The statement by Ernst Leitz in 1907, “With the User, For the User,” describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: Living up to Life.

Leica Microsystems operates globally in three divisions, where we rank with the market leaders.

LIFE SCIENCE DIVISION
The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems’ customers at the leading edge of science.

INDUSTRY DIVISION
The Leica Microsystems Industry Division’s focus is to support customers’ pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

MEDICAL DIVISION
The Leica Microsystems Medical Division’s focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

Leica Microsystems – an international company with a strong network of worldwide customer services:

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<th>Country</th>
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Cleaning of Microscope Optics

www.leica-microsystems.de
1 Considerations before cleaning
Which image quality do you expect?
Optimize all microscope settings:
Aperture, Köhler, correction ring, etc.
Check your specimen
I Use standard with proven quality
II Use cleaned specimen
Check slide and cover glass
Check immersion medium
I Same type as embedding medium of specimen
II Is immersion medium from the same lot?
III Only use recommended types
IV No Anisol

2 Where to clean and where not

Where to clean
1 Front lens of objective
2 Cover glass of camera sensor
3 Cover slip and specimen slide
4 C-mount
5 Condenser lens
6 Misc. glass surfaces

Where not to clean
I Filter cubes
II All inside optics of a microscope

3 How to locate dirt
Turn camera and inspect image
I If dirt is turning in the image → not located in camera
II If dirt stays → camera
Turn objective, condenser, C-mount
I If dirt is turning with image → objective, condenser, etc.
Control the relevant elements macroscopically
I Magnifying glass or oculars upside down
Front lens
I Turn it
II Look from the back against a bright background

4 Different kinds of dirt
Loosely or not permanently attached dirt
I Glass (broken slides, cover slips, etc.)
II Skin, dander
III Pollen, etc.
Attached dirt
I Water soluble
II Solvent soluble
III In practice often a mixture

5 How to clean
Aim of cleaning
I Complete elimination of dust and dirt for perfect image quality
II No remaining residues on the optical parts
III No damage of optical parts
General procedure
I Locate dirt
II Inspect dirt
III Remove dust
IV Remove water soluble dirt
V Remove solvent soluble dirt
VI Inspect result
VII Repeat from III to VI if necessary
Remove dust
I If possible do it manually
II Only use specified compressed air
   a Contamination with oil may cause difficulties to remove residues
III Perfect tool: bellows

Remove attached dirt
I Never use rubbing materials, papers, microfibre cloths
II Never clean dry
III Always start to clean water soluble dirt
   a If you can see grease start with solvents
IV All solvents for cleaning should be absolutely clean
   a PA solvents (ultra pure)
   b Destilled or demineralized water
   c No ammonium containing glass cleaner like Sidolin, Sparkle, etc.
V All tools should be absolutely clean
   a Use certified wound cotton sticks and dental cotton pads to avoid lint (no Q-tips or similar!)

Remove water soluble dirt
I Use only clean, deionised water
   a Simple method: breathe upon the surface
II Use a cotton stick
   a Clean from the centre toward the edge in concentric circles
III Inspect result

Remove solvent soluble dirt
I Use ultra pure solvents
   a Ethanol PA
   b Acetone PA (be careful, may harm plastics and objective labels)
II Use a cotton stick, dental cotton pad
   a Cotton stick and cotton pad should only be moist, not dropping wet
   b Clean from the centre toward the edge in concentric circles
III Inspect result
IV Still smudgy?
   a Combine the methods: breathe upon the surface and clean with cotton stick and acetone

Leica Optics Cleaning Kit
Order number 11505508