# 1 9/16 HMX Tubing Puncher

<table>
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<th>Part No.</th>
<th>UN No.</th>
<th>Class</th>
<th>DOT EX No.</th>
<th>CE Certificate No.</th>
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## Technical Drawing

1. Case  
2. Liner  
3. Explosive, booster  
4. Explosive, main  
5. Glue ring

## Technical Information

**APPLICATION:**  
Shaped charge for oilfield use

**PERFORATING SYSTEM SPECIFICATION (w/ cold drawn steel):**
- Diameter: 1-9/16 inch (39.7 mm) OD  
- Collapse rating: 20,000 psi (1,379 bar)  
- Tensile rating: 70,000 lb (31.746 kg)

**EXPLOSIVES:**  
Booster: Pure HMX, .5g  
Main load: Desensitized HMX, 2.0 g  
Density: > 1.5 g/cm³

**TEMPERATURE LIMITS:**
- 400 F / 204 C  
- 338 F / 170 C  
- 310 F / 154 C

**PERFORMANCE:**
Circulation charge designed to penetrate up to .500(12.7mm) maximum thick tubing or casing

**SHELF LIFE:**
10 years when stored unopened in original packaging. Storage temperature:  
- 0 C / 32 F min  
- 54 C / 130 F max

**DISPOSAL:**
Dispose of product not suitable for oilfield use according to applicable laws and regulations.

## Packing Information

- Quantity per box: 50 pieces  
- Gross weight per box: 5.03 kg  
- Net weight per box: 1.36 kg  
- NEC per box: .125 kg  
- Box dim, cm: 45.72 x 30.48 x 15.24  
- Box dim, inches: 18.00 x 12.00 x 6  
- Package type: Trays with desiccant enclosed by vacuum bag, then placed inside fibreboard box.  
- Product Designation: HES-APRV-004