

Polihim Research and Production Enterprise (OOO)

Suite 13, No. 20,
Marshal Zhukov Ave., 198302,
Website: www.polihimnpp.ru



e-mail: info@polihimnpp.ru
Tel.: (812) 715-05-84
Tel./Fax: (812) 374-72-06

POLITREN V-31 COOLING LUBRICANT

DESCRIPTION

Politren V-31 is a suspension of specially prepared graphite in an aqueous liquid phase containing surfactants, anticorrosion and other additives.

Politren V-31 is a water-graphite cooling lubricant for lubricating the cores during the hot rolling phase of the short radius bend manufacturing process. The product can be used with press tools during hot forging of steels, in particular hot forging of flanges, etc., and in the cold forging process it can be applied to both press tools and workpieces; it can also be used to lubricate steel billets before heating to reduce scale formation. Politren V-31 features excellent separation and antiwear properties, and it may be diluted with water before use.

PHYSICAL AND CHEMICAL PROPERTIES

Parameter	Politren V-31
Mass fraction of ash, %, not more than	3
Mass fraction of nonvolatile residue, %	12÷17
Effective viscosity at 20 ⁰ C, Pa-s, not less than	3
pH	7,5÷10,5.
Sedimentation stability, %, not less than	85
Frost resistance (sedimentation stability after freezing), %, not less than	50

PERFORMANCE CHARACTERISTICS

In addition, Politren V-31 has the following advantages:

- when applied to a press tool and a heated steep 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 manufactured short radius bends;
- does not produce smoke or toxic fumes;
- non-flammable;
- does not cause corrosion of tools or manufactured components;
- short radius bends do not require additional coating and no rust is formed on their surfaces when they are stored in a warehouse.

USE

Politren V-31 is supplied as a concentrate; it can be diluted with water before use. Politren V-31 is easily soluble in water. The optimum dilution rate shall be determined empirically directly at the working site. In the manufacture of short radius pipe bends Politren V-31 is used without dilution, or diluted with water at a ratio of 1:0.5 – 1:2. In hot forging, the dilution rate is higher if the cooling lubricant is sprayed on the tool. The product can be applied to the tool with a brush, by dipping or watering. Due to high sedimentation stability, the diluted cooling lubricant does not require constant stirring. To preserve the homogeneity of its composition, stir it for a short time for 2÷5 minutes 1÷2 times a day. When used to reduce scale formation on a workpiece, it should be diluted with water to a consistency effective for application.

SAFETY REQUIREMENTS, TOXICOLOGICAL PROPERTIES AND ENVIRONMENTAL PROTECTION

Politren V-31 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-31 maximum permissible concentration in the working area air (MPCa) determined for ammonia is 20 mg/m^3 , for graphite aerosol – 0.4 mg/m^3 . Politren V-31 liquid does not irritate the skin, or the mucous membranes of the eyes and has no sensitization properties. The premises where Politren V-31 is used shall be equipped with continuously operating supply and exhaust mechanical ventilation. When preparing a working solution, 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 graphite aerosol and ammonia content subject to the 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-31 maximum allowable concentration in water bodies (MACw), determined for the most toxic water-insoluble component - graphite - is 10 mg/l ; for the most toxic water-soluble component - ammonia - is 2 mg/l ; Politren V-31 maximum concentration determined for the triethanolamine content, supplied for bio-treatment (MCB), is 5 mg/l .