

# Polihim Research and Production Enterprise (OOO)

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## POLITREN V-1

## COOLING LUBRICANT

### DESCRIPTION

**Politren V-1** is a smokeless water-graphite cooling lubricant for greasing of rods, cores and pipe blanks during the hot drawing phase of the manufacture of steel pipe elbows; the product features high insulating and antiwear properties in addition to scale reduction ability.

**Politren V-1** is a suspension of specially-prepared graphite in an aqueous thickened liquid phase containing surfactants, antiwear, anticorrosion and other additives. The product does not contain harmful ethylene glycols, phenol, chlorine-containing organic and inorganic compounds, or sodium nitrite.

### PHYSICAL AND CHEMICAL PROPERTIES

Parameter	Politren V-1
Appearance	homogeneous black thickened liquid
Mass fraction of ash, %, not more than	7
Mass fraction of non-volatile residue, %, not less than	23
Effective viscosity at 20 <sup>0</sup> C, not less than	7 Pa-s
pH	7.5÷10.5
Sedimentation stability, %, not less than	85
Frost resistant sedimentation stability after freezing, %, not less than	70

### PERFORMANCE CHARACTERISTICS

**Politren V-1** is an optimum replacement for oil-graphite lubricants, which gives a reduction in harmful emissions in the working area by several orders of magnitude.

**In addition, Politren V-1 has the following advantages:**

- when applied to a heated, steeply curved core, it forms a dry lubricant layer with good adhesion properties;
- it reduces friction, resulting in reduced deformation force of the metal and increased resistance of the core;
- does not cause corrosion of tools or short radius bends being manufactured;
- does not produce smoke or toxic fumes;
- non-flammable;
- does not cause corrosion of tools or manufactured parts, including polished surfaces of the operating machines plunger;
- especially effective in the manufacture of stainless steel products and short radius bends of large diameter pipes;
- effective lubricant which can be used in hot forging of flanges;
- successfully used in the manufacture of cold stamped adapters.

## USE

Politren V-1 is supplied as a concentrate. In most cases no dilution is required.

Before the first use of Politren V-1, the cooling lubricant supply lines and machinery must be washed and disinfected from previously used cooling lubricant. It is best to do this with the special detergent-disinfectant Politren MD.

If required, the product can be diluted with water in order to decrease its viscosity. In this case the optimum dilution rate shall be determined empirically directly at the work site (most common dilution rate: 1 weight fraction of Politren V-1 to 2 parts of water).

The product shall be applied to working tools with a brush or swab.

## SAFETY REQUIREMENTS, TOXICOLOGICAL PROPERTIES AND ENVIRONMENTAL PROTECTION

Politren V-1 cooling lubricant is a non-flammable liquid.

In terms of its toxicological properties, in accordance with GOST 12.1.007-76 the product is classified in the lowest hazard class IV (low hazard chemical compounds). Politren V-1 maximum permissible concentration in the working area air determined for graphite aerosol is 4 mg/m<sup>3</sup>. Politren V-1 does not irritate the skin, mucous membranes of the eyes or upper respiratory tract; the product has no sensitization properties.

The premises where Politren V-1 is used shall be equipped with continuously operating supply and exhaust mechanical ventilation. When preparing working solutions, the requirements of "Sanitary rules for working with cooling lubricants and tool lubrication", No. 3935-85 dated 09.29.1985, shall be complied with.

Within the production facilities the air shall be monitored for the graphite aerosol content subject to the shop-floor air monitoring schedule agreed with the local public health authorities.

For the disposal of waste cooling lubricant, maximum permissible norms for the most toxic component should be referred to. The Politren V-1 maximum allowable concentration in water bodies (MAC<sub>w</sub>), determined for the most toxic water-insoluble component - graphite - is 10 mg/l; for the most toxic water-soluble component - triethanolamine - is 1.4 mg/l; Politren V-1 maximum concentration determined for the triethanolamine content, supplied for bio-treatment (MCB), is 5 mg/l.