Snap-Freezing Samples using a CoolRack® and CoolBox™ or insulated ice pan

There are a variety of CoolRacks to fit your microfuge or cryo-tube samples including the CoolRack M series, CoolRack M-Profile Fit series, and the CoolRack CF series. This document shows a CoolRack CF30 and CoolBox 30 as an illustrative example. Please consult with your sales representative or the BioCision catalog for alternative configurations and options.
Snap-Freezing Samples with a CoolRack®

The CoolRack lets you snap freeze samples with dry ice alone- no alcohol required.

**Quick Start Procedure:**
- Place the CoolRack directly on crushed or cake dry ice. A buzzing sound coming from the metal-ice contact is normal and safe.
- CoolRack will cool to snap freezing temperature in about 7 minutes (-78°C)
- Place a sample tube in CoolRack at any time after CoolRack reaches temperature
- The sample will snap freeze and may be left in place while the remaining samples are being processed
- All samples will remain at -78°C while the CoolRack is in direct contact with dry ice
- Remove samples for freezer archive
- The CoolRack with snap-frozen samples in place may also be placed directly into a storage freezer
- Using a CoolBox in this process allows protected handling of the CoolRack and minimal requirements for dry ice. A CoolBox will keep samples frozen for about 10 hours with the lid closed. Dry ice requirements and cooling duration will vary with other insulated containers

*Follow the next two slides to see how...*

**Caution:** Dry ice or metal surfaces at dry ice temperature can freeze skin on contact and may cause serious burns. Never handle dry ice or cold metal with bare hands. Always use protective equipment including insulated gloves when handling dry ice or materials such as the CoolRack that has been in contact with dry ice. This attached protocol is for orientation only and does not include, nor is intended to substitute for, proper laboratory safety procedures. Obtain training and certification for the safe handling of dry ice from your laboratory safety supervisor before attempting any procedures involving dry ice.
Using an Insulated Ice Pan

**Step 1**
Fill an insulated pan with 1 to 2 inches of cake or crushed dry ice. Place the CoolRack directly on the dry ice and allow about 7 minutes to cool.

**Step 2**
Place the sample in the CoolRack.

**Step 3**
The sample will snap freeze in 1 to 2 minutes and may be left in place as long as dry ice remains in contact with CoolRack.

**Step 4**
All samples may be transformed to a storage freezer when the procedure is complete. Use protective gloves if removing a frozen CoolRack from the CoolBox to avoid skin freezing burns.
Using a CoolBox Container

Step 1

Fill a CoolBox with 200 cc of crushed dry ice. Place the CoolRack directly on the dry ice and allow about 7 minutes to cool.

Step 2

Place the sample in the CoolRack.

Step 3

The sample will snap freeze in 1 to 2 minutes and may be left in place as long as dry ice remains in contact with CoolRack. One charge of dry ice in a CoolBox will last about 10 hours with the lid closed.

Step 4

All samples may be transformed to a storage freezer when the procedure is complete. Use protective gloves if removing a frozen CoolRack from the CoolBox to avoid skin freezing burns.