CRANE Temper®

-10
-15
-20
-30
-40
-55
-60°C

CRANE TEMPER – THE IDEAL HEAT TRANSFER FLUID

The secret behind CRANE Temper's excellent fluid and environmental properties lies in the optimal mix of organic salts giving it its very low viscosity, significantly reducing the overall energy consumption. Designed for exceptional performance in industrial refrigeration and food applications, it offers superior heat transfer and advanced corrosion protection through its organic adsorption inhibitor package ensuring an optimal corrosion protection.

CRANE Temper is colourless to yellowish and it is free from nitrites, borates, phosphates, molybdates and silicates. To ensure the high quality of the product, CRANE Temper is always supplied ready-to-use and is available in seven different versions with freezing points from -10 °C to -60 °C.

ADVANTAGES WHEN USING CRANE TEMPER

- Low viscosity
- High thermal conductivity and specific heat capacity
- HT1 + HT2 Certified – meets regulatory requirements including FDA 21 CFR
- Reduced energy cost
- Readily biodegradable
- Advanced inhibitor technology
- Personalized technical support
- Excellent chemical stability during operation–well beyond storage time

NSF
Nonfood Compounds HT1

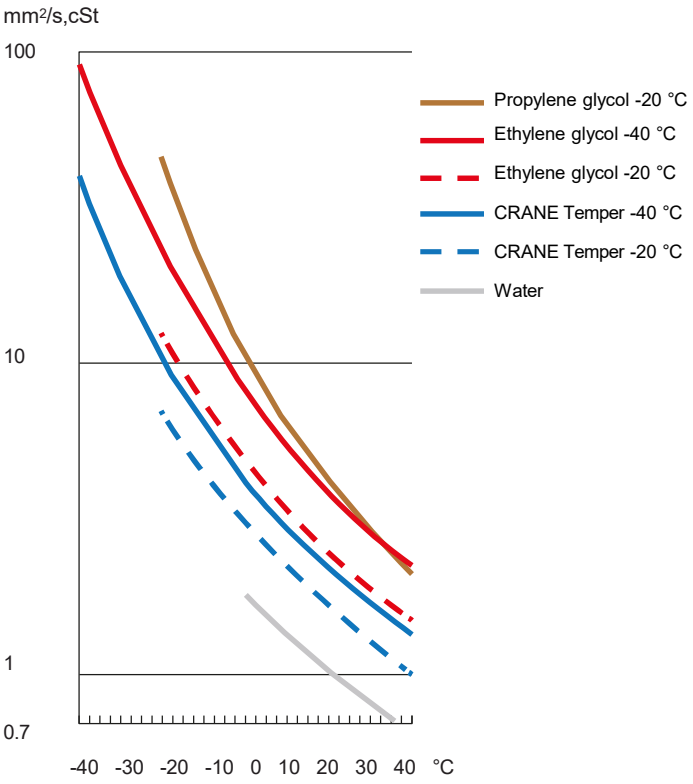
GENERAL PROPERTIES

Appearance	Colourless to pale yellowish
Boiling point	Approx. 109°C
Density	1087-1260 kg/m³
pH	8.5-9.5

PERFORMANCE

CRANE Temper's excellent viscosity, specific heat, and thermal conductivity make it the ideal Heat Transfer Fluid (HTF) for low temperatures. Its superior fluid properties allow for smaller pumps and heat exchangers, significantly reducing total energy consumption, especially in extreme cold conditions.

KINEMATIC VISCOSITY OF CRANE TEMPER AND GLYCOL



THERMOPHYSICAL PROPERTIES

Unit		T-10	T-15	T-20	T-30	T-40	T-55	T-60 *
Density	kg/m³	1087	1120	1145	1186	1215	1246	1260
Specific heat capacity	KJ/kg • °C	3.772	3.575	3.434	3.244	3.114	2.966	2.820
Thermal conductivity	W/m • °C	0.480	0.472	0.462	0.436	0.428	0.421	0.440
Dynamic viscosity	mPa • s	1.53	1.90	2.04	3.34	3.82	4.28	4.28
Kinematic viscosity	mm²/s	1.40	1.70	1.78	2.81	3.15	3.43	3.40

Measurements are performed @ +20 °C
* CRANE Temper-60 certified according to HT2

CRANE Temper®

AREAS OF USE

CRANE Temper can be used wherever a liquid HTF is required in indirect cooling, stationary or mobile installations. CRANE Temper is **HT1 and HT2** certified according to the NSF standard. CRANE Temper offers great advantages in comparison to glycol mixtures in applications such as:

- Food industry
- Logistic centres
- Defrosting of CO_2 air coolers
- Pharmaceutical industry
- Ice rinks/artificial ski slopes
- Power plants

NSF
Nonfood Compounds HT1

MATERIAL COMPATIBILITY

Most of the common materials can be used such as copper, bronze, brass (dezincification resistant), steel, stainless steel, cast iron, as well as plastic pipes (ABS, PE). Metal and plastic materials must be suitable for the system's minimum and maximum temperatures. High temperatures involve an increased risk of corrosion. Selection of materials must therefore take into account the operational temperature within the system. The higher the temperature, the better the quality of the materials is recommended. Galvanized steel is not recommended to be used together with CRANE Temper.

ADAPTIVE PROTECTION TECHNOLOGY

CRANE Temper consists of a smart adaptive protection technology which allows temporary, local mono-molecular protection of metal surfaces only when needed. This allows maximized heat transfer through the lifetime of the refrigeration system. The creation of local protection is reversible, and the corrosion inhibitor returns to the fluid without being consumed when electrical diversion is reduced. The CRANE Temper adaptive protection technology is chemically selective to construction metals and do not interfere with other ions or non-construction metals.

	CRANE Temper adaptive technology	**Film forming corrosion inhibitors**
Trigger mechanism	Electrical potential	Always present
Local	Yes	No
Reversible	Yes	No
Possible to measure	Yes	No
Impact on heat transfer	Minimal	High

CRANE Temper has passed the ASTM D 1384 test, which involves immersion of metal specimens in the fluids under elevated temperature to accelerate the potential corrosion process. Please see CRANE Temper Technical Data Sheet for more information.

ANALYSIS & TECHNICAL SUPPORT

It is recommended to regularly check the fluid in respect of parameters such as pH, freezing point (density), metal ions and corrosion inhibitor level. With a test kit you may easily check freezing point (density) and pH value. More advanced analysis can be performed, such as metal ions concentration and corrosion inhibitor level to secure the well-functioning of the system. Along with the test result, a complete report with conclusion and recommended actions is always provided.

ENVIRONMENTAL & HEALTH INFORMATION

CRANE Temper has excellent environmental properties. It is readily biodegradable, non-toxic, and non-flammable. The product does not contain harmful additives like nitrites, borates, phosphates, molybdates, or silicates.

- Non-toxic for mammals – LD50 oral, rat > 5 000 mg/kg calculated from literature data.
- Non-toxic for aquatic life – LC50/96h > 10 000 mg/L calculated from literature data.
- Not acute toxic – Microtox test
- Readily biodegradable – OECD 301A, 100% in 28 days
- Does not bioaccumulate

BIODEGRADABLE

The primary ingredient in CRANE Temper is potassium acetate, a food-grade preservative. This ensures maximum safety and makes CRANE Temper a trusted, sustainable choice.

PACKAGING

CRANE Temper is supplied in the following packaging, as well as bulk deliveries:


25L blue canister made of PE with sealed cap, the canister's weight is 1.2 kg.


208L blue barrel made of PE, with a sealed cap, the barrel's weight is 9.0 kg.


1000L black IBC, the IBC weight is 70.0 kg. Outlet valve NW 50


Bulk deliveries for larger volumes

STORING, HANDLING & TRANSPORT

Store in unopened original containers not below its freezing point. Shelf life is at least 2 years from production date when stored as recommended. Avoid contact with eyes and skin. When transporting CRANE Temper, there is no restriction since the product is not classified. Further information can be found in the safety data sheet.

FURTHER INFORMATION

For more information contact KRAHN Specialty Fluids AB, visit our website or consult your local distributor.

KRAHN Specialty Fluids
is Certified according to
ISO 9001:2015

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