### **ADVANCED BIOMEDICAL WASTE TREATMENT SOLUTIONS**



#### **DISTRIBUTED BY:**



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# **Tesalys**, the strength of an innovative company

# IN NOVATION MADE IN FRANCE

SOME FIGURES

7 YEARS OF R&D 6 PATENTS 30 MIN TO INACTIVATE YOUR INFECTIOUS BIOMEDICAL WASTE 8LOG<sub>10</sub> MICROBIOLOGICAL EFFICACY



**Tesalys** is a French company created in Toulouse, which had a vision of developing a clean and modern technology for processing biohazardous waste, carried out to the highest international standards.

Its **STERIPLUS<sup>™</sup>** shredder-sterilizer system simply transforms biohazardous waste into harmless and unrecognizable waste which can then be disposed along with ordinary waste.

**Tesalys**, a dynamic and innovative company, has already made its name across the world through the ingenuity of its patented technology which is available in more than ninety countries.

#### OUR AWARDS



Winner Midinvest 2013



*Jury's prize Inn'Ovations 2015* 







"Born Global" prize EY/L'Express 2016

Marco Polo 2016

Export Award Trophées Défis d'Entreprises 2019

# A WORLD PRESENCE

AVAILABLE IN MORE THAN 90 COUNTRIES

## **Process** your infectious waste on-site

#### **LABORATORIES INDUSTRY / RESEARCH**

- Hospital Labs
- Analytical Labs
- Microbiology/Virology/ Bacteriology
- Medical devices
- Veterinary
- Environment
- Industry
- Food Testing

#### **HOSPITALS**/ CLINICS

- Public
- Private
- Military

#### **STATE OF THE ART SOLUTION FOR ON-SITE TREATMENT OF BIOHAZARDOUS** WASTE

The inactivation and disposal of infectious waste is not easy: it implies risks for the environment and people. Also, the costs for collection, transportation and incineration are very high (the producer is responsible for the disposal of their waste until its complete destruction). This process must comply with various procedures and regulations.

Faced with all these restrictions, Tesalys offers innovative solutions to process your infectious healthcare waste by changing its appearance, reducing its volume and weight and minimizing the associated risks and disposal costs.

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STERIPLUSTM 20

#### **INFECTIOUS BIOMEDICAL WASTE**

**lesalvs** 

by Desalys



- pipettes, etc.
- masks, caps, shoe covers, etc.

- Single-use surgical instruments.

- of intellectual property.
  - regulations).

#### **MEDICAL** CENTERS

- Medical clinics
- Infirmaries
- Dispensaries
- Veterinary
- Vaccination centers
- Nursing homes/
- retirement homes

#### **HEMODIALYSIS CENTERS**

- Autodialysis centers
- Blood transfusion

Plastic or glass consumables: Petri dishes, test tubes, collection tubes,

Single-use material: surgical drapes, gauzes, compresses, bandages, etc. Personal protection equipment: gloves, gowns, tapes, coveralls, goggles,

Contaminated sharps: needles, syringes, scalpels, lancets, blades, slides, etc. Single-use care kits, plastic or small metal instruments.

Hemodialysis waste: hemodialysis filters, circuits, etc.

Liquid biohazardous waste or waste containing fluids:

blood bags, urine bags, culture media, etc.

Waste from R&D on medical devices—Destruction of prototypes—Protection

Anatomical waste, animal carcasses and derived products (according to local

## STERIPLUS<sup>TM</sup> integrated system with preliminary

shredding and steam sterilization of your biohazardous waste



DECONTAMINATION : PROVEN INACTIVATION OF 8 LOG<sub>10</sub> OF BACTERIAL SPORES



#### THE MOST EFFICIENT SHREDDING/ AUTOCLAVING SYSTEM FOR PROCESSING YOUR BIOHAZARDOUS WASTE

The **STERIPLUS™** systems from **Tesalys** are the ideal solution to inactivate your biohazardous waste on-site and safely.

Their integrated shredding system **TESASHRED<sup>TM</sup>** not only reduces the volume and mass of waste but also ensures being fully processed.

The preliminary shredding phase increases the exposure of the micro-organisms to the sterilizing steam thus reducing the microbial load at the start, up to  $8 \log_{10}$ . This equipment offers a simple, reliable and compact solution to

reliable and compact solution to all types of facilities producing biohazardous waste.

#### RESPECTING THE ENVIRONMENT



Treating biohazardous waste with **STERIPLUS™** technology is not only an excellent way to prevent biological risks for people and the environment, but it is also an environmentally friendly choice.



- Zero dioxin and furan emissions
- Low water and electricity consumption
- Reduction of "waste footprint"
- Decontaminated effluent discharges
- Clean ambient air by filtration at 0.2 µm
- Energy saving by integrated heat recovery
- Zero chemicals 100% Water
- Reduce the number of trucks on the road (CO<sub>2</sub> emissions)

#### **AS SIMPLE** AS 1, 2, 3...





#### **TESASHRED™ EFFECTIVE AND PATENTED SHREDDING**

- Proven efficiency on sharp waste
- Reduction in volume and weight up to 80%
- Automatically decontaminated at each cycle
- High resistance (heavy-duty design)
- 3 times harder than steel



#### QUALIFICATIONS

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- Tested and certified by independent bodies
- Installation and Operational/ Performance Qualification
- Scientific tests: Quality of shredding/Microbiological efficacy/Operator environment





#### **INSTALLATION**

- Simple and fast
- By certified personnel Across the world

France Support, documentation & software provided

facility

Certification of personnel

Production under: ISO 9001 QMS

EN ISO 17665 1

CE marked

(FRANCE)

**STANDARDS &** 

**APPROVALS** 

Approved by the Ministry of Health

and of Ecology and Sustainable

Development in France

In compliance with the latest

In compliance with EN 554 and

version of NFX 30 503-1



#### **STEP 1**

LOAD the biohazardous waste in your STERIPLUS™

#### STEP 2

#### **PRESS THE START** BUTTON

(Fully automated cycle)Shreds into grain sized

- saturated steam at
- Drainage of sterilized

#### STEP 3

#### UNLOAD

the shredded and sterilized solid waste disposable with ordinary waste.







User training on-site at the client's

Technical training in Toulouse,



#### **MAINTENANCE & TECHNICAL SUPPORT**

- Original and consumable parts available
- Fast delivery across the world
- Local customer services



#### **A RANGE OF BAGS AND BOXES FOR OPTIMAL USE FOR BIOHAZARDOUS** WASTE

#### **TESABAG**

#### AUTOCLAVABLE BIOHAZARD BAGS

- Maximum security bag in accordance with EU directive 94/62/EC
- Does not melt, does not stick Autoclavable & withstands up to 140°C/284°F
- Compatible with all types of steam treatment systems
- Increases the service life of the equipment by preventing sediment
- "Biohazard" labeled
- Available in red and yellow

#### **TESABOX**

#### **CARDBOARD CONTAINERS FOR BIOHAZARDOUS WASTE**

- Rigid and sealed, with internal plastic lining
- 12 I to 46 I useful capacity, adapted to STERIPLUS™ systems
- Maximum weight 5/8/15 kg (11/18/33 lbs.)
- Labeled according to French standard NFX 30-507
- Approved for biohazardous waste road transport (ADR standard)

#### **TWO WASTE UNLOADING SOLUTIONS**

#### MANUAL UNLOADING BASKET

The most economic option consists of unloading the waste after processing using a stainless steel unloading basket with non-sticking PTFE coating which can be removed from the machine via a handle.

#### MANUAL UNLOADING BASKET

TESAXTRACT™ PATENTED DRAWER AND **TESANET BAG, SIMPLE AND ERGONOMIC** 

#### UNLOADING WITH TESAXTRACT™

This is the most simple and ergonomic patented unloading system. It includes:

- An extractable drawer-basket fixed to the inside of the chamber
- A disposable and biodegradable cotton cover for collecting the solid waste (TESANET)



#### **SCIENTIFICALLY PROVEN EFFICIENCY**

#### SCIENTIFIC TESTS AND APPROVALS

The **STERIPLUS™** systems were designed specially to respond to one of the strictest standards for waste decontamination equipment (French standard NFX 30-503-1) and to WHO recommendations. The sterilization cycle has been validated according to international standards NF EN 554 and EN ISO 17665-1.

The tests were carried out by the independent lab Biorisk Expertise and the system has been officially approved by French authorities (LNE - Laboratoire National d'Essais). The technology used in STERIPLUS™, using a mixture of shredding and steam sterilization, allows a more efficient decontamination cycle. The reports for the tests performed are available on request.

#### **TRACEABILITY AND MAINTENANCE**

#### TRACEABILITY

- Printing of a conformity report for every cycle
  - to identify the operator and the
    - reader
  - via USB

As an option, it is also possible: batch number using a bar code

• to export the printouts in .pdf

#### **REMOTE SURVEILLANCE AND REMOTE MAINTENANCE**

Full remote access via Internet for remote maintenance by authorized technical personnel



TECHNICAL DATA	STERIPLUS <sup>™</sup> 20	STERIPLUS <sup>™</sup> 40	STERIPLUS <sup>™</sup> 80	
LOADING CHAMBER CAPACITY	20 L	40 L	80 L	
LOADING CHAMBER USEFUL DIMENSIONS (W x D x H)	320 x 247 x 273 mm	320 x 247 x 520 mm	370 x 360 x 628 mm	
LOADING CAPACITY (CONTAINERS)	1 X TESABOX 20	1 X TESABOX 40 or 2 X TESABOX 20	1 X TESABOX 80 or 2 X TESABOX 40 or 4 X TESABOX 20	
TOTAL CYCLE TIME (NF X30-503-1 standard) (1)	30 to 35 min	30 to 35 min	30 to 35 min	
TOTAL CYCLE TIME IN WORKING CONDITIONS (2)	30 to 50 min	30 to 50 min	30 to 50 min	
LOADING CAPACITY (KG/CYCLE)	Based on an average waste density of 0,08 to 0,12kg/L for Healthcare Waste   1,6 to 2,4 kg/cycle 3,2 to 4,8 kg/cycle 6,4 to 9,6 kg/cycle   Based on an average waste density of 0,12 to 0,2kg/L for Lab/Humid/Liquid Waste   2 4 to 4 kg/cycle   A to 4 kg/cycle   A to 4 kg/cycle   A to 4 kg/cycle   A to 4 kg/cycle			
TREATMENT CAPACITY (KG /H) (3)	Based on an average waste density of 0,12 to 0,2kg/L for Lal		ealthcare Waste 8 to 12 kg/h umid/Liquid Waste	
MAX QUANTITY OF LIQUID RECOMMENDED PER CYCLE (4)	6 I	12 I	24 I	
EXTERNAL DIMENSIONS (W x D x H)	1300 x 895 x 1210 mm	1300 x 895 x 1450 mm	1550 x 1200 x 1800 mm	
NET WEIGHT	530 kg	580 kg	1300 kg	
LOADING CHAMBER	Stainless steel with PTFE coating	Stainless steel with PTFE coating	Stainless steel with PTFE coating	
TREATMENT CHAMBER	AISI 304L stainless steel	AISI 304L stainless steel	AISI 304L stainless steel	
STEAM GENERATOR	AISI 304L stainless steel (chamber) & Highly corrosion-resistant Hastel loy®			
WATER SOFTENER	Optional (external)	Built-in	Built-in	
WATER BOOSTER PUMP AND AIR COMPRESSOR	Built-in	Built-in	Built-in Built-in	
WASTE SHREDDER	Structure: AISI 304L stainless steel & Blades: High-strength steel			
PIPING	Stainless steel/PTFE flexible hosing	Stainless steel/PTFE flexible hosing	Stainless steel/PTFE flexible hosing	
CHASSIS	Painted steel	Painted steel	Painted steel	
BODYWORK	Composite material/Painted steel	Composite material/Painted steel	Composite material/Painted steel	
CYCLE TRACEABILITY Through printout	Built-in	Built-in	Built-in	
USB PORT	Built-in	Built-in	Built-in	

(1) 30-35min for test loads as per NF X30-503-1 standard.

(2) Cycle times may vary based on the type of materials, waste density, humidity, quantity of liquids, etc. For loads with high liquid content, cycle time can be longer. Up to 50m in d epending on the waste density. (3) Based on an average cycle time of 45min. (40 min. of cycle + 5 min. unloading/loading time).

(4) Quantity of liquids allowed might vary depending on application (urine bags, blood bags, food testing bags, ...).

All the data given in this catalog are non-binding and given as a guide only. Treatment capacities and cycle times are given as mere examples and may vary depending on the type o f waste, installation conditions, operator's availability and skills.

# **OPTIONS**

- Manual/automatic doors
- Cooling of effluents
- Full traceability solution • Identify the operator and the batch number using a bar code reader
- port
- Full remote access
- Local wireless access
- Remote maintenance via Internet by authorized technical personnel
- TESAXTRACT<sup>™</sup> Easy unloading system

#### UTILITIES

ST	ER	IPL	US™	1

WATER			
Needs	Softened water 4-8°TH	Softened or drinking quality water	Softened or drinking quality water
Consumption	5 to 6 liters/cycle	Approx. 10 liters/cycle	Approx. 15 liters/cycle
ELECTRICITY			
Needs	380–400V III N, 50 Hz/60 Hz, 10 kW	380–400V III N, 50 Hz/60 Hz, 15 kW	380–400V III N, 50Hz/60Hz, 20 kW
Consumption	2 kWh/cycle	4 to 5 kWh/cycle	8 kWh/cycle
DRAIN	32 mm ø internal	32 mm ø internal	32 mm ø internal
	(heat-resistant) (1.2")	(heat-resistant) (1.2")	(heat-resistant) (1.2")
STEAM /	Produced by the integrated generator and compressor;		
Compressed Air	no external connection required		

# For perfect integration into your premises



• Exportable printout via USB

#### **ACCESSORIES AND CONSUMABLES**

- Start-up kit
- Annual maintenance kits/ emergency spare parts
- Biodegradable cotton nets TESANET
- "Biohazard" autoclave bags TESABAG
- Cardboard containers for biohazardous waste **TESABOX**
- Deodorizing capsules and powder
- Spare parts kits



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STERIPLUS<sup>™</sup> 40

STERIPLUS<sup>™</sup> 80

STERIPLUS<sup>™</sup>, TESASHRED<sup>™</sup> and TESAXTRACT<sup>™</sup> are Tesalys brands names.