



THOR examines cosmetic products carefully under a microscope

A quick glance at our bathrooms confirms how many cosmetic items we use every day. From shampoo, shower gel, face cream and body lotion to toothpaste and makeup, in the civilized world a whole army of cosmetic items is part and parcel to the standard equipment of every household. As consumers, we naively rely on the harmless content of various products. But what are those products actually made of? What ingredients are hiding in the pretty little jars and tubes that we allow into our world every day? The company THOR Personal Care Sas tests and evaluates raw materials and ingredients in a wide range of cosmetic items for the general market.

Storage of biological germ stem cells

THOR Personal Care, which is headquartered in Compiègne near Paris, is a subsidiary of the global THOR Group. The company houses both development and marketing as well as laboratories for technical services, application development and in vitro toxicology testing on 2,400 m². THOR Personal Care specializes in research and development for new preservatives, emollients, silicones and quarternary derivatives. In 2009 the laboratory for product development for the cosmetic market was founded. Since the beginning, they have used various BINDER chambers to perform microbiological tests, analytical

Requirements

- ▶ Tests and evaluation of raw material
- ▶ Microbiological, analytical tests
- ▶ New formulations and evaluations of toxicological risks
- ▶ Microbiological preservation tests follow official norms
- ▶ Static and dynamic pressure tests
- ▶ Growing cell and tissue cultures
- ▶ Growing microbiological cultures
- ▶ Exact interplay of temperature and humidity

BINDER Solutions

- ▶ Safe storage by using Ultra Low Temperature Freezer up to -90 °C
- ▶ Lowest energy consumption in its class
- ▶ Thermal insulation with unique long-life VIPs (vacuum insulation panels)
- ▶ Rust-proof interior made completely of stainless steel



▲ BINDER chambers in the THOR Personal Care laboratory

tests, new formulations and evaluations of toxicological risks with THOR IVT in vitro toxicology. "We are proud to be one of the first companies to use the BINDER Ultra low temperature freezer UF V 500," says Stéphane Sellam, Technical Service & Regulatory Affairs Manager of THOR Personal Care. "We use the BINDER UF V 500 freezer to store biological germ stem cells. We value the reliability of the BINDER chambers."

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Stéphane Sellam, Technical Service & Regulatory Affairs Manager



▲ Microbiological preservation tests

Low temperature up to -90 °C

Indeed, microbiological preservation tests that are performed in the laboratories follow official norms which request control and reliability of the germs used including virulence and biochemical profiles. When it is not recommended to use germs that have been kept at -20 °C over 2 years, the extreme temperatures of the Ultra Low Temperature Freezer used for storage as low as -86 °C, allow THOR to keep and use the microbes over 5 years without any problem. They also use the same principle to store microorganisms that have been tainted from cosmetic samples directly from the market or from customers' production facilities to create a dedicated culture collection of relevant microorganisms for the market they serve.

Providing microbiological technical support

The company also uses various other BINDER incubators to perform the test protocols. Cosmetic samples are contaminated with a dedicated inoculum and survival of contaminants is monitored over one month at fixed temperature at times: 2, 7, 14 and 28 days. Comparison between different preservation systems is then obtained and allows the selection of the right product (preservative) in the right cosmetic formulation. This is the foundation for the microbiological technical support THOR Personal Care provides for its clients.

Incubators for optimal growing

Today, the company owns 18 BINDER chambers. In addition to the Ultra Low Temperature Freezer, THOR's range of

equipment includes both incubators in the CB Series for growing cell and tissue cultures as well as KB, BD and BF products for growing microbiological cultures.

Interplay of temperature and humidity

With the aid of BINDER heating ovens, reproducibility and reliability of test protocols performed by THOR Personal Care laboratories can be observed, this is particularly of importance for in vitro toxicology laboratory which is Cofrac & GLP certified. In addition the KMF 115 constant climate chamber is used to test final cosmetic formulations for stability. "The constant interplay of temperature and humidity play an important role here," says Stéphane Sellam, „We place a great deal of importance on good technical service and high-quality devices."

Advantages

- ▶ Safe long-term storage
- ▶ Lowest energy consumption in its class
- ▶ Rust-proof sample chamber

Areas of application

- ▶ Blood banks
- ▶ Biological samples
- ▶ Pharmaceutical agents



▲ Ultra Low Temperature Freezer UF V 500

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