SOP-BS-13 KEMEK RECOMMENDED METHODS FOR THE DESTRUCTION OF SMALL QUANITITIES OF EXPLOSIVES
DANGER – THE DESTRUCTION OF EXPLOSIVES SUBSTANCES IS ALWAYS HAZARDOUS

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When it is found necessary to destroy explosives, for whatever reason, the following should be noted:

1. The preferred method of destroying all explosives is by detonation but as this is rarely practical for commercial users in the mining, quarrying and civil engineering industries due to the unacceptable noise levels produced, burning of certain explosives can be performed as described in paragraphs 5,6,7,8.

Never put explosives into a fire which is already burning. Always bear in mind that explosives can detonate if the heat becomes excessive or if they become confined in any way. Therefore, all personnel should be removed to a safe distance and guards placed in order to stop anyone approaching the fire.

2. The manufacturer should be consulted if there is any doubt about the methods to be adopted or the condition of the explosives.

3. Selection of area for the destruction of explosives.

(a) Select an area sufficiently far away from plant and personnel so that if an explosion should occur the effect would be minimal.

Minimum safe distances are recommended as follows:

Explosives (kg)	(Metres)
1	110
2	140
5	190
10	240
20	300
50	410

It should be noted that these minimum distances will not protect personnel from missile hazard and cover should therefore be taken.

(b) Do not destroy explosives on ground containing peat or in areas of undergrowth, to reduce the fire risk.

(c) Do not select an area which is cultivated or where there are land drainage pipes. Do not select stony ground as this would increase the missile hazard in the case of an explosion.

(d) Appoint a person to be responsible for the positioning of guards to warn personnel and to keep them outside the danger area. Safety helmets should be issues to the guards.

4. Destroy only one type of explosive at a time.

5. Cartridge Explosives or "Kemex" Emulsion/ANFO Explosive recovered from a misfire

The method of burning is as follows: -

The explosive should first be broken down into as small parts as possible within a bed of fine sawdust. It should be kneaded into the sawdust as much as possible and the resulting mixture then soaked in paraffin or diesel oil. Personnel involved in handing the explosive should wear disposable plastic gloves which must be burnt separately along with any packaging materials at the end of the operation. 2.5 kg. piles of explosive are placed on layers of paper or wood shavings at least 3m apart, each pile being to the windward of the proceeding piles. A train of shavings or wastepaper is laid from pile to pile and extended from 1m approx. at the windward end. The explosives and train are then well sprinkled with paraffin of diesel oil. When all personnel have reached a place of safety the burner lights the train at the windward end and retires to a safe place. Do not approach the fire until it has completely burned out and avoid inhaling the products of combustion. Any explosive found after the fire must be handled carefully and burned on the next fire.

The ground on which the fire was made should not be disturbed for 24 hours.

If there are cattle in the vicinity of the burning ground the burned area should be ploughed, as the residue from the burned explosives contains salts which are harmful to cattle.

6. "Ammogex" Ammonium Nitrate Fuel Oil Explosives

These explosives may be destroyed by drowning as ammonium nitrate is soluble in water. This operation should not be carried out in pools where cattle might drink or where there is a danger to fish stock. Environmental constraints may preclude this method of destruction and in this event follow the method described under 5 above for the burning of emulsion or cartridge explosives.

7. Detonating Cord.

The recommended method of disposal of 12g/m cord is by burning short lengths in a controlled manner and not exceeding 200m per fire. Remove any end sealing caps, cut into lengths not exceeding 1m and follow procedure described under 5 above for burning 2.5kg. piles of emulsion or cartridge explosives.
20g/m detonating cord should be disposed of by detonation in the blast by placing any excess lengths down the boreholes.

8. Detonators, including electric detonators, electronic detonators and non-electric shock tube detonator and connectors

Detonators should be destroyed by detonation and must not be burned as uncontrolled detonations will occur. Electrical and electronic detonators should not be destroyed when lightning is observed.

(a) Electric Detonators including electronic detonators: -

Small quantities that are surplus to a shot should be inserted individually into sand or quarry dust to prevent shrapnel and to muffle the sound. They can then be connected and fired from a safe location with an exploder.

(b) Shock Tube Detonators: -

Small quantities may be destroyed on the surface either individually or by connecting five at a time to a connecting block. Initiation should be carried out at a safe distance either by a shock tube starter line detonator using a shock tube exploder or by an electric detonator.

Detonators and connecting blocks should be covered with a minimum of 300mm of sand or quarry dust to prevent escape of shrapnel and to muffle the sound.

(c) Unfired Shock Tubing: -

Any unfired shock tubing (e.g. Offcuts from lead-in lines etc.) can be fired by either a shock tube exploder or an electric detonator before burning along with packaging materials.

After detonation, the area should be thoroughly searched for any undetonated remains.

9. Primers/Boosters

Primers should be destroyed by detonation and must not be burned. If primers cannot be loaded into a production blast hole only one should be detonated at any one time and, to avoid unacceptable noise levels, it should be buried to a depth of 3m in sand or quarry dust before remote initiation by a detonator from a safe place. Points 2 to 4 still apply.

10. Packaging Materials

All discarded packaging should be collected together and examined to ensure that no explosives remain in the packaging materials which, should then be burned separately from the explosives in a remote location, taking the same precautions as described under 5 above.

11. Users of explosives should make provision for the safe destruction of explosives at any time. When destroying explosives always take the same safety precautions as for the firing of a blast.

NOTE: IF IN ANY DOUBT CONCERNING THE CORRECT USE OF THE ABOVE PRODUCTS CONTACT KEMEK LTD.

KEMEK ROI - 00 353 (46) 9541086
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