



UltraSAFE

Automated Formalin Dispensing System for Biospecimens

Envision an innovative, automatic system that:

- Eliminates formalin exposure for personnel in the OR and pathology labs
- Guarantees full biospecimen safety and traceability
- Allows perioperative nurses and pathologists to optimize their workflow
- Standardizes the formalin volume/specimen weight ratio
- Certifies the time to fixation for a reliable, preanalytical step, diagnosis

Your vision is now a reality: UltraSAFE

The Game Changer for Formalin Control

- · Automatic formalin dispensing according to biospecimen weight
- Easy and fast operation. I.e. 1 L of fixative dispensed in 20 seconds
- Engineered to work as a stand-alone system
- Built-in filter eliminates the need to connect to an external exhaust system
- · Built-in printer for full documentation and traceability

State-of-the-Art Bucket Technology*



- Custom buckets designed to accommodate current pathology workflow
- Laser engraved, unique bucket ID for full traceability
- Buckets available in 1, 3, 5 or 10 liter capacities
- Unique sealing valve built-in to bucket lids

UltraSAFE

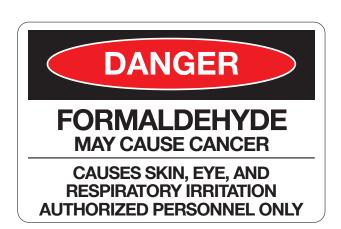


The Innovative Solution for a Formalin-Free OR and Lab Environment

OUR COMMON GOAL: ZERO FORMALIN EXPOSURE

The Problem

In 2006, formaldehyde was declared Carcinogenic and Mutagenic to humans by I.A.R.C. (International Agency for Research on Cancer). In today's labs, formaldehyde is the standard fixative for collecting and storing biospecimens for pathological examinations and diagnoses. Operators, from operating rooms to pathology departments, risk high levels of exposure to formaldehyde fumes. Therefore, hospital and clinic safety departments are required to adopt precautions to ensure the safety of their personnel.



The Solution

UltraSAFE is Milestone's solution to formaldehyde reclassification. Using a unique, patent applied for, technology, different sized buckets are automatically filled with formalin in the "Dirty Room", which preserves the biospecimen in fixative right after the surgical excision. This allows for total operator safety, assuring a formalin-free OR environment.



UltraSAFE: Unique Valve Design

UltraSAFE buckets are available in four standard sizes; 1, 3, 5 or 10 liters. All buckets have, built-in to the lid, an exclusive quadricuspid valve. This valve is specifically designed to prevent the escape of formalin fumes during operation and, at the same time, allows for formalin dispensing using UltraSAFE's automatic filling. An additional cap attached to the valve seals the bucket for extra safety during transportation. On the bucket's lid, a unique 2D barcode ensures biospecimen traceability. The UltraSAFE software can be used to associate this 2D barcode with the biospecimen ID number for full patient safety.



Quadricuspid valve during operation



Closed quadricuspid valve during trasportation and storage

UltraSAFE: SAFE AND EASY OPERATION

Full Documentation for Enhanced Traceability



In the OR, surgical biospecimens are placed in an <u>empty</u> bucket



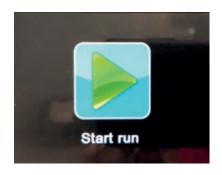
The operator places the lid, with the unique sealing valve, on the bucket



The bucket is scanned for identification and tracking purposes



The operator places the bucket in the work chamber and...



...presses the "Start" icon on the touchscreen



The bucket is automatically centered and the weight of the biospecimen is detected



The automatic filling system is lowered and the dispensing nozzle penetrates the seal valve



Formalin is added until the preset ratio is achieved (formalin/weight of specimen)



For additional safety during transportation, the operator closes the cap on the top of the seal valve

UltraSAFE: STATE-OF-THE-ART TECHNOLOGY FOR EASY, SAFE OPERATION

Fully enclosed charcoal filters plus HEPA H14 filter for stand-alone operability

User friendly touch screen with icon-driven software

Built-in UV lamp for sterilization step

Built in barcode for bucket recognition and specimen traceability

PROCESSING
1 to 3

Case ID: JOE DOE

Bucket ID:
100000DED40095C91F814DD
Speciment weight: 332 g
Fixative weight: 1000 g
Spec/Fix ratio: 1:3
Reagent: Formalin
Institute: Milestone
Dept.: Lab Med
User: Admin
Date: Tue, 28-Jul-2020
Time: 10:59
Surgeon: M.D. Brown
Spec.Notes: None
Outcome: completed with
success

Printer for label with additional information, such as specimen ID, user, date and time of operation, fixative volume, formalin ratio and weight of specimen



Automatic, dispensing nozzle with dedicated exhaust system

Fully enclosed and vented operating area

Auto-locking door for safe operation

Scale for specimen/fixative weighing



Slide out drawer storing up to 4 containers (up to 20 L or 5 Gal each). The drawer is fully vented

The drawer is fully vented to ensure fume extraction

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