DOT Regulates 10 - 24.9% Formaldehyde Solutions

1. BACKGROUND. Title 49 CFR provides two entries for formaldehyde solutions in the Hazardous Materials Table Part 172.101: Formaldehyde solutions, flammable, UN1198; and Formaldehyde solutions, with not less than 25% Formaldehyde, UN2209. Both materials are regulated by highway, water, and air. These entries imply that formaldehyde solutions, which are not flammable or have less than 25% formaldehyde, are not regulated, but 10-24.9% require regulation as a Hazard Class 9 material when shipped by air. Formaldehyde solutions in these concentrations are noxious and can cause extreme annoyance or discomfort to crew members in the event of a spill or leak on an aircraft.

2. BASIC SHIPPING DESCRIPTION. The basic shipping description for 10-24.9% Formaldehyde solutions shipped by air is "UN3334, Aviation regulated liquid, n.o.s. (Formaldehyde), 9," This basic description is required for all multi-modal shipments which have the potential to be transported by air also.

3. FORMALIN SOLUTIONS. Refer to the Material Safety Data Sheet (MSDS) to determine the percentage of formaldehyde when shipping Formalin solutions.

   • Full strength Formalin is 37% Formaldehyde and will be shipped as “UN1198, Formaldehyde solutions, flammable, 3, (8), PG III.”

   • 25% Formalin solutions have approximately 10% Formaldehyde and are classified as "UN3334, Aviation regulated liquid, n.o.s. (formaldehyde), 9" for transportation by air. (Shipments of 10-24.9% formaldehyde solutions shipped by highway only do not require classification as a hazardous material.) Guidance for shipping these solutions are provided in Paragraphs 2 and 4 of this Fact Sheet.

   • 10% Formalin solutions contain 3-4% Formaldehyde and are not regulated for transport by air or highway.

NOTE: Ensure that the flashpoint and percentage for formaldehyde are taken into consideration when you are shipping Formalin.

4. SHIPPING SPECIFICATIONS: Formalin solutions classified as Aviation regulated liquid, n.o.s may be shipped by commercial air as a non-bulk package. Aviation regulated liquid, n.o.s. is not permitted in excepted or limited quantity packagings. Tissues and specimens being shipped in formalin solutions are not considered to be Diagnostic Specimens or infectious substances unless there is a high probability that an infectious substance is present. For non-bulk packages of Aviation regulated liquid, n.o.s., please refer to IATA’s Packing Instruction 906.