



A DIVISION OF TITAN SPECIALTIES LTD.

ALWAYS AND NEVER - WARNINGS AND INSTRUCTIONS

Information applicable to Oil Well Perforating Operations extracted from "Warnings and Instructions for Consumers in Transporting, Storing, Handling, and Using Explosive Materials" published by the Institute of Makers of Explosives, March 2000. Read these Warnings and Instructions in all cases before using any explosive product.

If after reading this pamphlet, you have any questions or doubts as to how to use these explosive 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 packaged under careful supervision and inspection. However, contents may become damaged by improper handling or storage beyond the control of the manufacturer; therefore, they should be carefully inspected before using.

WARNING
LOCK UP EXPLOSIVES - KEEP FROM CHILDREN
AVOID FLAME, HEAT, SPARKS, IMPACT AND FRICTION.
READ AND HEED THESE WARNINGS AND INSTRUCTIONS.

These Warnings and Instructions are not to be construed as superseding federal, state, corporation, municipal, or local laws, ordinances, regulations or policies.

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 or that accidentally supplied. It is the responsibility of all persons who handle explosive materials to know and 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 and instructions for every conceivable situation. A list of suggestions to aid in avoiding the more common 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 (www.ime.org), 1120 19th Street, NW, Suite 310, Washington, DC 20036, or from your explosive materials supplier. Carefully read and follow these documents.

- Construction Guide for Storage Magazines (SLP No. 1)*
- The American Table of Distances (SLP No. 2)*
- Suggested Code of Regulations (SLP No. 3)*
- Warnings and Instructions (SLP No. 4)*
- Glossary of Commercial Explosive Industry Terms (SLP No. 12)*
- Handbook for the Transportation, and Distribution of Explosive Materials (SLP No. 14)*
- Safety in the Transportation, Storage, Handling and Use of Explosive Materials (SLP No. 17)*
- Safety Guide for the Prevention of Radio Frequency Radiation Hazards (SLP No. 20)*
- Destruction of Commercial Explosive Materials (SLP No. 21)*
- Guide for the Use of IME 22 Container (SLP No. 22)*

Further information pertaining to explosive materials used in oil well operations is available in the American Petroleum Institute recommended Practice 67 (RP 67), *Oilfield Explosives Safety*. Copies may be obtained from the American Petroleum Institute (www.api.org), 1220 L Street, Washington, DC 20005. Carefully read and follow this document.

If after careful reading the entire pamphlet(s), you have any questions or doubts as to how to use these products - DO NOT USE THEM - consult the manufacturer for additional information.

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WARNINGS AND INSTRUCTIONS – GENERAL

- ALWAYS follow all laws and regulations applicable to explosive materials.
- NEVER abandon any explosive material.
- NEVER allow any source of fire or flame within 100 feet (31 m) of blast area (except for lighting safety fuse) or within 50 feet (16 m) of a magazine or vehicle containing explosive materials.
- NEVER expose explosive materials to flame, excessive heat, sparks, friction or impact.
- NEVER fight fires when explosive materials are involved. Remove all personnel to a safe location immediately and guard area against intruders.
- NEVER shoot into explosive materials, explosive storage magazines, or vehicles loaded with explosive materials.
- NEVER allow unauthorized persons near explosive materials.
- NEVER allow children near explosive materials.
- ALWAYS keep explosives locked up.

TRANSPORTING EXPLOSIVE MATERIALS

- ALWAYS keep matches, lighters, open flames and other sources of ignition at least 50 feet (16 m) away from parked vehicles loaded with any explosive materials.
- ALWAYS follow federal, state and local laws and regulations concerning the transportation of explosive materials.
- ALWAYS load and unload explosive materials carefully.
- NEVER ship explosive materials in any packaging except their original packaging or alternate approved packaging provided by the manufacturer.
- NEVER park vehicles containing explosives in congested areas or close to people.
- NEVER leave a vehicle containing explosive materials unattended.

STORING EXPLOSIVE MATERIALS

- ALWAYS separate magazines from other magazines, inhabited buildings, highways, and passenger railways. Reference IME SLP No. 2, The American Table of Distance.
- NEVER allow combustible material to accumulate within 25 feet (8 m) of any magazine.
- NEVER allow lighters, matches, open flame or other source of ignition, or volatile materials within 50 feet (16 m) of any magazine.
- NEVER attempt to make any repairs to the inside or outside of a magazine containing any explosive material.
- ALWAYS be sure magazines are solidly built and securely locked, in accordance with federal regulations, to protect the explosive materials from weather, fire and theft.
- ALWAYS keep insides of magazines clean, dry, cool and well ventilated.
- ALWAYS locate perimeter signs ("EXPLOSIVES - KEEP AWAY" or other) such that bullets passing through them cannot hit the magazine.
- ALWAYS clean up spills of explosive materials promptly, following the manufacturer's directions.
- ALWAYS rotate stocks of explosive materials so that the oldest material in the magazine is used first.
- NEVER store detonators with other explosive materials.
- NEVER use explosive materials that show any sign of deterioration.
- NEVER exceed magazine Net Explosive Weight storage limit.
- NEVER perform any type of operation in a magazine other than routine inspection, inventory or normal transfer, in or out, of the explosive materials.

HANDLING EXPLOSIVE MATERIALS

- NEVER use sparking metal tool to open cases of explosive materials.
- ALWAYS close partially used packages of explosive materials.
- NEVER mix different explosives in the same package.
- NEVER use any explosive materials unless completely familiar with the safe and correct procedures for their use.
- NEVER put explosives in the pockets of your clothing.
- NEVER handle explosives during an electrical storm, or its approach.
- NEVER insert anything but safety fuse or detonating cord in an electric or non-electric detonator (blasting cap).

PROTECTING EXPLOSIVE MATERIALS

- NEVER use explosive materials that have been water soaked, even if they now appear to be dried out.
- NEVER pull wires, safety fuse or detonating cord out of any detonator or delay device.
- NEVER take apart, or in any way, investigate the contents of any explosive device or detonator.
- NEVER alter the composition of explosive materials.
- NEVER expose explosive materials to source of heat exceeding 150° F (66° C) or to open flame, UNLESS the manufacturer has recommended such materials or procedures for their use.
- NEVER subject explosive materials to excessive impact or friction.
- NEVER allow the discharge of firearms in the vicinity of, nor shoot near, explosive materials, magazines or vehicles loaded with explosive materials.

PROTECTING YOURSELF AND OTHERS

- ALWAYS keep explosive materials away from food, eyes or skin.
- ALWAYS avoid exposure to excessive noise from the detonation of the explosive materials.
- ALWAYS detonate explosive materials from a position that provides adequate protection from debris or flyrock that might occur.
- ALWAYS remain clear of the detonation area until postblast fumes, dusts, or mists have subsided.
- NEVER breathe dust or vapors from explosive materials.
- ALWAYS clear the immediate area of persons before initiating the detonation of any explosive materials.
- ALWAYS sound adequate warning prior to detonating any explosive materials.
- ALWAYS post guards to prevent access to the detonation area.
- NEVER permit anyone to handle explosive materials or position themselves near explosive materials when a detonation is about to be initiated.

EXPLOSIVE MATERIALS AND OIL WELL PERFORATING OPERATIONS

- ALWAYS place "Danger Explosives" signs at strategic points around the rig site.
- ALWAYS check the immediate area thoroughly for stray voltage and take action to eliminate all stray voltages prior to commencing any operations involving explosive materials.
- ALWAYS check the firing cable for shorts or opens.
- ALWAYS be sure the tool end of the firing cable is shorted to ground to drain off any possible stored electrical charge.
- ALWAYS be sure truck end of the firing cable is in the "safe" position.
- ALWAYS attach a grounding cable from truck ground to wellhead.
- NEVER attempt to fire electric detonators (blasting caps) or detonating fuses with either more or less electric current than that which is recommended by the manufacturer.
- ALWAYS be sure that all wire ends to be connected are clean.
- NEVER uncoil the wires or use electric detonators (blasting caps) or detonating fuses in vicinity of radio-frequency transmitters.
- NEVER use or uncoil the wires of electric detonators (blasting caps) or detonating fuses during electrical or dust storms or near any other source of large charges of static electricity.
- ALWAYS select detonating cord that has physical and performance characteristics consistent with correct blasting methods and the type of explosive materials being used.
- ALWAYS handle detonating cord with the same respect afforded other explosive materials.
- ALWAYS avoid damaging, crimping or severing detonating cord prior to firing.
- ALWAYS avoid loops, sharp kinks or angles that direct the detonating cord back toward the oncoming line of detonation.
- NEVER attach detonators to the detonating cord until everything is in complete readiness for detonation.
- ALWAYS connect detonators to the detonating cord by methods recommended by the manufacturer. The detonator should always be in a safety shield and pointed away from personnel and equipment, in a safe direction.

CAUTION – IMPORTANT! CONNECT THE DETONATOR TO THE FIRING CABLE BEFORE THE LARGER EXPLOSIVE DEVICE IS ATTACHED TO THE DETONATOR. IF NOT POSSIBLE, CONTACT MANUFACTURER FOR ALTERNATE SAFE ARMING PROCEDURE.

- ALWAYS remember you are handling explosive materials. Use reasonable care to protect the explosive materials from extremes of heat, friction or shock.
- ALWAYS suspend perforating operations during electrical storms unless charged perforating guns are already to a minimum depth of 200 feet (70 m) below ground level or sea floor.

RETURNING EXPLOSIVE MATERIALS TO THE MANUFACTURER

- ALWAYS contact manufacturer for approval prior to shipment.
- NEVER ship explosive materials in any packaging except their original packaging or alternate approved packaging provided by the manufacturer.
- ALWAYS follow federal, state and local laws and regulations concerning the transportation of explosive materials.

EXPLOSIVE MATERIALS DISPOSAL

- ALWAYS dispose of explosive materials by shipping them to an approved disposal agency. Packaging, marking, labeling and transporting must be in accordance with Code of Federal Regulations, Title 49, applicable DOT Directives, and/or local regulations. Special conditions and instructions may apply. Specific guidance should be obtained from the manufacturer.
- NEVER leave explosive materials or packaging materials where children, unauthorized persons or livestock can get to them.
- NEVER allow any packaging materials to be burned in a confined space or to be reused.