MS Formades

Here is some information regarding formaldehyde. It is true that its effectiveness decreases at lower temperatures. However, this does not mean it is ineffective; it simply requires a longer contact time and a higher concentration. The recommendation is to use a high concentration if there are issues, and if this is not sufficient, the pump can be set slightly above the high setting.

Since our milking robots have 5 visits and formaldehyde remains on the hoof for a relatively long time—providing sufficient contact time—we are still able to achieve results even during the winter. Of course, the actual contact time depends greatly on the environment. For example, a cow standing on a floor with a lot of manure versus a dry floor will make a significant difference.

Exactly, the freezing point of a 37% formaldehyde solution is below 0°C, around -20°C, so the liquid remains usable even just below 0°C. This means formaldehyde can still be used in light frost, but its effectiveness decreases further. Here's an overview:

---

1. Effectiveness at low temperatures

Temperature	State of formaldehyde	Effectiveness	Practical tip
20–25°C	Liquid	Maximum	Standard contact time as per label
5°C	Liquid	Reduced, 50–70%	Double contact time or slightly higher concentration
0°C	Liquid	Further reduced	Contact time at least 2–3× longer or slightly increased concentration
-5°C to -10°C	Liquid (not frozen)	Very slow	Long contact time; preheat surfaces if possible
< -20°C	Frozen	No effect	Do not use; solution is frozen

---

2. Practical calculation/contact time

- Example: at 20°C, 10 minutes contact time is sufficient at the standard 37% concentration.
- At 0°C: 10 × 2–3 = 20–30 minutes.
- At -5°C: possibly 40–60 minutes.
- Below -20°C: liquid freezes → cannot be used.
- Tip: Use a thermometer and adjust contact time based on the actual temperature of the barn or feed surfaces.

---

3. Summary

- Freezing point of formaldehyde ≈ -20°C, so it remains liquid just below 0°C.
- Effectiveness decreases significantly at low temperatures, but does not disappear completely.
- At 0°C and slightly below, longer contact time and/or slight increase in concentration is needed.
- In extreme frost (< -20°C), it is practically unusable