

SHIPPING DIAGNOSTIC SPECIMENS

IN EXTREME COLD: BELOW FREEZING TEMPERATURES

GOAL: Prevent freezing that may destroy or decrease the diagnostic quality of the sample

THREE ITEMS TO CONSIDER:



TIME



TEMPERATURE



EXPOSURE



TIME

1. Ship overnight
2. Prolonged delivery times keep samples in the colder environment longer
3. Do not ship over the weekend or holidays



TEMPERATURE

1. Frozen gel packs may not be the way to go when it is below freezing
 - Frozen gel packs will help the cold weather decrease the temperature of your sample
2. Room Temperature Gel Packs
 - Use with samples that do not need to be chilled (i.e. biopsy samples in formalin)
 - Energy from the cold weather will be divided in the box between chilling your sample and the gel packs to prolong the freezing affect
3. Chilled/Soft Gel Packs
 - Use with samples that need to be chilled (i.e. fresh tissues for culture or PCR)
 - The same principle applies as with the room temperature samples, the environment inside the box will start off chilled, and the gel pack will prolong the time it takes the sample to freeze



EXPOSURE

1. Provide protection to the samples by layering
2. Use an insulated shipping container – cardboard box with Styrofoam box inside
3. Fill dead space in the box with bulk material to provide additional insulation
4. Keep the samples centered in the box to avoid the colder sides

ADDITIONAL ITEMS

Adding alcohol to formalin at a rate of 1 part to 9 parts formalin can lower the freezing point of the formalin to help prevent freeze artifact. Please do not add more than this amount as it may affect the fixation process.



Animal Disease
Diagnostic Laboratory

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