

# Aquatherm Technical Bulletin

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## Chemical Compatibility Inquiries

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Aquatherm pipe is a great solution to chemical transport for many different chemicals that, often times, are not able to be transported by other piping materials.

In order to evaluate whether or not a particular chemical may be transported through Aquatherm piping certain questions need to be answered. These questions must be answered for each chemical submitted for evaluation. If not, then we cannot do an evaluation. The following are the questions that need to be answered:

1. What is the proposed temperature of the chemical to be run in the piping?
2. What is the proposed pressure of the chemical to be run in the piping?
3. What is the proposed concentration of the chemical to be run in the piping?
4. Is there an MSDS available for the proposed chemical?
5. What is the proposed atmosphere through which the piping is to be run? (temperature, location, chemicals or contaminants in the surrounding air or fluid)

Many times people will submit an MSDS and suppose that the concentrations indicated on the MSDS are the concentrations that we need to know for the evaluation process. The concentration on the MSDS is the concentration of the chemical in the container, as it sits on the shelf. The concentration we need to know is whether or not the chemical is going to be mixed with water or some other chemical in the pipe line.

For example: a certain chemical cleaner according to the MSDS contains the following:

- Tetra potassium Pyrophosphate 30%
- Potassium Hydroxide 10%
- Potassium Silicate 12%
- Sodium Gluconate 5%

It can be a significant difference whether this chemical is run through the piping at 100% concentration or, as is actually the case with this chemical, it will be diluted to 5% of the total solution with the other 95% being water.

Please submit all chemical inquiries to [engineering@aquatherm.com](mailto:engineering@aquatherm.com) using the forms found here: <http://www.aquatherm.com/chemical-compatibility>.

A written response is provided once the review is completed, typically within the next business day. The response will generally be with one of three outcomes for the chemical compatibility of the product in question and Aquatherm piping.

The three possible outcomes are:

1. **Resistant** – This means that the Aquatherm pipe material is resistant against the proposed chemical. In other words, it is compatible with the proposed chemical.
2. **Partly Resistant** – This means that the Aquatherm pipe material is partially resistant to the proposed chemical. The limitations are usually listed in the body of the letter.
3. **Non-Resistant** – This means that the Aquatherm pipe material is NOT resistant against the proposed chemical. The Aquatherm pipe material is NOT compatible with the proposed chemical and should not be used with the proposed chemical.

In some cases, different components such as metal threads, O-rings, valve seals and gaskets may have different resistance results than the PP piping. This is stated in the written response as well.

Occasionally, when the response is that the pipe is not resistant or compatible with the proposed chemical, a second evaluation is done to estimate how long it would be expected to last under the given conditions. These are called “Sub-10” inquiries because the pipe is not expected to last the entire 10-year warranty period. Requests for a sub-10 evaluation of the chemical application, should also be submitted to [engineering@aquatherm.com](mailto:engineering@aquatherm.com) using the forms found at <http://www.aquatherm.com/chemical-compatibility>.

Rev. 1: Modified submittals to be directed to [engineering@aquatherm.com](mailto:engineering@aquatherm.com)



we've got a pipe for that