

Technical Bulletin

Mixing Potassium Acetate Runway Deicers From Different Suppliers

Several airport operators have asked if it is advisable to mix potassium acetate runway deicers from different suppliers in the same storage tank. That decision by airport operators should consider the following concerns.

SUMMARY

Potassium acetate runway deicers are produced by a number of suppliers. Each product is based on slightly different chemistry, and must be certified to comply with rigorous industry standards. When airport operators mix deicers from different suppliers, the blended product may not have the same properties of either of the original fluids.

PROBLEMS WITH BLENDING

Each manufacturer of potassium acetate runway deicer has designed their product to meet certain expectations of performance. In addition, the fluid must be certified to SAE AMS 1435, which defines the minimum requirements for material compatibility.

Fluid performance for deicing and anti-icing is primarily a function of potassium acetate concentration. Today, deicer manufacturers have standardized on a minimum concentration of 50% potassium acetate in water, by weight. This allows customers to directly compare different fluids on the basis of price and deicing performance.

Other factors such as material compatibility, storage stability, toxicity, and handling procedures are affected by controlling the chemistry of corrosion inhibitors and pH. Corrosion inhibitors are necessary to assure that the potassium acetate based solutions are compatible with the array of materials used in aircraft, as determined by testing to AMS 1435 standards. Each fluid manufacturer has different corrosion inhibitors and different pH. Blending fluids from different suppliers has a high risk of altering the properties such that proper protection of workers or aircraft materials is not maintained.

It is improper to assume that E36, which meets AMS1435, blended with substitute products, which meet AMS 1435, will result in a blended product that also meets AMS 1435. We feel it is quite probable that such a mixture will NOT meet AMS 1435.

CONCLUSION

We recommend that Cryotech E36 Liquid Runway Deicer not be blended with potassium acetate-based runway deicers from other suppliers, even if the substitute product has been certified to AMS 1435. While deicing performance is probably not compromised by blending different deicers, other issues related to material compatibility and worker safety have overriding concerns.