

TECHNICAL DATA SHEET



TROJAN® GEOPRIME®

Bioremediation Technology in Pentolite

Properties

SDS
#1145

Energy^a (cal/g)	1,500
Gas Volume^a (moles/kg)	27.9
Velocity^b (m/sec)	7,500
(ft/sec)	24,600
Detonation Pressure^b (Kbars)	230
Density (g/cc)	1.63
Water Resistance	Excellent (up to 250 psi)

^a All Dyno Nobel Inc. energy and gas volume values are calculated using PRODET™, the computer code developed by Dyno Nobel Inc. for its exclusive use. Other computer codes may give different values.

^b Unconfined 57 mm diameter x 2 kg charge.

Bioremediation Technology

The Ensign-Bickford Company developed and patented the bioremediation technology which involves casting millions of freeze-dried microorganisms (along with nutrients for those microorganisms) directly into the TROJAN GEOPRIME seismic booster during production. When these naturally occurring organisms are submerged in water, they become activated, as designed, and begin to slowly biotransform the undetonated TROJAN GEOPRIME. When the biotransformation is complete, the compounds are no longer explosive. Complete and continuous submersion in water is required to sustain the bioremediation process. In addition, the process is dependent on various other factors and environmental conditions. For these reasons, Dyno Nobel makes no claim as to the effectiveness of the biotransformation process or the duration of time required to complete.

Hazardous Shipping Description

- Boosters, 1.1D UN 0042



PRODUCT DESCRIPTION

TROJAN GEOPRIME is a high energy, highly reliable, seismic explosive containing patented bioremediation technology (see back for detailed explanation) and made from the highest quality PETN and other high explosive materials ensuring dependability and durability. In addition, TROJAN GEOPRIME provides consistent energy release in all extreme seismic environments. The specialized design of the Geoprime plastic shell allows charge weight to be varied, as needed, by screwing the shells together.



APPLICATION RECOMMENDATIONS

- **NEVER** use Dyno Nobel seismic explosive products and/or components with explosive products and/or components made by other manufacturers.
- **ALWAYS** use the Dyno Nobel high strength seismic detonator for optimum results.
- Recommended temperature range is -40°C to 65°C (-40°F to 150°F). Geoprime is unaffected by extremely low temperatures but detonators produce less energy below -40°C (-40°F).
- **ALWAYS** use built-in cap wells for seismic detonators. Two detonators are recommended for insurance and reliability where extreme environmental conditions or prolonged exposure periods are encountered.
- **NEVER** use GEOPRIME with detonating cord. Misfires may result.
- **Undetonated Explosives** Dyno Nobel's policy is to provide the highest quality and most reliable explosives products and initiation systems possible for seismic exploration. To assure our customers of the best commercial explosive products, Dyno Nobel has implemented manufacturing processes and controls. When difficult drilling conditions are encountered or when rough loading conditions exist, Dyno Nobel recommends the use of two (2) Dyno Nobel detonators. A broken detonator leg wire is the prime cause of undetonated seismic charges. Protect your investment in seismic exploration by requiring training on the proper use of explosive materials for all who handle, use or have contact with explosive materials.
- The user of this product (or any other explosive product) should not abandon undetonated charges in the ground. Abandoning undetonated charges constitutes misuse of the product for which Dyno Nobel and its subsidiaries are not responsible.

Product Disclaimer: Please see reverse side.

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IMPORTANT! Ignoring these warnings may result in injury or death!

- **ALWAYS** exercise extreme caution when approaching a shothole that has not vented. Venting gases after detonation are common. BLOWOUTS CAN INJURE OR KILL.
- **NEVER** attempt to alter the product by cutting, sawing or disassembly of the package.
- **NEVER** drop load explosive into a borehole.
- **NEVER** attempt to dislodge explosives by pushing with a drill stem.
- **ALWAYS** shunt electric detonators and/or the blast circuit after testing and keep shunted until connected to blasting machine.
- **NEVER** unshunt electric detonators prior to use except to test with blasting galvanometer.
- **ALWAYS** ask if you don't know before proceeding.

Packaging

TROJAN GEOPRIME is packaged in highly visible plastic cartridges with positive coupling available where increased charge weights are desired.

Part Number*	Nominal Unit Size	Package Style	Units per Case	Case Dimensions		
GE0090	27 mm (1.06 in) x 0.09 kg (0.20 lb)	Paper	150	42 cm (16 ½ in)	33 cm (13 in)	13 cm (5 ½ in)
GE0150	36 mm (1.42 in) x 0.15 kg (0.33 lb)	Paper	95	42 cm (16 ½ in)	33 cm (13 in)	13 cm (5 ½ in)
GE0500 & GE0500C	57 mm (2.25 in) x 0.5 kg (1.1 lb)	Plastic	30	85.75 cm (33 ¾ in)	32.4 cm (12 ¾ in)	12.7 cm (5 in)
GE1000 & GE1000C	57 mm (2.25 in) x 1.0 kg (2.2 lb)	Plastic	20	85.75 cm (33 ¾ in)	32.4 cm (12 ¾ in)	12.7 cm (5 in)
GE2000 & GE2000C	57 mm (2.25 in) x 2.0 kg (4.4 lb)	Plastic	10	71.15 cm (28 in)	32.4 cm (12 ¾ in)	12.7 cm (5 in)
GE2500 & GE2500C	57 mm (2.25 in) x 2.5 kg (5.5 lb)	Plastic	10	85.75 cm (33 ¾ in)	32.4 cm (12 ¾ in)	12.7 cm (5 in)

* Canadian part numbers have C at the end

TRANSPORTATION, STORAGE AND HANDLING

- TROJAN GEOPRIME must be transported, stored, handled and used in conformity with all applicable federal, state, provincial and local laws and regulations. Stock should be rotated. Use older stock first. For recommended good practices in transporting, storing, handling and using this product, see the booklet "Prevention of Accidents in the Use of Explosive Materials" packed inside each case and the Safety Library Publications of the Institute of Makers of Explosives. As with all high explosives, cool, dry, well ventilated storage is recommended.
- TROJAN GEOPRIME has a substantially unlimited shelf life when stored between -40°C and 65° C (-40° F and 150° F) provided the product has not been submerged in water. Product older than five years old should be inspected by a qualified Dyno Nobel representative prior to use.

Use Caution When Sleep Time Is Anticipated

A loaded hole that is not shot immediately after the detonator tests positive with a ShotPoint Tracker™ or other testing device could fail for reasons beyond the control of the drill crew and product manufacturer. Reasons for failure could include but are not limited to geologic shifting, lightning, vandalism, farmer or animal interference.

ADDITIONAL INFORMATION – Visit dynonobel.com for Brochures and Case Studies related to this product.

Product Disclaimer: Dyno Nobel Inc. and its subsidiaries disclaim any warranties with respect to this product, the safety or suitability thereof, or the results to be obtained, whether express or implied, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHER WARRANTY. Buyers and users assume all risk, responsibility and liability whatsoever from any and all injuries (including death), losses, or damages to persons or property arising from the use of this product. Under no circumstances shall Dyno Nobel Inc. or any of its subsidiaries be liable for special, consequential or incidental damages or for anticipated loss of profits.

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