



We create chemistry

- Spandex fibers under the electron microscope: the fibers contain 80% of PolyTHF®. This BASF intermediate therefore determines the excellent properties of these fibers, such as long durability, resilience and long-term elasticity.

Expand your success: PolyTHF®

BASF's PolyTHF® (Polytetrahydrofuran)

Spandex or elastane, is currently a very popular textile material. The advantage of spandex is its elasticity, making spandex-containing clothes very comfortable to wear. Besides clothing, spandex is being gradually applied in the medical and other industries. BASF is one of the world's most important manufacturers of PolyTHF®, the main raw material to produce spandex.

PolyTHF® – one polymer with various options

PolyTHF® is the key raw material used to produce spandex fibers. It is a polymer which, depending on its molecular weight, solidifies between 15-30°C in a wax-like manner. PolyTHF® is integrated by further reactions into polymers with molecular weights of 40,000 and higher.

Spandex made with BASF's PolyTHF® delivers top features such as

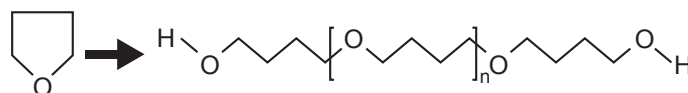
- Elasticity
- Hydrolytic stability
- Microbial resistance
- Antiallergenic
- High abrasion resistance



- Swimsuits, underwear, outerwear, socks, pantyhose and modern sportswear all contain highly elastic fibers made from BASF's PolyTHF®. BASF's PolyTHF® have demonstrated its value, especially in fabrics that have direct contact with the body.

BASF delivers PolyTHF® in the following molecular weights

- PolyTHF 250
- PolyTHF 650
- PolyTHF 1000
- PolyTHF 1400
- PolyTHF 1800
- PolyTHF 2000
- PolyTHF 2900



Formula: $\text{HO}[(\text{CH}_2)_4\text{O}]_n\text{H}$ CAS Registry Number: 25190-06-1

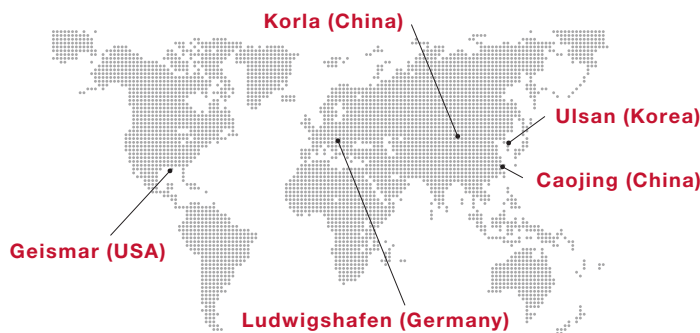
- PolyTHF® is a polymer created by linking a series of identical units (monomers) together, forming a chain. The unit is tetrahydrofuran (THF); water (H-O-H) caps the ends.

PolyTHF® offers the following advantages

- **Global player with local presence**
- **Technical services and tailor-made solutions**
- **Innovative facilities and optimized support**

Global player with local presence

BASF has a network of world-class PolyTHF® production sites around the world, including Ludwigshafen (Germany), Geismar (USA), Ulsan (Korea), Caojing (China) and Korla (China). The production process is identical at all sites; thus, we are able to deliver a consistent supply of high quality goods.



BASF offers

- A polymer science laboratory dedicated to the applications & development of PolyTHF®
- Analytical expertise in analyzing the physical and chemical properties of polymers
- Textile chemical expertise
- Design and optimize the technology for solvent recycling facilities



• The PolyTHF® facility at BASF's integrated "Verbund" site Ludwigshafen, Germany has over thirty years of experiences producing high quality PolyTHF®.

Technical services and tailor-made solutions

We offer a portfolio of comprehensive first-class services for our PolyTHF® customers. Customers may choose services that meet their individual needs. Our experts are able to analyze the entire value chain, and share the latest theory and knowledge with the customers to support their success.

This value-added portfolio includes

Start-up

Improving spandex properties

- Modulus
- Elongation
- Heat stability (polyester dyeing)
- Heat setting behavior
- Antistatic properties

Troubleshooting support

- Analysis of deposits/gels
- Analysis of spandex related textile defects
- Discussion of production problems
- Analysis of raw materials for impurities
- Chemical analysis of problematic fibers

Joint projects with customers

e.g. development of new fiber grades

Environmental support/product stewardship

- support in eco-labelling efforts
- information on safe product handling
- information about toxicology

Customers to benefit from BASF's technical support in

- Higher competitiveness
- Good processes
- Lower investment costs
- Improved worker's safety
- Environmental support
- High-quality products
- Less down times
- Safer production
- Energy savings

For more information:



BASF Online



BASF in Action

Contact us

william.wang@basf.com

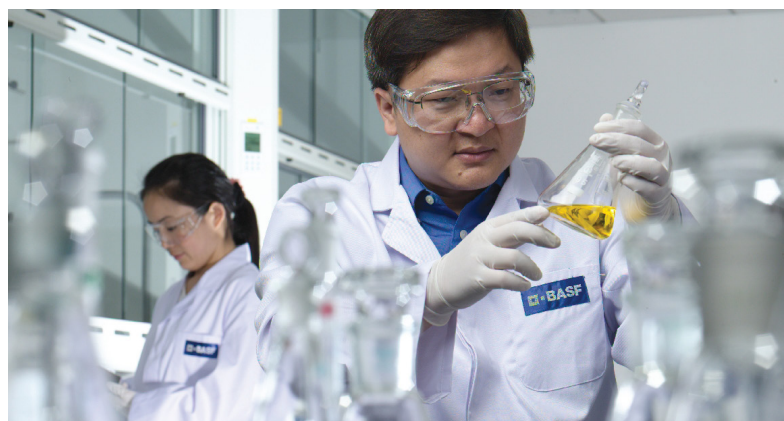
robbie.sun@basf.com

Innovative facilities and optimized support

To maintain our consistent level of quality and enhance the engineering services in Asia Pacific where PolyTHF® customers are becoming active, BASF set up a PolyTHF® laboratory in Shanghai, China. With this laboratory – first of its kind in China – BASF will further improve technical services for the customers in the region, particularly in the growth areas of PolyTHF®, such as spandex fibers, thermoplastic polyurethane, cast polyurethane elastomers and polyether ester elastomer (TPU, CPU, TPEE).

BASF's PolyTHF® laboratory in Shanghai offers

- Analysis of samples and specimens
- State-of-the-art polymer analytics
- Laboratory support for starting up customer plants
- Development of new PolyTHF-based formulations and improvement of existing ones
- Lab-scale synthesis of small volume samples to optimize the characteristics of spandex/elastane, thermoplastic polyurethane, cast polyurethane elastomer and polyether ester elastomer polymers



• BASF established a PolyTHF® laboratory in Shanghai, China to further improve technical services for customers in the region.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions.

About Intermediates

The BASF Group's Intermediates division develops, produces and markets a comprehensive portfolio of more than 700 intermediates around the world. The most important of the division's product groups include amines, diols, polyalcohols, acids and specialties. Among other applications, intermediates are used as starting materials for coatings, plastics, pharmaceuticals, textile fibers, detergents and crop protectants. Innovative intermediates from BASF help to improve the properties of final products and the efficiency of production processes. The ISO 9001-certified Intermediates division operates plants at production sites in Europe, Asia, and the Americas. To provide a convenient and long-term service to our customers, BASF is committed to become a one-stop supplier of spandex and polyurethane raw materials, offering PolyTHF® and other raw material such as EDA, PDA, DEA, DMAc, DMF, MDI.