

Advisory Circular

Subject: Airport Field Condition Assessments
and Winter Operations Safety

Date: 7/29/16
Initiated by: AAS-300

AC No: 150/5200-30D

4-6. Approved Chemicals.

a. Airside Chemicals. The FAA either establishes approval specifications or, upon acceptance, references the specifications of professional associations, such as SAE Aerospace Material Specifications (AMS), and the U.S. military (MIL-SPEC). The approved airside chemicals for runway and taxiway applications are fluid and solid products meeting a generic SAE or MIL specification. These specifications require vendors to provide airport operators with a lab certification stating the chemical conformed to the applicable specification and a material safety data sheet (MSDS) for handling the product. With the increased accountability placed on airport operators to manage deicing/anti-icing chemical runoff, they should request vendors to provide certain environmental data. These data consist of information on pollutants the Environmental Protection Agency and the State Department of Natural Resources request of the airport operators in their discharge reporting requirements. Typically, the information includes percent product biodegradability, biochemical oxygen demand (BOD₅), chemical oxygen demand (COD), pH, presence of toxic or hazardous components, if any, and remaining inert elements after application. MSDSs provide measures on how to secure large product spills and a 24-hour toll-free emergency phone number. While these fluid and solid specifications cover technical requirements for deicing/anti-icing products, they do not address the compatibility issue of combining products during operations. Airport operators, therefore, should query manufacturers about the safe and proper use of concurrently applying multiple deicers/anti-icers. The FAA-approved airside chemical specifications, which may be restricted by state or local environmental regulations, are as follows:

(2) Solid Deicer/Anti-icer.

(i) Generic Solids. The approved specification is the latest edition of SAE AMS 1431, Compound, Solid Runway and Taxiway Deicing/Anti-icing. Approved solid compounds include airside urea, sodium formate, and sodium acetate. It is noted that, in comparison to airside urea, sodium formate and sodium acetate products continue to be effective for much colder pavement temperatures. The urea deicing function is practical only at temperatures above approximately 15° F (-10° C) because of the decreasing melting rates below this temperature value. The decreasing melting rate is a result of urea's eutectic temperature, defined in Paragraph 1-9, which is approximately 11° F (-12° C). However, the presence of solar radiation assists urea in the melting action. Pavement surface temperature and ice thickness determine the urea application rate. Application rates for a specific product are based on manufacturer recommendations.