SOLIDSAFE™ SYSTEM

A MAJOR ADVANCE IN SSD SAFETY

A revolutionary system for the automated cleaning of surgical instruments

ECOLAB®

Everywhere It Matters.™

Introducing the SolidSafe™ System

Specifically developed to help promote health and safety within the SSD

SOLIDSAFE™ SYSTEM

To reduce the risk of harm from hazardous chemicals the Health and Safety Executive recommends 'substituting a safer chemical or product ... modify the process to minimise handling; change the physical form.'[1]

The SolidSafe System from Ecolab offers innovative solutions to these issues and more:

- Much easier handling for SSD personnel
- No leaks or drips: safer floors, no chemical exposure
- Continuous workflow: capsules reduce change-overs and increase speed
- Reduced packaging waste, lower environmental burden
- Greatly reduced storage and transportation costs

SOLIDSAFE IS A PATENTED TECHNOLOGY OF HIGHLY CONCENTRATED SOLID CHEMISTRY. SOLIDSAFE TECHNOLOGY IS AVAILABLE EXCLUSIVELY FROM ECOLAB AND IS DELIVERED THROUGH OUR UNIQUE DISPENSER SYSTEM.

SOLID EVIDENCE THAT MAKES A DIFFERENCE

One 4kg capsule of MetalClean with SolidSafe technology corresponds to approximately **80 litres** of a conventional liquid concentrate.

Maximum Focus on Patient Safety

MetalClean Solid Cleaner with Prion Inactivation

MetalClean's excellent cleaning performance with proven prion inactivation maximises patient safety by minimising the risk of prion transmission via surgical instruments.

PROVEN EFFICACY AGAINST PRIONS

It is well known that routine instrument decontamination methods do not remove or inactivate the infectious agent that can result in the transmission of human prion diseases, including CJD and vCJD, for which there is no cure.

With the second highest incidence of vCJD worldwide, France is the only country to have published a protocol to test the efficacy of decontamination methods against prions. MetalClean, when tested at 1% solution for 10 minutes at 55°C according to French Standard Prion Protocol[2], reduced protease k resistant prions adsorbed to stainless steel carriers below the level of in vitro detection across 6 different prion strains including vCJD and 263k scrapie strain. Furthermore, in the in vivo test, treatment of 263k scrapie prion contaminated wires with MetalClean under the parameters described above, led to a log reduction of infectivity of >/= 5.5.

MetalClean has been proven to be effective not only at physically removing prions, but also at reducing infectivity by destroying the ability of misfolded prions to replicate.

ONE PRODUCT FOR DAILY AND PRION INACTIVATION CYCLES

MetalClean has excellent material compatibility and can be used for both daily reprocessing cycles and at a higher dose and contact time when prion inactivation is required.

THE NEED FOR A PRION PROTOCOL IN SSD

CJD: WHAT ARE THE RISKS?

- 1,665 deaths from all forms of CJD in the UK in the last 20 years, including 1283 from Sporadic CJD, 176 from vCJD and 65 from iatrogenic transmission of CJD[3]
- 98 deaths from all forms of CJD in the UK in 2012[3]
- No cure for CJD and positive diagnosis only occurs post mortem
- Often no clinical indicators in patients incubating CJD until the onset of disease
- Studies of prion disease in the Kuru tribe indicate incubation period may be >40 years prior to onset of disease
- As many as 237 per million of the population may be incubating CJD in the UK[4]
- "In surgery to the central nervous system and to the posterior eye, there is a comparatively high risk of prion transmission from the possible exposure of the instruments to the prion infectious agents including, but not limited to, vCJD."[5]

MINIMISING THE RISK

Recognising the potential for iatrogenic transmission of prion diseases via surgical instruments, French authorities have implemented a prion inactivating protocol to reprocess instruments from all procedures that are classified as high risk for the transmission of prions.[2]

Establishing a prion inactivating protocol with MetalClean for reprocessing all reusable surgical instruments from high and medium risk procedures, would protect future patients from the unidentifiable presence of CJD prions in patients with a low perceived risk who may be incubating the disease.

ECOLAB RECOMMENDS

Used as part of a prion inactivating protocol in the SSD, MetalClean can significantly reduce the possibility of prion transmission via surgical instruments.

For patients with, or "at increased risk" of, CJD and vCJD undergoing procedures on tissues with medium or high risk of infectivity as classified by ACDP[6]:

- Follow ACDP guidance[1] to use single use instruments and destroy or quarantine reusable instruments for re-use exclusively on same patient
- Use the prion inactivating protocol with MetalClean prior to quarantining

For patients with no known risk of CJD or vCJD undergoing procedures on tissues with medium or high risk of infectivity:

- Use the prion inactivating protocol with MetalClean

For all patients undergoing procedures on tissues with a low risk of infectivity:

- Use a daily protocol with MetalClean

Combining Safety with Efficiency

The SolidSafe™ System offers a full range of efficiency benefits

Safety is obviously an efficiency in itself, but the SolidSafe System offers many additional benefits which facilitate the smoother running of the SSD Unit. These key efficiencies can result in significant savings.

MUSCULOSKELETAL SAFETY

Excessive heavy lifting causes an increase in musculoskeletal injuries.[7] But thanks to the innovative lightweight, long lasting SolidSafe capsule design, the number of lifts required is reduced by up to **16 times**.[8]

40% of SSD tasks are spent in a knee squat, and **40%** are with the back bent in an adverse way.[9]

The wall mounted SolidSafe Dispenser, ensures that knee squats are unnecessary, and **90%** of work is done with a straight back.[10]

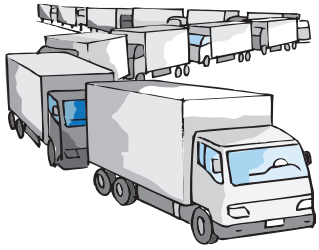
20 is the average number of sick days per employee due to musculoskeletal disorders[10]

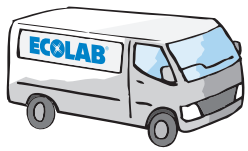
CHEMICAL SAFETY

Spillages and leakages can cause slips, injuries and direct contact with chemicals. This can lead to injury, irritation or burns, and inhalation can cause respiratory illness.

The SolidSafe System is an enclosed dosing system, reducing the risk of contact with chemicals. The risk of leaks and spillages is also minimised through the use of the System's solid detergent capsules, instead of a liquid.

ENVIRONMENTAL EFFICIENCY





Transportation is reduced by over **97%**, with one truckload of MetalClean detergent providing the cleaning power of **27** truckloads of liquid.

This does not include collection of waste required with liquids.

Reduced transportation means less traffic congestion and disruption in urban areas. It also helps reduce your CO_2 impact through **lower emissions**.

SolidSafe provides significant environmental benefits.[8] Product consumption (kg) is **reduced by 96%** and plastic waste by **up to 99%**. The reduction in packaging waste also offers significant savings in waste disposal.

COST & TASK EFFICIENCY

The reduction in handling time alone frees staff to perform more profitable tasks.

Other cost benefits include:

- Fewer accidents and injuries, meaning fewer sick days
- Reduced administration costs from ordering and invoicing
- Storage requirement reduced by up to 96%
- Reduced waste disposal costs

A MetalClean capsule can be replaced at least **3 times** faster than the time it takes to replace a liquid.[8]

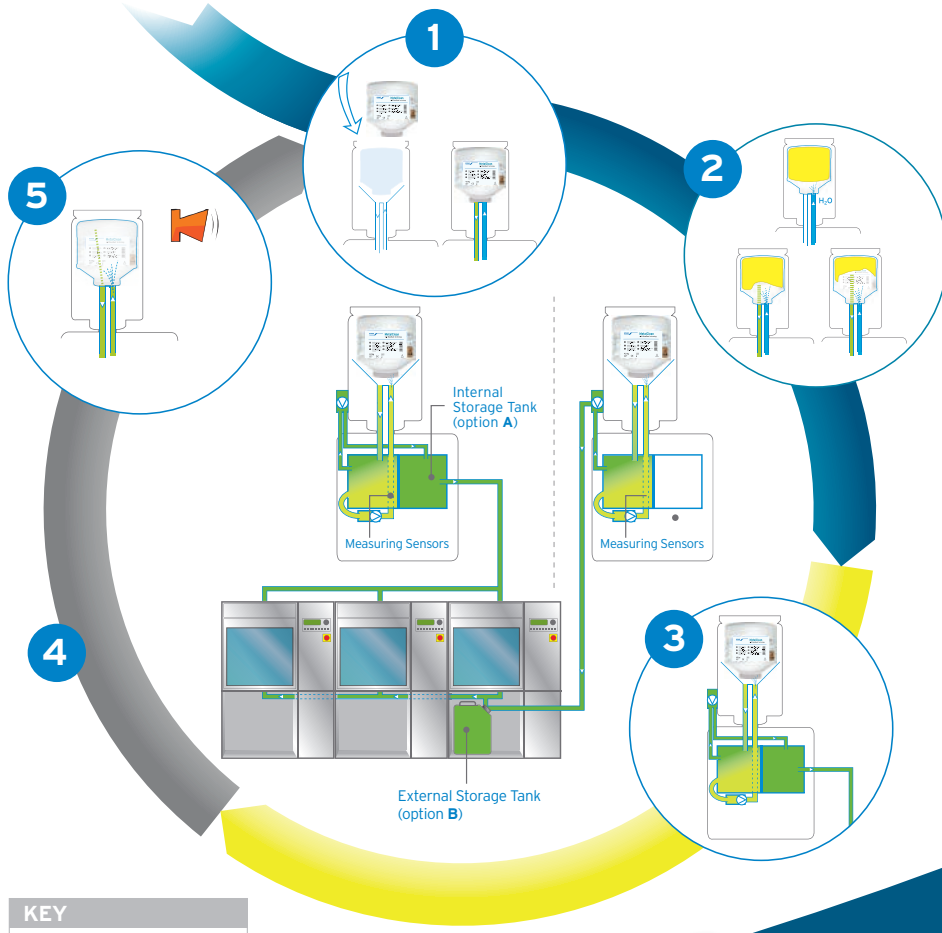
As well as being easier to transport, store and lift, the system reduces the number of tasks performed by SSD staff by as much as **16:1** for changing actions alone.[8]

How the SolidSafe™ System works

Our system has been intelligently designed, making it extremely easy to use

The process cycle shown below illustrates the five simple steps for producing SolidSafe concentrate and the integrated operation of your washer-disinfectors.

1. Once installed, simply put a **SolidSafe capsule** into the device from the top, and close the lid.
2. Water is sprayed and circulated to slowly dissolve the solid until the conductivity probe indicates that the cleaning agent has reached the correct concentration, which is then collected in the irrigation container below.
3. The cleaning agent is pumped into the integrated **SolidSafe System** internal storage tank (option **A**), or to an external storage tank (option **B**).
4. The washer-disinfectors are continuously supplied with the appropriate amount of cleaning agent from the storage tank – a level sensor ensures the required volume is maintained.
5. When the solid capsule is completely empty, the **SolidSafe System** sounds an alarm.



OUR SERVICE PROMISE TO YOU

Thanks to its innovative design, the SolidSafe Dispenser can be easily installed by one of our nationwide team of service technicians, wherever there's a water and electricity supply.

Installation & Service

We provide:

- Pre-installation survey, with adaptation of the SolidSafe System to fit each department's needs
- Full installation of the system with minimal downtime
- Installation certificate including soil test, protein test and validation of the batch concentration
- Annual process residue testing
- A comprehensive maintenance service for the SolidSafe System

Training & Support

Our Healthcare Managers will train your staff on MetalClean and the SolidSafe System. Full training materials are provided, including our training video and posters, promoting best practice to ensure staff safety.

Ordering Information

DESCRIPTION	UNIT SIZE	OUTER SIZE	ORDER CODE
 **MetalClean** with SolidSafe™ technology PRION INACTIVATION CE 0297 A mild alkaline based cleaning agent with prion inactivation formulated for the automated cleaning of surgical instruments.	4kg	2 x 4kg	3071000
 **MetalClean Plus** with SolidSafe™ technology CE A mild alkaline based cleaning agent formulated for the automated cleaning of surgical instruments. For use in soft water and with latest generation washer-disinfectors.	4kg	2 x 4kg	3071060

PLEASE NOTE: MetalClean and MetalClean Plus have been extensively tested on anodised aluminium, however it is recommended to test your specific anodised aluminium instruments prior to use for confirmation of suitability.

REFERENCES

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4. Position Statement Prevalence of Subclinical Variant Creutzfeldt-Jakob Disease Infections, Spongiform Encephalopathy Advisory Committee, August 2008
5. CfPP 01-01 Part A
6. Guidance on prevention of CJD and vCJD by Advisory Committee on Dangerous Pathogens' Transmissible Spongiform Encephalopathy (ACDP TSE) Risk Management Subgroup. Updated May 2013: https://www.gov.uk/government/publications/guidance-from-the-acdp-tse-risk-management-subgroup-formerly-tse-working-group
7. Swedish Work Environment Authority, Ergonomics for the Prevention of Musculoskeletal Disorders, AFS 1998:1
8. Solid (MetalClean) to liquid equivalent comparison studies, 2009/10, data on file
9. Comparing musculoskeletal stress using fluid and solid chemistry in the hospital setting, Institute for Occupational Health and Safety (IFA) of the German Social Accident Insurance (DGUV), March 2010
10. NHS Health and Wellbeing Review, 2009

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