

# Redline<sup>®</sup> Cryo Tubes



0,5 ml • 1,0 ml • 2,0 ml • 4,0 ml • 5,0 ml  
External Thread

Fits for standard 10x10 boxes  
= 23% additional storage capacity

# Our product

**Redline®** Cryo Tubes are developed for valuable samples and to provide users with safe and handy solutions for storing within cell banking, biobanks, pharma research and transportation of biological materials.

The **Redline®** Cryo Tubes are one of the most complete lines of cryogenic vials available.

The unique design minimize risk of contamination.

The tubes are self standing and available in 5 different sizes from 0,5 ml to 5,0 ml.

It's the only cryo tube with external thread and star foot that can be stored in standard 10 x 10 cryo boxes. This gives 23% additional storage capacity compared to conventional cryo solutions.

The cryo tubes are easy to recognize with the red line indicator. The red line indicate the maximum recommended filling for freezing in liquid nitrogen in the vapor phase at  $-196^{\circ}\text{C}$ , which is your security for safe storage.

**Redline®** Cryo Tubes are featured with single-handed quick seal closure. The super fast thread design allows tightening or removal with only half a turn, thus avoiding long-term injuries to the user.

## Quality standards

**Redline®** Cryo Tubes are subjected to extensive testing and certified:

- Manufactured according to ISO 9001, ISO14001 and ISO13485.
- Manufactured of FDA-approved, medical grade polypropylene.
- Manufactured in at clean room environment.
- Sterilized after ISO 11137-2:2013 - "Sterility Assurance Level" (SAL) by standard products  $10^{-6}$ .
- Full VDMax25 validation test performed from the first production day.

# Features

- The design of the Redline® Cryo Tubes ensures optimization in all perspectives, such as storing and handling.
- The range offer 5 convenient sizes of tubes; 0,5 ml – 1,0 ml – 2,0 ml – 4,0 ml – 5,0 ml.
- The 0,5ml cryo tube fits in a 32 mm cryo box.
- The Unique design of tube and cap is the only cryo tube with external thread and star foot which can be stored in standard 10 x 10 cryo boxes. This gives 23% additional storage capacity compared to conventional cryo solutions.
- The unique design minimize risk of contamination.
- The self standing cryo tube with star foot is compatible with common working stations on the market.
- Featured with single-handed quick seal closure. The super fast thread design allows tightening or removal with only half a turn, thus avoiding long-term injuries to the user.
- Special designed cap with lip seal feature ensures 100% leak proof seal.
- Made of specially formulated polypropylene. Cap and tube are both made of polypropylene and has the same coefficient of expansion, which further enhances the leak proof qualities at various temperatures.
- Graduated and with writing area for sample identification.
- Easy to recognize with the red line indicator. The red line indicate the maximum recommended filling (MaxFilling196™) for freezing in liquid nitrogen in the vapor phase at -196°C, which is your security for safe storage.
- Maxfilling indicator for freezing at -20°C (MaxFilling20™) and -80°C (MaxFilling80™), which is your security for safe storage.
- Turnable2Colored Inserts for Redline® Cryo Tubes allowing easy recognition of the tubes.
- Packaged in resealable stand-up pouches that minimize the use of benchtop space.
- Optimized for vapor phase in liquid nitrogen storage.

# Overview

## Turnable2Colored Inserts

Offered in 3 different color combinations. In total 6 colors.

## Special designed cap

Lip seal feature. Ensures 100% leak proof seal.

## Print

Graduated and white marking area for sample identification.

## Special design

The design minimize risk of contamination. Fits into 9x9 and 10x10 cryo boxes.



## External thread

## Single-handed QuickSealClosure

Super fast thread design allows tightening or removal with only half a turn.

## MaxFilling20

Maximum recommended filling for freezing at -20°C.

## MaxFilling80

Maximum recommended filling for freezing at -80°C.

## MaxFilling196

Red line indicate the maximum recommended filling for freezing in liquid nitrogen in the vapor phase at -196°C.



StarFoot

Do not use cryo tubes for storage in the liquid phase but in the vapor-phase above the level of the liquid phase nitrogen.

Always use appropriate safety equipment and handle according to following steps:

- 1) Freeze to -20°C and keep for two hours.
- 2) Freeze to -80°C and keep for two hours.
- 3) Freeze to -196°C.

# Product basic

	0,5 ml	1,0 ml	2,0 ml	4,0 ml	5,0 ml
<b>Catalog no.</b>	<b>1130895</b>	<b>1130896</b>	<b>1130897</b>	<b>1130898</b>	<b>1130899</b>
<b>Product line</b>	Redline® Cryo Tubes				
<b>Length (mm)</b>	28,6	36,1	47,6	73,3	88,5
<b>Diameter outer (mm)</b>	12,08	12,08	12,08	12,08	12,08
<b>Calibrated max indicator Vapor LN2 (to -196C)</b>	0,4	0,8	1,3	3,3	4,3
<b>Max indicator -20°</b>	0,5	0,9	1,7	3,5	4,5
<b>Max indicator -80°</b>	0,4	0,9	1,5	3,5	4,5
<b>Material</b>	Polypropylene				
<b>Closure</b>	Lip seal				
<b>Quick seal</b>	Half turn				
<b>Writing area</b>	√	√	√	√	√
<b>Anti-rotation lid</b>	√	√	√	√	√
<b>External thread</b>	√	√	√	√	√
<b>Anti-rotation bottom</b>	Star Foot				
<b>Style</b>	Self Standing				
<b>Bottom shape</b>	Conical				
<b>Sterility SAL 10-6</b>	√	√	√	√	√
<b>RNase -/DNase free</b>	√	√	√	√	√
<b>Type</b>	Bio banking and cell culture cryogenic				
<b>Autoclavable</b>	√	√	√	√	√
<b>RCF (g)</b>	17.000				
<b>CE certified</b>	CE				

# Quality standards

## PROCESSED MATERIAL

Redline® Cryo Tubes are produced of raw materials, compliant to applicable regulations and standards. Products are manufactured in a clean room environment. Hygienic production is ensured by a sealed of area. Visitors are not allowed in the production area without permission.

## QUALITY MANAGEMENT SYSTEM

Production GMP oriented  
Certified ISO 13485:2012  
Full fills the criteria of medical devices according to European Directive 98/79/EC

## BIOLOGICAL SAFETY

Polypropylene (PP)  
Non-cytotoxic according to ISO 10993-5, UPS 312008 test  
Free of stripping agents, softeners and heavy metals  
Free of detectable DNA/RNA and ATP  
Free of detectable DNase/RNase  
Does not contain substances of animal origin and is therefore free of TSE/BSE  
Free of detectable endotoxins (pyrogens).  
Product is sterilized, process is validated according to ISO 11137-2:2013  
Sterility Assurance Level (SAL)  $10^{-6}$   
Product intended for single use only

## QUALITY CONTROL

Quality test performed and approved by a Technological Institute.  
All products are subject to visual and measurement control, passing through the production line, and visually inspected before packing.  
Quantity electronic counted and controlled by check weighing  
Leakage test for each batch  
Lot number printed on each product pouch and case label

## COMPONENT MATERIAL

Colorings are free from heavy metals  
Packaging materials are free from heavy metals

## DISPATCH CONTROL

Products are dispatched only when all criteria of our quality assurance system is fulfilled

## STORAGE AND WAREHOUSING

Expiration time (EXP) 5 years from date of sterilization.  
Storage recommendation relative humidity max.: 50-60% . Temperature: 10-30 ° C (50-86 ° F).  
Do not expose to direct sunlight

## CERTIFICATIONS/COMPLIANCE

CE Marked for storage of in vitro diagnostic samples.  
Meets all the provisions on in vitro diagnostic medical devices 98/79/EC – Directives DS EN14254 + DS14820

# Our five star standards

## **Raw material**

Raw material passes a rigorous and documented access.

## **Maintenance**

Our technical department provides daily examinations on our machines and tools.



## **Production**

Clean room production is regular documented by quality controls based on ISO9001.

## **Dispatch control**

Our internal quality department perform random examinations of the quality and quantity before final release.

## **Quality control**

We conduct quality control and daily freezing tests on each manufactured lot no. This is documented in reports and by picture material.



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