

Frequently Asked Questions

Cryotech has developed a new liquid runway deicer for the upcoming 2008-2009 winter season in response to the Potassium Acetate Deicer shortage. Cryotech NX360™ is formulated to be used where the outdoor air temperature (OAT) is 10°F (-12°C) or above on a routine basis. NX360 does not contain any corrosion inhibitors and is free of triazole (TTZ), ethoxylated compounds, nitrites, and nitrates.

Product Information

What is Cryotech NX360™?

NX360 is a proprietary aqueous solution containing sodium acetate and Susterra® propanediol. It has been developed as a direct substitute for Cryotech E36™.

When will NX360 be available?

NX360 is available for shipment from Fort Madison, Iowa. Additionally, NX360 is being strategically placed throughout Cryotech's distribution network.

What are the characteristics of NX360?

Cryotech NX360™ is a bio-based liquid runway deicer that does not contain any corrosion inhibitors. There are no anticipated differences in handling, pumping, or spraying between NX360 and E36 at or above 10°F (-12°C). Below 10°F (-12°C), Cryotech suggests special storage and handling for NX360. Please contact Cryotech for more in depth information on these special requirements.

How does the price of NX360 compare to E36?

For more information on pricing, please contact your Cryotech Account Representative.

How does NX360 differ from propylene glycol based deicers?

NX360 uses a bio-based propanediol (Susterra® propanediol) component where propylene glycol (PG) formulations use a traditional petroleum based compound. Environmentally, Susterra® propanediol is similar to PG, but it has better aquatic toxicity values and better low temperature viscosity. Runway deicers blended with Susterra® propanediol also exhibit better friction characteristics than runway deicers blended with PG.

How does the conductivity of NX360 compare to other airport approved runway deicers?

NX360 is less conductive than traditional acetate runway deicers, which lessens concerns with airport lighting systems and aircraft electrical components.

Are there any expected supply issues with NX360?

Cryotech expects to be able to meet the deicing needs of its current customers.

Product Performance

Does NX360 perform similar to E36?

For anti-icing, NX360 performed as well as E36 in the SHRP testing for Ice Melting, Ice Penetration, and Ice Undercutting. If used for deicing below 15°F (-9°C), NX360 must be used in conjunction with a solid deicer such as Cryotech NAAC®. This testing is performed at multiple temperature ranges.

Can NX360 be used as a lavatory antifreeze?

NX360 can be used at low temperatures (10°F / -12°C) and has been approved by Airbus, Boeing, Douglas, and Lockheed for use as a lavatory antifreeze.

Has NX360 been field trialed?

NX360 was developed in response to the industry shortage of potassium hydroxide (KOH). NX360 meets the AMS 1435 specification, and third party testing on friction and ice melting has been conducted. NX360 was successfully field trialed in Alaska and Cryotech is confident that NX360 will be a high performing fluid.

Certifications

Is it approved by FAA?

FAA authorizes the use of liquid pavement deicing products at airports that comply with AMS 1435. NX360 meets the AMS 1435 specification and is fit for use on runways and airside areas.

Do AMS specifications require deicers to be compatible with carbon brakes?

No, the current revision of the AMS 1435 deicing material specification does not require deicers to meet any standards for compatibility with carbon brakes. The SAE Aerospace and Landing Gear A5-A subcommittee is collaborating with the G12F Catalytic Oxidation working group to incorporate this testing into the AMS 1435 specification for deicing materials. This would be a universal test for measuring weight loss on brakes from all major manufacturers.

What effect does NX360 have on carbon brakes?

Based on previous experience, Cryotech expects catalytic oxidation on carbon brakes to be similar to aircraft deicers for NX360. Cryotech is investigating potential testing to determine the impact of NX360, if any, on carbon brakes.

Is NX360 compatible with airframe materials?

NX360 meets the AMS 1435 specification which encompasses compatibility testing with metals, plastics, and other materials.

Frequently Asked Questions

Storage, Handling, and Application

What is the transition procedure when switching from Cryotech E36® to NX360?

NX360 and E36 can be mixed at any ratio on pavement or in tanks.

Can NX360 be put in a tank with another manufacturer's deicing fluid?

Cryotech does not recommend mixing NX360 with competitors' fluids, as they may be based on a different chemistry and may not be compatible with NX360. Please contact Cryotech with questions about a specific fluid.

How should NX360 be stored?

Cryotech NX360 can be stored and handled like Cryotech E36 down to temperatures of 10°F (-12°C). However, when the fluid is exposed to temperatures below 10°F (-12°C), crystals will form in the fluid. If temperatures are expected to be below 10°F (-12°C), tanks, pumps, and piping should be heat traced and insulated to maintain a minimum fluid temperature of 10°F (-12°C). For more in depth details on suggested tanks, pumps, sprayers, and other information, please contact Cryotech.

How should NX360 be applied?

It is expected that NX360 will have similar application rates to E36.

• Anti-icing:

0.5 gallons/1000ft² (25g/m²)

• Deicing:

1 - 3 gallons/1000ft² (50 g/m²) near 32°F (0°C) on thin ice

Below 15°F (-9°C), NX360 must be used in conjunction with a solid deicer such as Cryotech NAAC®

Is pre-wetting different with NX360?

If pre-wetting, NX360 can be used at the same rates as E36:

1.25 gallons per 100lbs (130g/kg) of NAAC or sand

Can existing equipment be used when applying NX360?

Cryotech expects that equipment used to apply E36 will be suitable for use with NX360. For more in depth details on suggested pumps, tanks, sprayers, and other information, please contact Cryotech.

Environmental Characteristics

What is a bio-based product?

Bio-based products (other than feed or food) are wholly or partly composed of renewable agricultural crops such as corn, wheat, or sugar cane.

What are the benefits of using a bio-based product like NX360?

NX360 is made with Susterra® propanediol, a high-performance material derived from corn, a renewable farm resource. This reduces our reliance on petroleum-based materials, requires less energy to manufacture than petroleum-based glycol products, reduces greenhouse gas emissions, and supports airline, airport, and military sustainability goals.

What are the environmental impacts of NX360?

NX360 is non-persistent, readily biodegradable, and has a low toxicity to fish, mammals, and vegetation. The bio-based component notably reduces energy use and greenhouse gas emissions over traditional propylene glycol.

Will this product comply with airport water permits?

Cryotech is aware of airports that are applying for, and being granted, variances on their water permits from the EPA due to the industry shortage. If environmental personnel need any specific information on NX360, please let Cryotech know.

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