

LUBRICATING COOLING LIQUIDS

Water-mixable LCLs Synthetic LCLs

IVNETIX 1-12 / concentrated product / TY 0258-369-05744685-2013

Application. Synthetic cutting fluid is applied as an aqueous emulsion with a mass fraction (1,0-12,0)% for the various types of mechanical processing of metals and alloys, including flat, round, plunge and profile grinding, turning, drilling, reaming, milling, cutting off at the hacksaw and circular saw, pulling, drawing. Products similar purpose: MULTAN 46-81.

Composition. A composition without mineral oil, consisting of glycols, organic surfactant with antifriction surfactants and corrosion inhibitors. Does not contain silicone additives, sulfur and chlorine additives, chromate.

Appearance. Homogeneous liquid from light yellow to reddish-brown.

Physico-chemical properties.

Density at (20±5)°C, g/cm ³	1,100 – 1,200
The kinematic viscosity at 50°C, mm ² /s (cSt)	6 - 30
pH value of 3% aqueous solution not less than	9,0
Reserve alkalinity 3% aqueous solution (Dist.), cm ³ , not less than	30,0

Toxicological information. Low-hazardous substance

To be stored. 12 month

Packing. Steel 200 l barrels or plastic 250 L barrels.

Application condition. Recommendations for the preparation of working solutions (%):

- grinding 1,0 - 3,0
- turning 3,0 - 3,5
- drilling 4,0 - 7,0
- reaming 8,0 - 10,0
- milling 2,0 - 10,0
- cutting on a jig and circular saws 3,0 - 3,5
- drawing 8,0 - 10,0
- rolling-out 8,0 - 12,0

EFTOL (concentrate)

TY 0258-137-05744685-00

Application. A concentrated synthetic water-soluble composition for a wide range of operations, that is applicable in the individual and centralized feeding systems of machine-tools and automatic lines for: turning, boring, cutting, milling, drilling, hole-enlarging, planning, untwisting, threading, drawing, polishing of construction, alloyed, instrumental, corrosion-proof, highly durable and heat-resistant alloys, cutting and abrasive working of titanium alloys and steel casting. Similar products: Akvol 10M, Akvol 6, Akvol 2, Akvol 11, Akvapol 1.

Composition. A composition based on glycol, organic surfactants with the anti-friction additives and corrosion inhibitors.

Appearance. Opalescent liquid of yellow to brown colour with greenish shade.

Physico-chemical properties.

pH value of 5% aqueous emulsion	9.0 – 10.0
Alkalinity reserve of 5% aqueous emulsion, sm ³ , not less than	60.0
Mass fraction of phosphates (recalculated for phosphorus), %	0.3 – 0.6

To be stored. 12 month.

Packing. Steel 200 l barrels.

Application Rules.

Recommended concentrations of the working solution 2.0 – 5.0%.

Semi-synthetic LCLs

WITIM (concentrate)

TY 0258-137-05744685-00

Application. A cutting emulsion that emulsifies in water. It is used for the production of welded pipes, joist webs and for their anticorrosion protection during storage and transportation. It can also be used for the temper rolling of steel sheets, for the processing of the steel with the blade.

Composition. A composition based on mineral oil, of nozzles, improving the lubricating properties high effective corrosion inhibitors.

Appearance. Homogeneous liquid brown to dark brown colour.

Physico-chemical properties.

Density at 20-25°C, g/sm ³	0.900 – 1.000
Saponification number, mg KOH per 1 kg of the product, not less than	60.0
Mass fraction of water, %, not more than	1.5

To be stored. 6 month.

Packing. Steel 200 l barrels.

Application condition.

Recommended concentrations of the working solution 5.0 – 7.0%.

WITIM-5 / concentrate

TY 0258-180-05744685-00

Application. Semi-synthetic coolant with highly resistant to biodegradation, excellent corrosion protection, low foaming ability. Used to all operations of production of metal, forming, welding, sizing, reduction and cutting tubes and bent structures, training of sheet steel, machine tools at all, in the manufacture of welded pipes, cold-formed sections and for long-term protection against corrosion during storage and transport. This coolant provides protection equipment, environmental cleanliness, economic efficiency.

Composition. The balanced blend of mineral oils, emulsifiers, corrosion inhibitors and biocides.

Physico-chemical properties.

Density at 20-25°C, g/cm ³ , in the limits	0,900 – 1,100
Mass fraction of water %, not more	5,0
Saponification number, mg KOH per 1g of product, not less	60
(pH) value of 5% emulsion, in the limits	9,0 – 10,5
Reserve alkalinity, of 5% emulsion, cm ³ , in the limits	70 - 100

Appearance. Homogeneous liquid from brown to dark brown.

Toxicological information. Low-hazardous substance.

To be stored. 12 month.

Packing. Steel 200 l barrels or plastic 250 L barrels.

Application condition. Recommendations for the preparation of working solutions (%):

- blade machine steel 3,0 - 4,0
- blade machining of hard steels 4,0
- blade machining aluminum alloys 4,0 - 6,0
- abrasive machining of hard steel and machine building 1,5 - 3,0
- training of steel sheet 2,5 - 3,0
- production of steel and cold-formed sections 4,0-6,0
- conservation of steel products during transportation and storage 4,0-6,0

IVNETIX 2-10 / concentrated product /

TY 0258-369-05744685-2013

Application. High-performance semi-synthetic cutting fluid is applied as an aqueous emulsion with a mass fraction (2.0-10.0)% over a wide range of manufacturing operations, including CNC machines and machining centers, with cutting and abrasive machining of all types of ferrous metals (iron, stainless,

carbon and alloy steels), copper alloys. Working emulsion stabilized by the pH level even with long term use, because it contains antibacterial component. This means that the anti-corrosive properties of the product remain unchanged for a long time. It contains corrosion inhibitors of copper alloys. Products of similar purpose: Henkel MULTAN 70-40, Shell Adrana D 208, Total Lactuca LT 3000, Fuchs RATAK 6210.

Composition. Balanced composition based on mineral oils, surfactants, corrosion inhibitors, biocide, as well as special additives that provide a working solution coolant high technological and technical properties. Coolant does not contain sodium nitrite, sulfur and chlorine components.

Appearance. Homogeneous liquid from brown to dark brown.

Physico-chemical properties

Density at (20±5)°C, g/cm ³	0,940 - 1,050
Kinematic viscosity at 50 °C mm ² / s (cSt)	35 - 75
Hydrogen index (pH) of 3% aqueous emulsion (Dist.), not less	9,0
Reserve alkalinity of 3% aqueous emulsion (Dist.), cm ³ , not less	45,0
The foaming ability - the foam volume after 30 c after the expiration cm ³ , more	200

Toxicological information. Low-hazardous substance.

To be stored. 12 month.

Packing. Steel 200 l barrels or plastic 250 L barrels.

Application condition. Recommendations for the preparation of working solutions (%):

- Grinding 2,0-4,0
- Drilling 6,0-8,0
- Milling 6,0-8,0
- Stamping 7,0-8,0
- Cutting on Band saws 6,0 – 9,0
- Tapping 8,0 – 10,0
- Turning 4,0 – 6,0
- Roughing 3,0 – 6,0
- Processing of metal with a large readout 8,0 – 10,0
- Processing of hard steels 8,0 – 10,0

**IVNETIX 3-15 / concentrated product /
TY 0258-369-05744685-2013**

Application. Semi-synthetic cutting fluid is applied as an aqueous emulsion with a mass fraction (2.0-10.0)% over a wide range of manufacturing operations, including CNC machines and machining centers, with cutting and abrasive machining of steels, iron. Products of similar purpose: Inkam-1.

Composition. Balanced composition based on mineral oils, surfactants, additives that provide a working solution coolant high technological and technical properties. Coolant does not contain sulfur and chlorine components.

Appearance. Homogeneous brown liquid.

Physico-chemical properties

Density at (20±5)°C, g/cm ³	0,940 - 1,050
Mass fraction of N %, not less	2,0
Acid number, mg of KOH per 1 g of product, not more than	15,0
Hardening temperature, °C	Minus 3
Flash temperature in an open crucible, °C	134
Shelf stability	From 0 to 35°C
pH value of 3% aqueous emulsion, not less than	9,0
Alkalinity reserve of 3% aqueous emulsion, sm ³ , not less than	30,0
The foaming ability - the foam volume after 30 c after the expiration cm ³ , more	50
Corrosion activity of an emulsion in relation to ferrous metals (iron SCh-21)	Passes tests

Toxicological information. Low-hazardous substance.

To be stored. 6 month.

Packing. Steel 200 l barrels or plastic 250 L barrels.

Application condition. Recommendations for the preparation of working solutions (%):	
- Grinding	2,0 – 3,0
- Superfinishing	3,0
- Turning, Milling, Drilling, reaming, planing, coredrilling	4,0 – 8,0
- Tapping	7,0 – 8,0
- Deep drilling	8,0 – 10,0
- Stretching out	12,0 – 15,0

EMULKAT (concentrate)

TY 0258-088-05744685-96

Application. LCL emulsifying in water for a wide range of operations relating to metal working: turning, boring, cutting, milling, drilling, hole-enlarging, planning, untwisting, threading, drawing, polishing of low- and medium-alloyed construction steels, cutting aluminum alloys. Similar products: Akvol 6, Uverol.

Composition. A composition based on mineral oil, emulsifiers, functional additives, antibacterial agents and corrosion inhibitors.

Appearance. Homogeneous liquid brown to dark brown colour.

Physico-chemical properties.

pH value of 5% aqueous emulsion, not less than	9.0
Alkalinity reserve of 5% aqueous emulsion, sm ³ , not less than	40

To be stored. 12 month.

Packing. Steel 200 l barrels.

Application Rules.

Recommended concentrations of the working solution 2.0 – 5.0%.

Emulsion LCLs

Emulsifiable oil IVNETIX 4-8 / concentrated product /

TY 0258-369-05744685-2013

Application. Emulsifiable oil for processing of steel, cast iron, non-ferrous metals is applied in the form of a water emulsion with a mass fraction (3,0-8,0) % to processing of cast iron, steel, non-ferrous metals on operations of turning, milling, drilling, grinding, as conservation structure and also in a final form on operations of cutting of a carving. Products similar purpose: Sitala D 201.03, Blasocut 4000 Strong, Sitala DY 2206, TRIM E-805, Blasocut 4000 CF, Кампрол-3, Олеокат, Укринол, Укринол-4С-2, Автокат Ф-78, Унизор, Караидель-8, Универсал ЕР, В-3м.

Composition. Composition on the basis of mineral oil, derivative fatty acids, surfactant, emulsifier and also additives providing to a working emulsion necessary technological properties. Doesn't incorporate sodium nitrite, phosphorus - and chlorine-containing components.

Appearance. Homogeneous liquid brown to dark brown colour.

Physico-chemical properties

Density at (20±5) °C, g/cm ³	0,900 – 0,970
The kinematic viscosity at 50°C, mm ² /s (cSt)	50 - 120
Mass fraction of water %, not more	5,0
Saponification number, mg KOH per 1g of product, not less	45,0
Acid number, mg of KOH per 1 g of product, not more than	40,0
Hardening temperature, °C	Minus 18
Flash temperature in an open crucible, °C	153
Shelf stability	from 5 to 40°C
pH value of 3% aqueous emulsion, not less than	9,0
Alkalinity reserve of 3% aqueous emulsion, sm ³ , not less than	25,0
The foaming ability - the foam volume after 30 c after the expiration sm ³ , more	100
Corrosion activity of an emulsion in relation to ferrous metals (iron SCh-21)	Passes tests

Toxicological information. Low-hazardous substance.

To be stored. 6 month.

Packing. Steel 200 l barrels.

Application condition. Recommendations for the preparation of working solutions (%):

- Grinding iron, steel	3,0
- Turning, Milling, Drilling, reaming steel and non-ferrous metals	3,0 – 5,0
- Turning, Milling, Drilling, reaming iron	4,0 – 6,0
- Tapping	6,0 – 8,0
- Preservation of steel products	8,0
- Oiling of the oxidized coverings	8,0

Pressoil /concentrated product /

TY 0258-348-05744685-2009

Application. Emulsion cutting fluid for metal processing by pressure on the operations of punching, stretching, reduction, burnishing and thread cutting. Products of similar purpose: Urinal 5/5.

Composition. The balanced blend of mineral oil, anionic and nonionic surfactants, additives improving lubricating properties of the product, antifog additives and antioxidant

Appearance. Homogeneous liquid from brown to dark brown.

Physico-chemical properties.

Density at (20-25)°C, g/cm ³ , in the limits	0,9 -1,1
Kinematic viscosity at 50 ° C mm ² / s (cSt)	70 - 110
Mass fraction of water %, not more	3
Mass fraction of bound chlorine, %, not more	3,5
(pH) value of 5% aqueous emulsion, in the limits	7,5 – 9,0

Toxicological information. Low-hazardous substance.

To be stored. 12 month.

Packing. Steel 200 l barrels or plastic 250 L barrels.

Application conditions. Used in final form.

SULFOGAL (concentrate)

TY 0258-155-05744685-98

Application. Emulsion LCL for cutting and abrasive working of alloyed steels and heat resistant alloys, drawing of details of carbonaceous and alloyed steels. Similar products: Akvol 6, Akvol 6. Can be used as an emulsifier for anti-corrosion impregnation of phosphatized and oxidized details and as emulsifier during nickeling.

Oil LCL for the working of metals by pressing: punching, reduction, stretching, burnishing, threading in construction steels, also used as an additive to mineral oil for threading. Similar products: Ukrinol 5/5, XC-170.

Composition. A composition based on mineral oil, surfactants, corrosion inhibitors, additives improving the lubricating properties of product and anti-oxidant.

Appearance. Homogeneous liquid brown to dark brown colour.

Physico-chemical properties.

pH value of 5% aqueous emulsion	7.5 - 9.0
Kinematic viscosity at 50°C, cSt	65 - 100

To be stored. 12 month.

Packing. Steel 200 l barrels.

Application Rules.

Recommended concentrations of the working solution 3.0 – 10.0%.

Ready for application. Also added in 50% concentration to mineral oil.

EMULSOL T (concentrate)

TY 6-14-254-87

Application. Emulsion LCL for cold rolling of steel, cutting and abrasive working of steel and cast-iron. Similar products: Emulsols: EGT, ET, Ukrinol 211M.

Composition. A composition based on mineral oil and high molecular organic acid salt.

Appearance. Homogeneous oily-like transparent liquid of yellow to dark brown colour.

Physico-chemical properties.

pH value of 10% aqueous emulsion	8.0 – 10.0
Stability of 10% aqueous emulsion	Stable during 1 hour
Total mass fraction of high molecular organic acids, %, not less than	6

To be stored. 6 month.

Packing. Steel 200 l barrels.

Application Rules.

Recommended concentrations of emulsion for:

- cold rolling of steel 2.5 – 3.0%
- cutting and abrasive working of steel 5.0 – 10.0%

Oil LCLs

CONCENTRATE OF CUTTING OIL SP-44 (concentrate)

TY 0258-102-05744685-96

Application. A concentrate that can be diluted with mineral oils for a wide range of operations: turning, boring, cutting, milling, drilling, drawing, tooth-processing, threading, of construction and alloys steels. Similar products: MR-5U(concentrate), MR-7, KhS-163.

Composition. A mixture of functional additives.

Appearance. Homogeneous viscous oily to dark brown liquid.

Physico-chemical properties.

Acid number, mg of KOH per 1 g of product, not more than	10.0
--	------

To be stored. 12 month.

Packing. Steel 200 l barrels.

Application Rules.

It is recommended to add it at 10-50% concentrations to mineral oils.

PENOLIT GSS

TY 2481-202-05744685-2003

Application. Used in foundries for making liquid-glass self-hardening mixtures.

Composition. The aqueous solution of triethanolamine alkylsulfates.

Appearance. Homogeneous liquid from yellow to brown.

Physico-chemical properties.

Solubility in water	full
Density at 20 °C, g/cm ³	1,045 -1,100
Activity index of hydrogen ion (pH)	7,5-10,0

Toxicological information. Low-hazardous substance.

To be stored. Under the conditions of transportation and storage - up to 36 months.

Packing. Polyethylene 200 l barrels, auto - and railway tanks in stainless steel.

Application conditions. Used in final form.