Cooling brines, thermal transfer fluids, and coolants

We put heat in its place

TYFOROP Chemie GmbH

You've got to have good chemistry

Editor's note

Dear Reader,

We couldn't be happier that you're here to find out more about our company, services, and unparalleled quality.

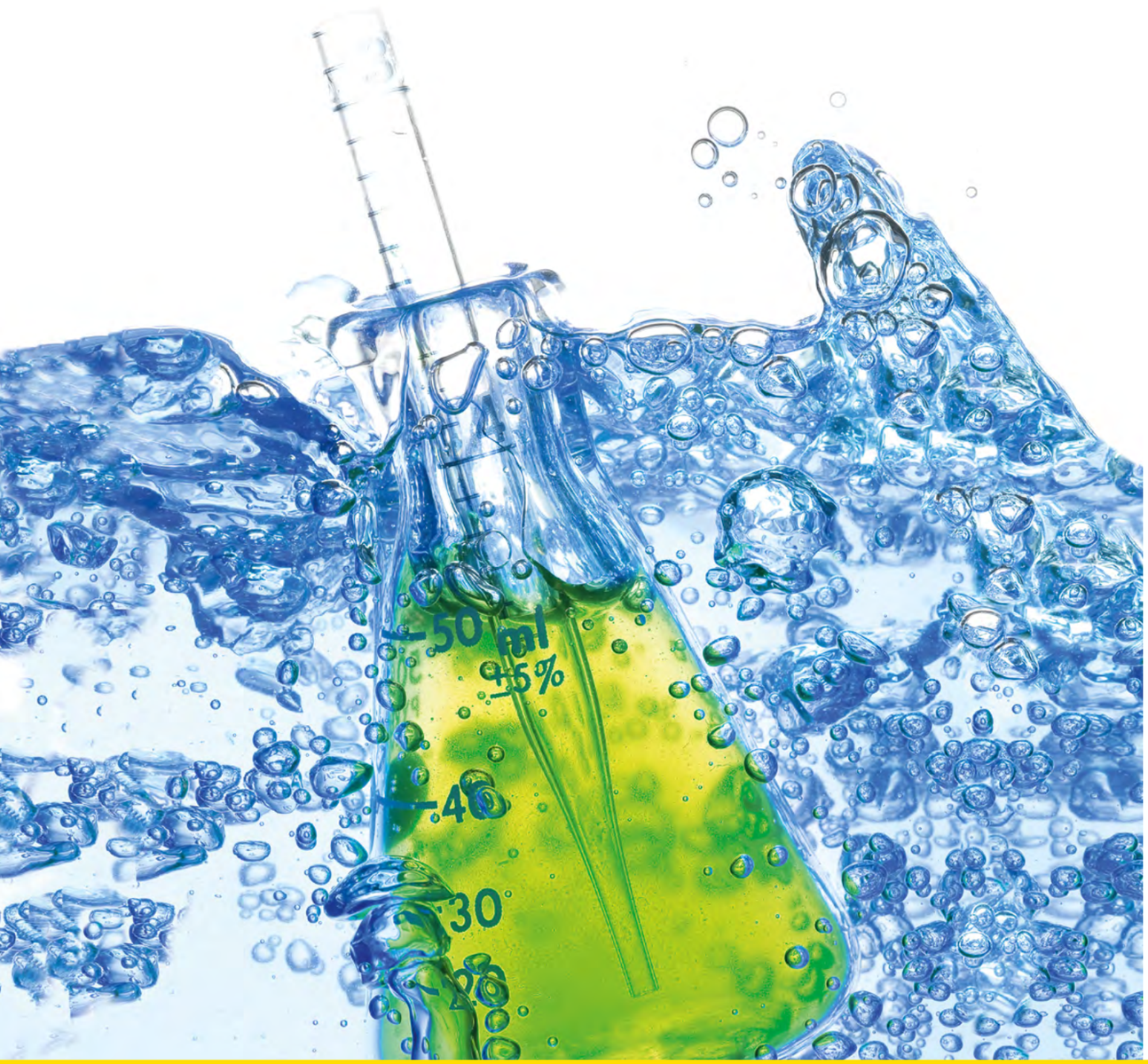
Our range of cooling brines, refrigerants, and heat transfer fluids has been formulated to ensure a long and reliable service life for a wide range of equipment. Solar thermal collectors, geothermal heating systems, wind turbines, heat pumps, air conditioners, under-soil heating systems, and wind tunnels all rely on **TYFO** products.

We make sure it's no sweat to get through a hot summer and simple to stay warm and cosy all winter long. With us, renewable energy is easier to harvest and vehicles are more aerodynamic and efficient. Food and beverage manufacturing processes at breweries, ice cream producers, chocolate factories, and more operate at peak efficiency — with delicious results. Anywhere you need precise temperature control, **TYFO**COR® and **TYFO**XIT® products take the heat for you — while protecting your system components and ensuring a long, trouble-free service life.

TYFOROP Chemie GmbH is an owner-managed business that stands for German quality, personal service, and rock-solid reliability — values we can only achieve by working closely with our employees and customers as a team. And in business, as in life, one thing is very important: you've got to have good chemistry.

Your **TYFO** Team

A future built on tradition



About us

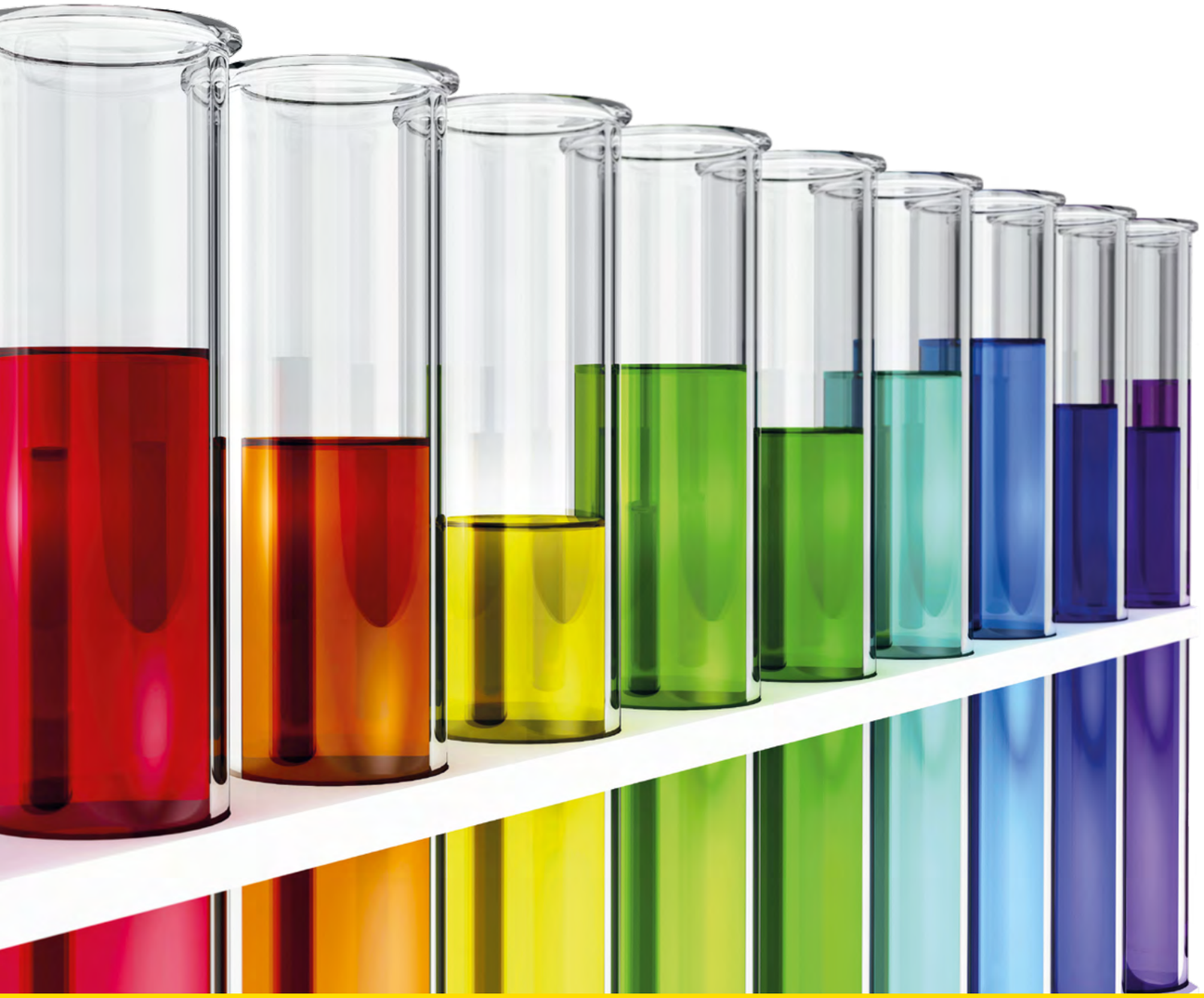
Our name, **TYFO**, stands for Treat Your Fuel Oil. In 1960, the American-based **TYFO** company founded a European subsidiary in Germany and named it **TYFO**ROP.

In 1972, **TYFO** acquired Carl Hesse Kühlsolen and added heat transfer fluids and coolants to its existing portfolio of high-quality fuel additives. Two years later, Hamburg entrepreneur Walter Schneider bought **TYFO**ROP and continues to successfully manage the business to this day. The company's next big milestone came in the late 1970s, when it began manufacturing high-quality solar fluids.

In the year 2000, Walter Schneider acquired from Henkel a company known as a leading supplier of chemical products in the former East Germany: HAERTOL Chemie GmbH. With **TYFO** and HAERTOL under common ownership, their combined expertise in research, development, and quality assurance further solidified the market leadership each enterprise had achieved.

TYFO is still an owner-managed business, now headquartered in Hamburg, Germany, as well as the leading European manufacturer of cooling brines, heat transfer fluids, and coolants. Not only do we provide unrivalled product quality, we also deliver customized solutions for a wide range of applications by employing our extensive research and development capabilities.

A formula for success



Research & development

Our experienced laboratory team develops unique, customized solutions. Each and every new product launch is accompanied by extensive laboratory and field testing. We continuously sample our raw materials and production batches. This way, we can provide you nothing but the finest quality at all times. We also analyse and document our products according to international DIN, EN, and ASTM standards.

In addition to world-class product development, **TYFO** also focuses on quality assurance and environmental conservation, working with its customers hand-in-hand to achieve their goals.

Some of ways we support you include:

- Comprehensive training and consultation covering the details involved in the many applications for our products
- Assistance with country-specific regulatory issues that apply to chemical products
- Preparation of all approvals and documentation
- Free analysis of heat transfer fluids during system operation including lab reports and recommendations for the ongoing operation of the equipment
- Assistance with troubleshooting and problem resolution
- Computer programs to calculate freeze points, antifreeze protection, densities, viscosities, and additional physical properties

Stirred, not shaken

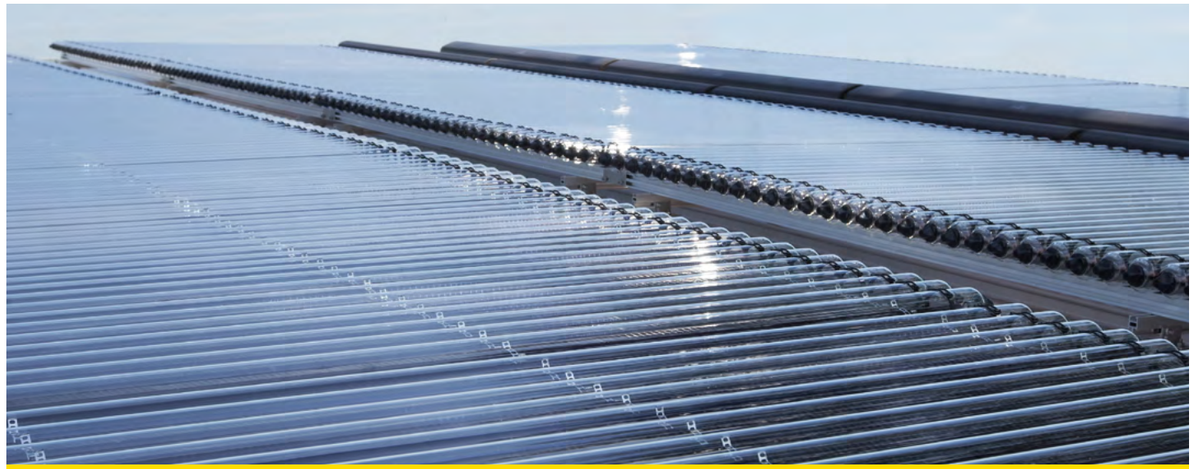
Production

All premium-grade **TYFO** products are produced at our Magdeburg facilities. With a private railway siding for tank cars and excellent connections to regional and long-distance transportation infrastructure as well as Magdeburg's harbour, the largest inland port in central Germany, our customers benefit from unique logistic advantages.

TYFOCOR® and **TYFO**XIT® products are made using state-of-the-art production equipment. Numerous agitator tanks ranging from 1 m³ to 25 m³ in size, several fully automatic and semi-automatic filling and labelling systems for drums and containers, and two filling stations for filling and unloading tank trucks ensure seamless, efficient manufacturing processes. Our large storage capacity spread across 5000 m² of space in addition to numerous storage tanks for raw materials and finished goods guarantee our customers unmatched flexibility and availability.

We manufacture our products according to strict quality standards and environmental guidelines. Our commitment to sustainability and environmental protection is also reflected in our ISO 14001:2004 environmental management certification. What's more, we also work according to the DIN ISO 9001:2008 quality standard. Many of our environmentally friendly products have also received approvals for use in other European countries as thermal transfer fluids and antifreeze. To learn more, please visit our website, **www.tyfo.de**

You can order our products in a number of container sizes ranging from five-litre jugs all the way up to 24-ton tank trucks



TYFOCOR®**-brand** products for renewable energy applications

Renewable energy

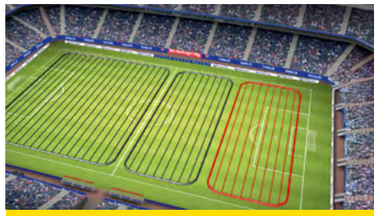
Thermal solar systems place high demands on the properties of heat transfer fluids. Both during cold winter nights and under the hot midday sun — you need your solar system to work reliably, year in and year out. Our products make sure your solar thermal fluid remains liquid and pumpable all the way down to –30°C while resisting breakdown up to 200°C. Since there is always a possibility of leakage causing contamination of the hot water supply, solar thermal fluids must not present a health risk. That's why they are formulated with non-toxic propylene glycol.

Heat transfer fluids for geothermal systems have it easier in comparison. Here, the main objective is to ensure that heat is transferred from the earth to the heat pump even when temperatures are below freezing, all the while protecting the system's components against corrosion. We also provide specialized products for drinking water protection zones and other areas that fall under special regulations.

- Solar thermal systems
- Geothermal heating
- Wind turbines

TYFOCOR®**-brand** products for heating, ventilation, and air-conditioning

HVAC



Central air-conditioning systems in large buildings provide heat in the winter and cooling in the summer. To accomplish this, the heat transfer fluid in the central air-conditioning system is either heated or cooled and then transported to the heat exchangers in the individual rooms through piping. The heat transfer fluid used has to live up to all the demands placed on it regarding heat transfer and corrosion protection over an extended period of time and under both high and low temperatures. Even in buildings at remote locations which are not heated the entire winter through, our products prevent the heating system from freezing and thus ensure a long, trouble-free service life.

- Air-conditioning units
- Under-soil heating
- Natural gas storage
- Heat pumps

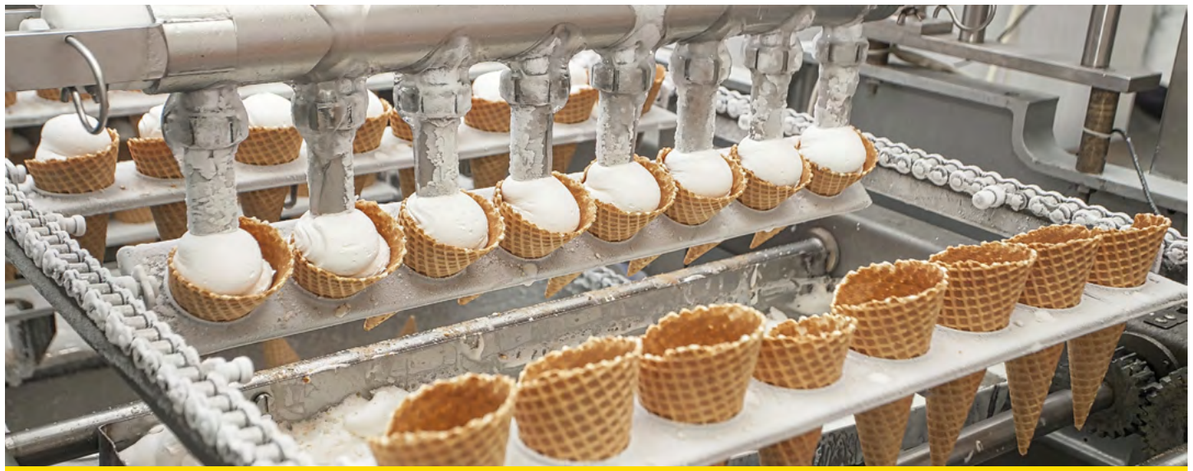
TYFOCOR® and **TYFO**XIT®
for refrigeration

Refrigeration

A number of technical processes require rapidly cooling equipment or components to very low temperatures. To achieve this, products are required which not only have good thermal transfer and corrosion inhibiting properties, but which also possess very low viscosities across the entire temperature range.

This is the only way to ensure sufficient flow with rapid and efficient heat transfer.

- Wind tunnels
- Ice rinks
- Ground freezing systems
- Industrial refrigeration



TYFOCOR® and **TYFO**XIT®
for food and beverage refrigeration

Food & Beverage

Wherever you look — refrigerated cases in the supermarket or steps during food and beverage processing: Excess heat has to be removed quickly and products need to be kept at consistently low temperatures to maintain shelf life. For use in the food and beverage industry, our products need to possess an additional quality beyond their technical specifications: they must be absolutely non-toxic. This is an important prerequisite to ensure that spills and even small leaks cannot lead to foods being contaminated with potentially hazardous substances.

- Breweries
- Ice cream production lines
- Chocolate factories
- Wineries
- Freezer systems

Our products at a glance

TYFOCOR® LS® is a special, ready-to-use, almost completely vaporizable, propylene-glycol-based heat transfer fluid for use in solar systems that are subject to extreme thermal conditions

TYFOCOR® L is a long-life corrosion-inhibiting antifreeze based on propylene glycol for heating and air-conditioning, solar thermal, and heat pump systems. It is also used as a special food-grade brine by food and beverage manufacturers and is supplied both as a concentrate and a pre-mixed, ready-to-use product.

TYFOCOR® L-eco® is a long-life corrosion-inhibiting antifreeze based on propylene glycol that covers the same applications as **TYFO**COR® L. Practically all of the substances contained in the product are derived from 100% renewable resources.

TYFO-SPEZIAL is a special, high-performance brine formulated for geothermal heat pumps located in water protection zones and areas subject to special government regulations. Due to its lack of glycols, it does not cause any underground biological oxygen depletion in the event of a leak.

TYFOCOR® GE is a long-life, corrosion-inhibiting antifreeze based on ethylene glycol specially formulated for use in geothermal heat pump systems, air conditioning units, and under-soil heating. It can be supplied as desired in the form of a concentrate or a pre-mixed, ready-to-use product.

TYFOCOR® G-LS is a special, ready-to-use, almost completely vaporizable, propylene-glycol-based heat transfer fluid for use in solar systems that are subject to extreme thermal conditions. It contains a glass protection additive that makes it suitable for use in all-glass solar collectors.

TYFOCOR® HTL is a special, ready-to-use heat transfer fluid based on non-toxic glycols for use in solar systems that are subject to extreme thermal conditions.

TYFOCOR® is a long-life, corrosion-inhibiting antifreeze based on ethylene glycol for cooling and heating, air-conditioning, heat pump, and under-soil heating systems. It can be supplied as a concentrate or a pre-mixed, ready-to-use product as desired.

TYFOXIT® 1.15–1.25 are non-toxic, high-performance, glycol-free refrigerants based on potassium acetate with very low viscosities for chiller systems with secondary cooling. They are available as concentrates (**TYFO**XIT® 1.25) and ready-to-use mixtures ranging from –20 °C (**TYFO**XIT® 1.15) to –55 °C (**TYFO**XIT® 1.25).

TYFOXIT® F15–50 are non-toxic, high-performance, glycol-free, potassium-formate-based heat transfer fluids with very low viscosities for chiller systems with secondary cooling. They are available as ready-to-use mixtures ranging from –15 °C (**TYFO**XIT® F15) to –50 °C (**TYFO**XIT® F50).

To learn more about our products, visit **www.tyfo.de**

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