Epilamation 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	Boiling point	Kg
28.405-020	**20**	76° C	0.083
28.405-050	**50**	76° C	0.151
28.405-100	**100**	76° C	0.265
28.405-1L	**1000**	76° C	2.360

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	Boiling point	Kg
28.8980-100	**100**	BS	110° C	0.265
28.8980-1L	**1000**	BS	110° C	1.680
28.8981-010	**10**	BS-10	110° C	-
28.8981-100	**100**	BS-10	110° C	0.295
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 W

MSA	ml	Type	Boiling point	Kg
28.8970-1L	**1000**	W	100° C	1.680
28.8971-1L	**1000**	W-10	100° C	1.680

Fixodrop W is an aqueous economical epilame. The active substance is a high activity fluorine compo-nent. This washable epilame can be removed after a simple wash with an aqueous or alcoholic solution.

- 8970 : concentrated solution. Before dilution, the concentrate must be shaken vigorously, also during partial sampling. Any empty bottle should be rinsed
- 8971 : ready-to-use solution.

Technical features :

Nano metric film	*Invisible*
Active material	*Fluorinated polymer*
Diluent	*Demineralised water*
Density at 20° C	*1.00 g/ml*
Boiling point	*100° C*
Flash point	*Non-flammable*
Toxicity	*Non toxic*
Atmospheric life time	*< 10 days*
Thickness epilame film	*Approx. 3 - 5 nm*
Superficial tension	*Approx. 16 mN/m*
Stability of the polymer	*Until 150° C*
Compatibility	*All types of materials (ruby, steel, brass, etc.)*

Moebius Fixodrop WR-S

MSA	ml	Type	Boiling point	Kg
28.7060-100	**100**	WR-S	110 ° C	?
28.7061-100	**100**	WR-S	110 ° C	?
28.7061-1L	**1000**	WR-S	110 ° C	?
28.7062-100	**100**	WR-S	110 ° C	?
28.7062-1L	**1000**	WR-S	110 ° C	?

Fixodrop ES/WR-S are the first series of our "Wash Resistance" (WR) epilams that have been specifically developed to improve the washing resistance of standard materials (steel, ruby, copper, 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.

- 7060 : concentrated solution, may only be dissolved with solvent MSA28.5700-1L
- 7061 : ready-to-use solution
- 7062 : 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 Fixodrop WR-P

MSA	ml	Type	Boiling point	Kg
28.7070-100	**100**	WR-P	110° C	?
28.7071-100	**100**	WR-P	110° C	?
28.7071-1L	**1000**	WR-P	110° C	?
28.7072-100	**100**	WR-P	110° C	?
28.7072-1L	**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.

Moebius test oil

MSA	No.	ml	Temp. ° C	Visc. 0° C	Visc. 20° C	Visc. 40° C	Kg
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	Boiling point	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	*50 mg/litre*
Flash point : none	*none*
Density : 1.43 g/cm3	*1.43 g/cm3*
Boiling point : 76° C	*76° C*