - (c) Stability - Abel's heat test, Bergman-Junk test, stability and properties after subjection to varying artificial atmospheric conditions as would tend to produce spontaneous ignition of an explosive (including fireworks) or variation in sensitiveness.

- (d) Ignition - Ignition point, behaviour on ignition, liability to spontaneous ignition, behaviour on ignition in quantities.
 - (e) Mechanical sensitiveness - Determination of sensitiveness to friction, percussion by fall hammer, friction pendulum, broomstick, mortar, or other like tests.
 - (f) Detonation by influence.
 - (g) Velocity of detonation.
 - (h) Trauzl's lead block test for comparative disruptive effect.
 - (i) Compression of small lead block for relative percussion effect.
 - (j) Length and duration of flame.
 - (k) Composition of gases evolved upon explosion.
 - (l) Calorimetric valuation of the explosive.
 - (m) Such other tests as the Chief Inspector of Explosives may specify.
- 14.6 The Chief Inspector of Explosives may at any time subject any sample of an explosive to the tests enumerated in regulation 14.5 and any explosive which fails to satisfy such tests shall not be sold or used, but may be ordered to be destroyed and the owner of the explosives shall be responsible for any expenses incurred in connection with the destruction.

PENALTY

- 14.7 Any person who by any act or omission commits a breach of any of the regulations of this Chapter shall be guilty of an offense and liable on conviction to a fine not exceeding R300 or to imprisonment for a period not exceeding 12 months or to both such fine and such imprisonment.

CHAPTER 15 MISCELLANEOUS REGULATIONS

DESTRUCTION OF EXPLOSIVES

- 15.1 No person other than a blaster as defined in Chapter 10 of these regulations, or a person specially authorised in writing by an inspector to do so, shall destroy or attempt to destroy or be allowed to destroy or attempt to destroy any blasting materials.
- 15.2 Explosives shall be destroyed only in a manner previously approved, in writing, by an inspector and the person carrying out the destruction shall adhere in every detail to the method so approved.
- 15.3 Whenever blasting cartridges in excess of one case (25 kilograms), or 1 000 detonators (all types) or one reel of detonating fuse having to be destroyed for any reason, the destruction shall not be proceeded with until the circumstances have been reported to an inspector and his written authority obtained for the destruction.

- 15.4 An inspector may condemn any explosives which, in his opinion, are not in good condition or the storage or use of which he considers to be dangerous and he may order the destruction forthwith of any such explosives. The owner of the explosives shall have no claim on the inspector or on the Government for the loss of the explosives so condemned and he shall be responsible for any expenses incurred in connection with the destruction of the explosives.

DISPOSAL OF EXPLOSIVES"

- 15.4A.1(a) No person shall bury, submerge, hide or abandon any explosives;
- (b) No person shall leave explosives unattended so that it will be possible for other persons to have access thereto.
- 15.4A.2 Whenever an explosives magazine is abandoned without prior notification to the Chief Inspector of Explosives, or when there is reasonable suspicion that an explosives magazine or premises contains explosives in contravention of the Act and these regulations, and reasonable enquiry has failed to locate the owner, and inspector may take such steps as he may deem necessary to gain entrance to such explosives magazine or premises and any explosives found there shall be dealt with as he may deem fit. If the owner can be located, any explosives found on any premises shall nevertheless be dealt with as deemed fit by an inspector. The owner of such explosives, explosives magazine or premises shall be responsible for any expenses incurred in the safe disposal or destruction of such explosives, explosive magazine or premises.

The owner of the explosives, explosives magazine or premises shall have no claim on the inspector or on the Government for the loss of the explosives, explosives magazine or premises which may be destroyed or damaged in the process of the aforementioned safe disposal or destruction of the explosives.

The owner of the explosives, explosives magazine or premises shall be liable for any damage which may be suffered by a third party as a result of the aforementioned safe disposal or destruction of the explosives.

EXPLOSIVES IN COAL

- 15.5.1 At every colliery the manager shall take every precaution, by sorting and otherwise, to prevent, any blasting material from remaining in coal despatched from the colliery.
- 15.5.2 The manager shall provide, convenient to where the sorting takes place, two secure wooden boxes in which the explosives found shall be placed, blasting cartridges in one and detonators in the other.
- 15.5.3 The boxes shall-
- (a) be of robust construction, be 500 millimetres square by 600 millimetres high, with a lid on top having a hole 45 millimetres in diameter in the centre, and be provided with an effective locking arrangement;
- (b) be painted red and be clearly marked with words indicating, the type of explosives to be placed and kept in them;

- (c) be kept locked at all times except when the explosives have to be removed for destruction;
 - (d) be kept in a safe place not less than 3 metres from each other.
- 15.5.4 Immediately an explosive is found it shall be dropped into its appropriate box through the hole provided in the lid.
- 15.5.5 No smoking, naked light or fire shall be allowed within 5 metres of the boxes.
- 15.5.6 At least once every day, except Sunday, the boxes shall be emptied by the blaster appointed to do the destruction and the contents destroyed by him in an approved manner.
- 15.5.7 The keys for the boxes shall be kept by a senior officer or by the blaster responsible for the destruction of the explosives.
- 15.6.1 The owner or manager of any coal distributing agency shall take every precaution by searching and otherwise to prevent any blasting materials whatsoever remaining in coal supplied by him to the public.
- 15.6.2 Any explosives so found shall be reported immediately to an inspector who shall instruct as to their disposal and, until they can be so disposed, the explosives shall be placed and kept in wooden boxes conforming with the requirements of regulation 15.5.3, and the provisions of regulations 15.5.4 and 15.5.5 shall be complied with.

EXPLOSIVES FOUND IN REDUCTION WORKS OF GOLD MINES

- 15.7 At all gold mines the manager shall provide two boxes conforming with the requirements of regulation 15.5.3, convenient to each sorting belt at each reduction works, in which to place and keep explosives found among the ore on the sorting belts. The operation of these boxes shall be subject to the provisions of regulations 15.5.4, 15.5.6 and 15.5.7.

AMMONIUM NITRATE

- 15.8.1 For the purposes of these regulations the expression 'ammonium nitrate' shall mean ammonium nitrate and mixtures of ammonium nitrate, except-
- (a) the undermentioned uniform non-segregating mixtures of ammonium nitrate (ammonium nitrate fertilisers):
 - (i) Uniform non-segregating mixtures of ammonium nitrate with calcium carbonate and/or dolomite, containing not more than 80 per cent of ammonium nitrate, provided they contain not less than 20 per cent of these carbonates (of minimum purity 90 per cent) and not more than 0,4 per cent of total combustible material.,
 - (ii) uniform non-segregating mixtures of ammonium nitrate and ammonium salts containing not more than 45 per cent of ammonium nitrate and not more than 0,4 per cent of total combustible material,
 - (iii) uniform non-segregating mixtures of nitrogen/phosphate or nitrogen/potash types or complete fertilisers of nitrogen/phosphate/potash types, containing not more than 70 per cent of ammonium nitrate, including other nitrates, and not more than 0,4 per cent of total added combustible material or containing not more than 45 per cent of ammonium

- nitrate, including other nitrates, with unrestricted combustible material used in fertilisers., and
- (b) solutions of ammonium nitrate, containing not less than 10 per cent water, used for the manufacture of slurry explosives.
- 15.8.2.(a) The ammonium nitrate fertilisers shall be manufactured in such a way that the constituents cannot be separated mechanically from one another.
- (b) Mixtures of ammonium nitrate with calcium carbonate and/or dolomite shall be manufactured in such a way that the calcium carbonate/dolomite is incorporated in the prills or granules of the mixture in a manner approved, in writing, by the Chief Inspector of Explosives.
- 15.9 Every person or concern manufacturing ammonium nitrate shall register his premises with the Chief Inspector of Explosives.
- 15.10 The conditions to be complied with at the ports during shipping or discharging of ammonium nitrate shall be as advised to the port captain by the Chief Inspector of Explosives.
- 15.11.1 No person shall supply ammonium nitrate to any other person except under a permit issued by an inspector unless the ammonium nitrate is to be used exclusively-
- (a) for analytical purposes in a bona fide laboratory; or
- (b) by pharmacists for dispensing under a doctor's prescription; or
- (c) by bona fide manufacturers for further processing.
- 15.11.2 Any person obtaining ammonium nitrate under the exceptions contained in regulation 15.11.1 shall furnish the supplier with a certificate declaring the purpose for which the ammonium nitrate is to be used and where.
- 15.11.3 Every person who supplies ammonium nitrate to any other person shall keep a record as follows:
- (a) The name and address of the person supplied,
- (b) the quantity supplied;
- (c) the purpose for which the ammonium nitrate is to be used;
- (d) the address where the ammonium nitrate is to be used, and
- (e) the number and date of the permit (if any) under which the ammonium nitrate was supplied.
- 15.12 No person shall obtain ammonium nitrate from any other person except under a permit issued by an inspector or on furnishing the supplier with the certificate referred to in regulation 15.11.2.
- 15.13 Ammonium nitrate shall be packed for conveyance-
- (a) in new open-headed or lidded mild steel drums complying with specifications approved by an inspector;

- (b) in containers of glass (with a capacity not exceeding 1 kilogram each), metal or earthenware containers, effectively closed, packed inside fibreboard or corrugated cardboard or wooden boxes, the gross mass not to exceed 50 kilograms; or
 - (c) in moisture-resistant multiwall paper sacks of a quality as approved by an inspector, the net mass not to exceed 50 kilograms; or
 - (d) in sacks of other materials approved by an inspector, the net mass not to exceed 50 kilograms.
- 15.14.1 Ammonium nitrate packed in accordance with regulation 15.13 and in quantities not exceeding 250 kilograms gross mass may be stored on any premises without restriction.
- 15.14.2 Except as provided in regulation 15.14.1 ammonium nitrate shall be stored only in a magazine constructed and licensed in terms of Chapter 7 of these regulations and, at a factory, in such a place, in such quantities and under such conditions as may be determined by an inspector.
- 15.14.3 The owner of any ammonium nitrate shall take reasonable precautions to prevent the material falling into the hands of unauthorised persons.
- 15.15.1(a) Ammonium nitrate in sacks shall be stacked in a magazine in accordance with a stacking plan which shall be obtained from an inspector.
- (b) Sacks containing ammonium nitrate damaged in any way shall immediately be placed in a clean slip-over bag and for this purpose an adequate supply of such slip-over bags shall be kept on hand.
 - (c) No loose ammonium nitrate shall be kept or left lying around in a magazine. Spillage shall be swept up immediately and put to waste by dissolving in a large excess of water and washing down a drain.
 - (d) The regulations of Chapter 8 of these regulations shall apply to a magazine for the storage of ammonium nitrate.
 - (e) When ammonium nitrate has set hard it shall be broken up by mechanical means only.
- 15.15.2 No smoking, naked lights or flames shall be allowed in any store containing ammonium nitrate.
- 15.16.1 Vehicles used for the conveyance of ammonium nitrate contained in sacks shall be clean and the bodywork shall be free of snags which may damage the containers.
- 15.16.2 Loads of ammonium nitrate shall be kept sheeted during conveyance.
- 15.16.3(a) For conveyance of ammonium nitrate in sacks by rail, only open steel trucks shall be used and ample dunnage shall be provided to cover bolt heads and other projections which way damage the containers, the loaded truck shall be securely sheeted. After use the truck shall be thoroughly swept out.
- (b) For conveyance of ammonium nitrate in bulk by rail only clean totally enclosed steel trucks shall be used. After use the truck shall be thoroughly cleaned out.

- 15.16.4 Any sacks containing ammonium nitrate damaged during loading or off-loading shall be placed immediately in clean slip-over bags, an adequate supply of which shall be provided by the consignor for the purpose.

CHLORATES

- 15.17 For the purpose of these regulations the expression "chlorates" shall include-
Ammonium chlorate, Barium chlorate, Calcium chlorate, Potassium chlorate, Sodium chlorate, Strontium chlorate, Zinc chlorate.
- 15.18 The possession of ammonium chlorate by any person is prohibited except by special written permission of the Chief Inspector of Explosives.
- 15.19 Every person or concern manufacturing a chlorate shall register his premises with the Chief Inspector of Explosives.
- 15.20.1 No person shall supply any chlorate to any other person except under a permit issued by an inspector, unless the chlorate is to be used exclusively-
- (a) for analytical purposes in a bona fide laboratory;
 - (b) by pharmacists for dispensing under a doctor's prescription; and
 - (c) by bona fide manufacturers for further processing.
- 15.20.2 Any person who obtains a chlorate under the exception contained in regulation 15.20.1, shall furnish the supplier with a certificate declaring the purpose for which the chlorate is to be used and where.
- 15.20.3 Every person who supplies a chlorate to any other person shall keep a record as follows:
- (a) The name and address of the person supplied;
 - (b) the quantity supplied.'
 - (c) the purpose for which the chlorate is to be used;
 - (d) the address where the chlorate is to be used; and
 - (e) the number and date of the permit (if any) under which the chlorate was supplied.
- 15.21 No person shall obtain any chlorate from any other person except under a permit issued by an inspector or on furnishing the supplier with the certificate referred to in regulation 15.20.2.
- 15.22 Chlorates shall be packed for conveyance as follows:
- (a) In new open-headed or lidded mild steel drums complying with specifications approved by an inspector; or

- (b) in containers of glass (with a capacity not exceeding 1 kilogram each), metal or earthenware containers, effectively closed, packed inside fibreboard or corrugated cardboard or wooden boxes, the gross mass not to exceed 50 kilograms; or
 - (c) in strong wooden boxes, paper-lined, the gross mass not to exceed 100 kilograms.
- 15.23.1 Chlorates packed in accordance with regulation 15.22 and in quantities not exceeding 250 kilograms gross mass, may be stored on any premises without restriction.
- 15.23.2 Except as provided in regulation 15.23.1 chlorates shall be kept in a store exclusively reserved for the purpose and the store shall comply with the conditions (a) to (f) prescribed in regulation 15.14.2.
- 15.23.3 Owners of chlorates shall take reasonable precautions to prevent the material from falling into the hands of unauthorised persons.

PENALTY

- 15.25 Any person who by any act or omission commits a breach of any of the regulations of this Chapter shall be guilty of an offense and liable on conviction to a fine not exceeding R200 or to imprisonment for a period not exceeding nine months or to both such fine and such imprisonment.