

# Polihim Research and Production Enterprise (OOO)

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## POLITREN M-12

TOOL LUBRICANT

### DESCRIPTION

**Politren M-12** is a lubricant concentrate based on specially treated graphite with a specific degree of dispersion, mineral oil, surfactants, general and special additives. It does not contain harmful phenol derivatives, chlorine organic compounds, or nitrites. It is used for hot forging of steels and alloys, for hot pressing of copper alloys.

### PHYSICAL AND CHEMICAL PROPERTIES

Parameter	POLITREN M-12
Appearance	black thickened liquid
Relative viscosity, sec, @40 ° C, not less than	12
Mass fraction of ash, %, not more than	1.3
Density, g/cm <sup>3</sup> , @20°C, not less than	0.95
Mass fraction of graphite, %, not less than	30
Flash point, ° C, not less than	175
Storage life, years	1
Package material	steel, polyethylene

### PERFORMANCE CHARACTERISTICS

#### **Politren M-12 features:**

- when applied to a hot forging tool surface, it forms a uniform lubricant layer with high antiwear properties;
- reduces friction, resulting in reduced metal deformation force;
- separates the forging blank and tool surfaces from each other and ensures trouble-free removal of forging blanks;
- prevents occurrence of defects on workpieces, improves surface quality;
- reduces the rate of defective parts;
- increases the resistance of forging dies;
- reduces overheating of individual parts of forging dies;
- does not contain substances that cause metal corrosion;
- does not corrode tools or machine parts.

## USE

### POLITREN M-12

- is supplied ready to use;
- when applying Politren M-12 to a tool, in order to adjust the viscosity the product shall be diluted with oil;
- it is a cost-effective lubricant for hot stamping and pressing;
- it is applied to the tool automatically by spraying or sprinkling.

## SAFETY REQUIREMENTS, TOXICOLOGICAL PROPERTIES AND ENVIRONMENTAL PROTECTION

Politren M-12 tool lubricant is a flammable liquid with a flash point of not less than 175°C in an open cup. In accordance with GOST 12.1.007-76 the product is classified in the lowest hazard class IV (low hazard chemical compounds).

When using the product in hot metal processing, the main components polluting the air in the working area are: mineral oil aerosol (MPC is 5 mg/m<sup>3</sup>), graphite aerosol (MPC is 4 mg/m<sup>3</sup>) and carbonic oxide (CO) (MPC is 20 mg/m<sup>3</sup>). Politren M does not irritate the skin, mucous membranes of the eyes or upper respiratory tract; the product has no sensitization properties.

The premises where the product is used shall be equipped with continuously operating supply and exhaust mechanical ventilation. Within the production facilities the air shall be monitored subject to the shop-floor air monitoring schedule agreed with the local public health authorities.

The personnel involved in handling the lubricant product shall wear protective clothing and use personal protective equipment in accordance with standard industry norms.

Use clean cloth to remove the lubricant from hands or face; rinse the remaining product away with warm water.

In case of ingress of the product onto working parts of the machinery, the floor of the machinery area shall be cleaned with rags, the remaining product shall be washed away with soapy water.

Politren M tool lubricant is a water-insoluble oil liquid. Its maximum permissible concentration in water bodies (MPC<sub>w</sub>) determined for oil is 0.4 mg/l.