



## Instructions and Warnings

Information applicable to Oil Well Perforating Operations extracted from „Do’s and Don’ts Instructions and Warnings“ adopted by the Institute of Makers of Explosives, June 6, 1977. Read this in all cases before using any explosives product. If after reading this pamphlet, you have any questions or doubts as to how to use these explosives products – do not use them.

Consult the manufacturer for additional information. It is the responsibility of all persons who use explosives to know and follow all approved safety procedures and to comply with all applicable Federal, State and Local laws, regulations and ordinances.

**The explosives in this package were manufactured and packed under careful supervision and inspection. However, the contents may become damaged by improper handling or storage beyond the control of the manufacturer; herefore, they should be carefully inspeded before using.**

## WARNING

**LOCK UP EXPLOSIVES. KEEP FROM CHILDREN. AVOID FLAME, HEAT, SPARK AND IMPACT. READ AND HEED THESE INSTRUCTION AND WARNINGS**

**Note:** These instructions and warnings are not to be construed as superseding federal, state, corporation or municipal laws, ordinances or regulations.

## Prevention of Accidents in the Use of Explosive Materials

The prevention of accidents in the use of explosive materials is a result of careful planning and observance of the best known practices. The user must remember that he is dealing with a powerful force and that various devices and methods have been developed to assist him in directing this force. He should realize that this force, if misdirected, may either kill or injure both him and his fellow workers.

### Warning:

All explosive materials are dangerous and must be handled and used with care either by or under the direction of competent, experienced persons. All commercial explosive materials are designed to detonate when supplied with a sufficient amount of initiating energy. Unfortunately, the explosive material cannot differentiate between initiating energy purposely supplied and that accidentally supplied.

It is the responsibility of all persons who handle explosive materials to know and to follow all approved safety procedures. This responsibility includes the necessity of being familiar with, and observing, federal, state, and local rules and regulations governing explosive materials. It is obviously impossible to include warnings or approved methods for every conceivable situation. A list of suggestions to aid in avoiding the more common cases of accidents is set forth herein.

Additional information pertaining to explosive materials is available in the Institute of Makers of Explosives Safety Library Publications listed below. Copies of these publications may be obtained by writing the Institute of Makers of Explosives, 420 Lexington Avenue, New York, New York 10017, or from your explosive materials supplier. Standard Storage Magazines (No. 1); American Table of Distances (No. 2); Suggested Code of



Regulations for the Manufacture, Transportation, Storage, Sale, Possession and Use of Explosive Materials (No. 3); Recommended Industry Safety Standards (No. 6); Agricultural Blasting (No. 11); Safety in the Transportation, Storage, Handling and Use of Explosive Materials (No. 17); Safety Guide for the Prevention of Radio Frequency Radiation Hazards in the Use of Electric Blasting Caps (No. 20); IME Standard for the Safe Transportation of Electric Blasting Caps in the Same Vehicle with Other Explosives (No. 22).

If, after carefully reading the entire leaflet, you have any questions or doubts as to how to use these products – **do not use them** – consult the manufacturer for additional information.

## Do's and Don'ts“ Instructions and Warnings - general

- DO obey all laws and regulations applicable to explosive materials.
- DON'T abandon any explosive materials.
- DON'T allow any source of fire or flame within 100 feet of a blast area (except for lighting safety fuze) or within 50 feet of a magazine or vehicle containing explosive materials.
- DON'T expose explosive materials to flame, excessive heat, sparks or impact.
- DON'T fight fires in explosive materials. Remove all personnel to a safe location immediately and guard the area against intruders.
- DON'T shoot into explosive materials, magazines, or vehicles loaded with explosive materials.
- DON'T allow unauthorized persons near explosive materials.

## Transporting Explosive Materials

- DO see that any vehicle used to transport explosive materials is in good mechanical condition and properly designed, equipped, and placarded for hauling explosives.
- DON'T drive or park vehicles containing explosive materials in congested areas unless it cannot be avoided.
- DON'T transport flammable or corrosive substances with explosive materials.
- DO load and unload explosive materials carefully.
- DO see that other explosive materials are separated from all types of detonators where it is permitted to transport them in the same vehicle..

## When storing Explosive Materials

- DO locate magazines in the most isolated places available. They should be separated from each other, and from inhabited buildings, highways, and railroads by distances not less than those recommended in the Institute of Makers of Explosives Safety Library Publication No. 2, „American Table of Distances“.
- DO post „EXPLOSIVES – KEEP OFF“ signs conspicuously near magazines. These signs should be so placed that a bullet passing through them at right angles cannot strike a magazine.
- DO store explosive materials only in a magazine which is clean, dry, well-ventilated, reasonably cool, properly located, substantially constructed, securely locked, weather-resistant, fire-resistant and theft-resistant and, when required by the nature of the material, bullet and missile-resistant.
- DON'T store explosive materials in wet or damp places, near flammable materials, or near sources of excessive heat.
- DON'T store detonators in the same box, container or magazine with other explosive materials.



- DON'T store any sparking metal in a magazine.
- DON'T allow vegetation or combustible debris to accumulate within 25 feet of a magazine.

### When using Explosive Materials

- DON'T use any explosive materials unless completely familiar with the safe and correct procedures for their use.
- DON'T use sparking metal tools to open cases of explosive materials.
- DO close cases of explosive materials after using.
- DON'T carry explosive materials on your person.
- DON'T insert anything but safety fuze or detonating cord in a blasting cap or detonating fuze.
- DON'T reclaim or use any explosive materials that have been watersoaked even if they have apparently dried out.
- DON'T handle or be near explosive materials during the approach or progress of an electrical storm. This applies to both surface and underground operations.
- DON'T have electric wires or cables near electric blasting caps or other explosive materials except at the time for the purpose of firing the blast.

### When perforating Oil Wells

- place „Danger Explosives“ signs at strategic points around the rig site.
- DO check the operating site thoroughly for stray voltages and take action to eliminate all stray voltages prior to proceeding with the operations.
- DO check the cable for shorts or opens.
- DO be sure all sources of electric power are shut off i.e., generators, radios, etc.
- DO be sure the tool end of cable is shorted to ground to drain off any possible stored electrical charge and check for stray voltage between conductor and ground.
- DO be sure the truck end of the cable is plugged into the „safe“ position.
- DO attach a grounding cable from the truck ground to the wellhead.
- DON'T attempt to fire electric blasting caps or detonating fuzes with either more or less electric current than recommended by the manufacturer.
- DO be sure that all wire ends to be connected are clean.
- DON'T uncoil the wires or use electric blasting caps or detonating fuzes in the vicinity of radiofrequency transmitters (exception RF-safe detonators). Consult the manufacturer or the Institute of Makers of Explosives Safety Library Publication No. 20, „Safety Guide for the Prevention of Radio Frequency Radiation Hazards“.
- DON'T use or uncoil the wires of electric blasting caps or detonating fuzes during electrical or dust storms or near any other source of large charges of static electricity.
- DO select detonating cord that has the physical and performance characteristics consistent with correct blasting methods and the type of explosive material being used.
- DO handle detonating cord with the same respect given other explosive material.
- DO avoid damaging or severing detonating cord prior to firing.
- DO avoid loops, sharp kinks or angles that direct the cord back toward the oncoming line of detonation.
- DON'T attach detonators to detonating cord until everything is in readiness for the blast.



- DO connect detonators to detonating cord by positive methods recommended by the manufacturer. The detonators should always be pointed in the desired direction of detonation.

### **Always connect the detonator to the cable electrically before the larger explosive device is attached to the detonator ballistically**

- DO remember you are handling explosives. Use reasonable care to protect the device from extremes of heat and shock.
- DO suspend perforating operations during electrical storms unless the guns are in the borehole.

### **Explosive Materials Disposal**

- DO dispose of explosives by shipping them to an approved disposal agency. Packaging, marking and transportation must be in accordance with Code of Federal Regulations, Title 49, and applicable DOT Directives, Specific guidance can be obtained from the manufacturer.
- DON'T leave explosive materials or packaging materials where unauthorized persons or livestock can get them.
- DON'T allow any packaging materials to be burned in a confined space or to be reused.