

**Epilamination is an essential surface treatment for lubrication. This treatment is intended to lower the surface tension of a material, thus preventing the spreading of lubricants on the treated surface. It provides the highest possible degree of safety to precision mechanical instruments by guaranteeing effective and long-lasting lubrication.**

**EPISURF-Neo® Epilames.**



MSA	ml	Point d'ébullition	Kg
28.405-050	50	76° C	0.052
28.405-100	100	76° C	0.100
28.405-1L	1000	76° C	1.000

Episurf-Neo® is a high-performance epilame.

Episurf-Neo® is a high performance epilame.  
Episurf-Neo® is fixed in a self-assembled monolayer of constant thickness on all surfaces used in watchmaking. Its properties make it a reference epilame for watch parts, in production in watch manufacturers or in after-sales service workshops, in Switzerland and all over the world.

Episurf-Neo® is an invisible epilame, of nanometric thickness, whose application process is fast and reproducible. The performance of Episurf-Neo® allows an effective, durable and resistant epilame for many wash cycles.

Episurf-Neo® is an environmentally friendly product that complies with European and Swiss regulations.

Ready for use solution.

*Technical and environmental data :*

Composition	Perfluoropolyether phosphonate
Diluent	Hydro fluoro olefin
Density at 25° C	1.58
Flash point	110° C
Freezing point	< -90° C
VOC	0 %
Do not deplete the ozone layer	0 (ODP)
Global warming potential	2.5
Surface tension	15 +/- 2 dyn.cm-1
Atmospheric lifetime	<10 days

**MOEBIUS® Epilames.**

The Fixodrop epilame is successfully used in the following application areas:

- Hydrophobic and oleophobic surface treatment (epilame) for mechanisms, electronic devices and mechanical parts
- Precision micromechanics (watches, timers, measuring devices, tools, etc.)
- On-board instrumentation and counters (automotive, aeronautical, naval, etc.)
- Cameras and optical instruments
- General mechanics (office machines, fans, etc.).



**Moebius Fixodrop BS**

MSA	ml	Type	Point d'ébullition	Kg
28.8980-100	100	BS	110° C	0.265
28.8980-1L	1000	BS	110° C	1.680
28.8981-100	100	BS-10	110° C	0.295
28.8981-250	250	BS-10	110° C	0.500
28.8981-1L	1000	BS-10	110° C	1.680
28.8982-1L	1000	BS-20	110° C	1.680

Fixodrop ES/BS is a modern epilame, developed by MOEBIUS, based on fluorinated synthetic resins, diluted in a solvent which meets current ecological standards.

- 8980 : concentrated solution, may only be dissolved with solvent MSA28.5700-1L
- 8981 : ready-to-use solution
- 8982 : ready-to-use solution recommended only at a production level with excellent working conditions and regular checks.

Technical features :	
Nano metric film	Invisible
Active material	Fluorinated polyester
Diluent	Ecosolv (MSA28.5700-1L)
Density at 20° C	1.59 g/ml
Boiling point	110° C
Flash point	Non-flammable
Toxicity	Non toxic
Ozone depletion potential	0 (ODP)
Atmospheric life time	< 10 days
Thickness epilame film	Approx. 3 - 5 nm
Superficial tension	Approx. 20 mN/m
Stability epilame film	Until 150° C
Compatibility	All types of materials





Moebius Fixodrop WR-P

MSA	ml	Type	Point d'ébullition
28.7070-250	250	WR-P	110° C
28.7071-1L	250	WR-P	110° C
28.7071-250	1000	WR-P	110° C
28.7072-1L	250	WR-P	110° C
28.7072-250	1000	WR-P	110° C

Fixodrop ES/WR-P are the second series of our "Wash Resistance" (WR) epilams that have been specifically developed to improve the washing resistance of special or precious materials (gold, rhodium-plated, nickel, DLC, etc).  
These epilams can be applied to all materials, but they will be the most effective on these standard materials for which they have excellent resistance to washing.

- 7070 : concentrated solution, may only be dissolved with solvent MSA28.5700-1L
- 7071 : ready-to-use solution
- 7072 : ready-to-use solution recommended only at a production level with excellent working conditions and regular checks.

Technical features :

Nano metric film	Invisible
Active material	Fluorinated polymer
Diluent	Ecosolv (MSA28.5700-1L)
Density at 20° C	1.59 g/ml
Boiling point	110° C
Flash point	Non-flammable
Toxicity	Non toxic
Ozone depletion potential	0 (ODP)
Atmospheric life time	< 10 days
Thickness epilame film	Approx. 3 - 5 nm
Superficial tension	Approx. 20 mN/m
Stability epilame film	Until 150° C
Compatibility	All types of materials



Moebius solvent for Fixodrop

MSA	ml	Visc. 20° C	Kg
28.5700-1L	1000	0.83	1.620

EcoSolv is suitable for replacing PFCs, PFPEs, HFEs, HFCs and HCFSs in specialized applications. The fa-vorable viscosity and density characteristics of this product allow superior cleaning as well as perfor-mances as carrier fluid.  
- Solvent for diluting Fixodrop epilames MSA28.7060-250, MSA28.7070-1L et MSA28.8980-x (10% of concentrate solution / 90% of solvent)  
- Cleaning agent  
- Coating agent (carrier fluid) for fluorinated materials.

Technical features :

Solvent class	Hydrofluoroolefin
Density at 20° C	1.59 g/ml
Boiling point	110° C
Freezing point	< -90° C
Thermal conductivity	0.065 W/m-K
Surface tension	18 dyne/cm
Vapour pressure	2.9 kPa
Heat of vaporization	115 kJ/kg
Flammability point	Non-flammable
Toxicity	Non toxic
Ozone depletion potential	0 (ODP)
Atmospheric life time	< 10 days

Test oils to control the quality of the epilame.



1



2



3



4



5



6

Moebius test oil

MSA	No.	ml	Temp. ° C	Visc. 0° C	Visc. 20° C	Visc. 40° C
28.9701-005	1	5	-20...+10(	150	40	18
28.9702-005	2	5	-40...+10(	59	55	39
28.9703-005	3	5	-40...+10(	99	56	35
28.9704-005	4	5	-30...+10(	145	48	21
28.9705-005	5	5	-30...+90	162	44	19
28.9706-005	6	5	-20...+80	233	63	21

There are 6 test oils to control the quality of the epilame (Fixodrop) deposited on a surface.

No. 1 (colourless) : this fluorinated oil is a positive control to confirm that the surface is epilamated. A spreading of this oil confirms the presence of the epilame.

No. 2 (orange) : without epilame on the surface, this oil spreads extremely easily compared to a classic watch oil. If this oil forms a drop and does not spread entirely on the surface, this confirms the good quality of the epilame.

No. 3 (red) : without epilame on the surface, this oil spreads extremely easily compared to a classic watch oil. If this oil forms a drop and does not spread on the surface, this confirms the good quality of the epilame.

No. 4 (yellow) : without epilame on the surface, this oil spreads easily like a standard watch oil with a moderate grip would do. If this oil forms a drop and does not spread on the surface, this confirms the good quality of the epilame.

No. 5 (blue) : without epilame on the surface, this oil spreads significantly like a watch oil with very good grip would do. If this oil forms a drop and does not spread on the surface, this confirms the good quality of the epilame.

No. 6 (green) : without epilame on the surface, this oil spreads very slightly like a watch oil with an excellent grip would do. If this oil forms a drop and does not spread on the surface, this confirms the good quality of the epilame.

LRCB Epilames.



MSA	ml	Point d'ébullition	Kg
28.8983-020	20	76° C	?
28.8983-100	100	76° C	0.245
28.8983-1L	1000	76° C	?

Epilame ECO-50 is a solution of a fluorinated compound that lowers the surface tension of watch components. The contact angle of the lubricants is increased to ensure their remain-in-place over time.

- Can be used on all metal substrates and on ruby
- Ready to use
- Non-flammable under normal conditions of use, no flash point
- Does not contain any persistent solvents as defined by Swiss and European law
- Contains no ozone-depleting solvents
- Compatible with common plastics.

Characteristics :

Dry extract : 50 mg/litre

Flash point : none

Density : 1.43 g/cm3

Boiling point : 76° C

50 mg/litre

none

1.43 g/cm3

76° C