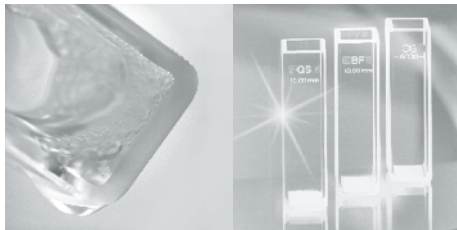
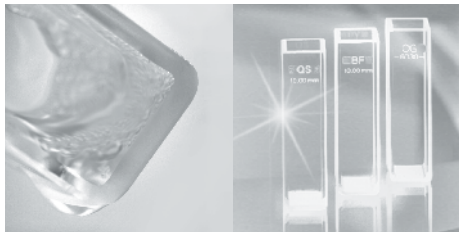


Hellma. Where precision becomes an art.



NEW Hellmanex[®] III
Special cleaning concentrate



Hellmanex® III special cleaning concentrate

Cleaning of cells and optical components

Cells are provided to give liquid or aeriform substances a definite form in order to carry out quantitative analytics.

To ensure that these photometric measurements are not influenced or even become erroneous, great emphasis must be placed on the cleanliness of cells. The cleaning of cells is of great importance, as it requires the complete removal of all contaminants without causing any damage to these delicate and high-quality optical components.

Application

Hellmanex® III is an alkaline liquid concentrate which must simply be mixed with water to yield an effective cleaning solution for quartz and glass cells. It can also be used to clean other sensitive optical components made of glass, quartz, sapphire and porcelain.



Your advantages

Significant reduction of surface tension

- Ideal wetting action, particularly when parts have a complex geometry

Excellent rinsing properties

- Complete removal of the cleaner from the glass surface
- No failure during following UV/Vis analysis

Use of special surfactants without absorption above 288 nm

- No failure during following UV/Vis analysis

Very good suitability of materials

- Reduction of glass corrosion and preservation of optical quality
- Increased life cycle

Characteristics

Hellmanex® III significantly reduces the surface tension of water. The removal of dirt particles is also assured by the good wetting action of a Hellmanex® III aqueous solution, whilst its high emulsifying and dispersing capabilities prevent the redeposition of the loosened particles. Special surface-active substances facilitate the residue-free rinsing of the optical components once they have been cleaned.

Hellmanex® III is low in phosphates. All organic active cleaning ingredients are over 80 % biodegradable according to the OECD guideline 302 B. This product therefore complies with the most recent requirements for the reduction of environmental pollution. Highly corrosive and etching substances such as potassium hydroxide and chlorine were specifically replaced with cleaning agents which are gentle on materials and skin.

As far as cleaning power is concerned Hellmanex® III is a complete replacement for chromo sulphuric acid. Furthermore, we specifically warn against the use of chromo sulphuric acid on cells which contain materials other than quartz or glass (such as plastics or metals).

Hellmanex® III is filtered to 1 µm and is therefore virtually free of solid particles.

Health & Safety:
Please follow the instructions given in the Hellmanex® III safety data sheet, a copy of which will be sent on request.



Cleaning and dilution

The optimal dilution depends on several factors, such as the hardness of the water, the degree and type of contamination, the temperature etc. The use of demineralised water improves the cleaning characteristics.

The following treatments have proved useful in practice: An increase in temperature speeds up the cleaning process. However, at high temperatures it is necessary to avoid thermal shock. The cells should be pre-warmed before being submerged into hot cleaning solutions.



Concentration [% by vol.]	Temperature [°C]	Time (minutes)
0.5-2	20-25	120-180
0.5-2	30-35	30-40
0.5-2	50-60 (quartz only)	10-15
0.5-2	70-80 (quartz only)	< 5

The suitability of materials

Hellmanex® III, when diluted to its working concentration of 2 %, is suitable for use with glass, quartz, sapphire, porcelain, ceramics, plastics and ferrous metals. It can also be used with some limitations, on metals that are sensitive to corrosion such as aluminium

and other nonferrous metals. In such cases, avoid prolonged application. In the case of materials not listed here, suitability tests should be carried out or enquiries directed to **Hellma**.

NEW! Now with a handy dosing device!

Physical data

pH values	at 0.5 % :	11.6
	at 1.0 % :	11.8
	at 2.0 % :	12.0
Concentrate density	1.42 g/cm ³	
Surface tension	at 1.0 % :	30.10 mN/m
Phosphate content P ₂ O ₅	at 1.0 % :	0.92 mg/cm ³
Hellmanex® III is available in 1 litre bottles.		

Composition

Wetting agents
Emulsifiers
Ampholytic surface-active agents
Complexing agents
Potassium phosphate



Ultrasound

Care should be taken when using ultrasound to clean cells!

Ultrasound improves the cleaning process noticeably, especially at higher temperatures.

However, commercially available ultrasonic baths do not lend themselves to the cleaning of cells. Powers that are too high or cleaning durations that are too long can result in damage by cavitation, especially if the cell is placed on the bottom of the cleaning bath. Compact cells and all other cells which are made of several materials (glass, metal, plastic) must never be placed in an ultrasonic cleaning bath.

At raised temperatures, avoid leaving the cleaning solution in the cells so long that it evaporates. This can lead to damage to the surface of the glass through the increased concentration and higher pH value.

Disposal regulations

(WRMG and tenside law). Used Hellmanex[®] III solutions should be neutralised to a pH-value of 7-8 before being discharged into the sewage system.

Hellmanex[®] III

Ordering information

Type	Order Number	Description
320.003	9-307-010-507	Hellmanex[®] III Liquid cleaning concentrate, for glass, quartz cells and optical components Selling unit: 1.3 kg PE bottle (1.0 l)
325.000	325.000	SAV-a-CELL plastic cell holder for 4 cells with 10 mm light path for cleaning purposes



320.003



325.000

Our brochures provide detailed information about the appropriate product groups and in addition, offer thematic information as well as handling advice.

Hellma Analytics

Product Brochures



Product Catalogue
BestCellers 2011



TrayCell
Ultra-Micro-Cell



UV/VIS
Calibration Standards



Fibre-optical
Systems



Microplates



Hellmanex
Cleaning Concentrate

Download: www.hellma-analytics.com/download

Thematic information



Micro Flow
Channels



Technology
Expertise
Innovation

Hellma Optics

Product Brochures



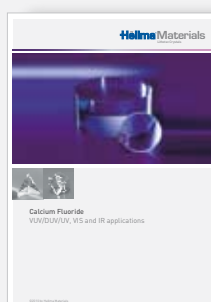
Cylinder Optics
Toric Optics

Flat Optics
Special Optics

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Hellma Materials

Product Brochures



Calcium Fluoride
Raw material and optical components

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