



THE
SUSTAINABLE,
& PROVEN
TREATMENT
SOLUTION



ASME



- ECODAS designs, manufactures and supplies automated solutions for medical waste treatment worldwide. We have developed an innovative, fully enclosed and automated system to sterilize medical waste, reduce its volume, and render its components unrecognisable. Our patented process combines shredding, direct heated steam, and high pressure to achieve complete sterilization of infectious materials. The final treated waste is harmless and safe to dispose of as ordinary municipal waste.
- For more than twenty years, the ECODAS team has developed a wide expertise in pressurized thermal machine manufacturing for the textile, food processing and medical waste industries, providing high value solutions based on advanced technologies.
- ECODAS is adopting a sustainable development strategy by creating robust systems while using recyclable components from the world's leader manufactures.
- ECODAS systems are designed and manufactured in accordance with the followings norms: : CE, ASME (USA), MLSE (CHINE) .The Quality assurance of ECODAS systems is executed following Qualité ISO 9001:2015 and ISO 14001:2015.
- In Europe, there are a variety of rules for handling medical waste. French rules are extremely demanding and the ECODAS System has been developed in accordance with those rules.
- The French Authorities have thoroughly tested the system and the PASTEUR INSTITUTE was appointed by the government to audit the results of specifically made bacterial cultures as well as actual clinical waste.

Certificate

Standard **ISO 9001:2015**
Certificate Registr. No. MS19 Q 11109
ID No.*: 9105016092

Certificate Holder:



ECODAS
28 rue Sebastopol
59100 ROUBAIX
France

Scope:


Design, manufacturing, installation, and maintenance of infectious waste treatment equipment (healthcare, life science, and slaughterhouses).
Shredding and sterilization process using saturated steam, sterilization of liquid waste, steam generators.

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 are met.

Certification decision on: 06.09.2019
Valid from 06.09.2019 to 06.07.2021
Expiry of previous certificate: 06.07.2021
Follow-up audit date: NA



Edited on 06.09.2019



TÜV Rheinland France
20ter rue de Bezons
92400 COURBEVOIE

* Information on the validity of the certificate on:
www.tuv.com



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Precisely Right.

Certificate

Standard **ISO 14001:2015**
Certificate Registr. No. MS18 E 11072
ID No.*: 9105016092

Certificate Holder:



ECODAS
28 rue Sebastopol
59100 ROUBAIX
France

Scope:

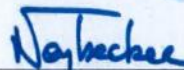
Design manufacturing, installation, training and maintenance of infectious waste treatment equipment (healthcare, life science and slaughterhouses).
Shredding and sterilization process using saturated steam, sterilization of liquid waste, steam generators.

Proof has been furnished by means of an audit that the requirements of ISO 14001:2015 are met.

Certification decision on: 08.08.2018
Valid from 08.08.2018 to 07.08.2021.
Expiry of previous certificate: NA
Renewal audit date: NA



Edited on 08.08.2018



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20ter rue de Bezons
92400 COURBEVOIE

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Certificate

Quality-Assurance System

acc. to Directive 2014/68/EU

Certificate no.:

01 202 F/Q-05 20176

Name and address of the
manufacturer:

ECODAS
28, rue de Sébastopol
F - 59100 Roubaix

Herewith we certify that the above -mentioned manufacturer operates a quality system according to the European Directive 2014/68/EU. The manufacturer has the permission to affix the following CE marking to pressure equipment described and manufactured in accordance to the scope covered by this Quality-Assurance System:

CE 0035

Tested acc. to
Directive 2014/68/EU:

QS-System (Module H1)
(the QS-Modules E1, E, D1, D, H are covered by Module H1)

Audit report no.:

F/Q-05 20176

Area of validity:

Sterilization machines for infectious waste of type ECODAS
T100-T150-T300-T700-T1000-T2000 Boilers VE40kW-
VE80kW, see annex to certificate

Manufacturing plant:

ECODAS
28, rue de Sébastopol
F - 59100 Roubaix

Valid until:

May 31, 2023

Cologne, January 29, 2021

Dipl.-Ing. (FH) Vera Ruff



TÜV Rheinland Industrie Service GmbH
Notified Body for Pressure Equipment, ID-No. 0035
Am Grauen Stein, D-51105 Köln

E-008-E-Rev22



CERTIFICATE OF AUTHORIZATION

The named company is authorized by The American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the ASME Single Certification Mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the ASME Single Certification Mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

Ecodas
28 Rue Sebastopol
Roubaix 59100
France

SCOPE:

Manufacture of pressure vessels at the above location only

AUTHORIZED: **December 17, 2020**

EXPIRES: **December 17, 2023**

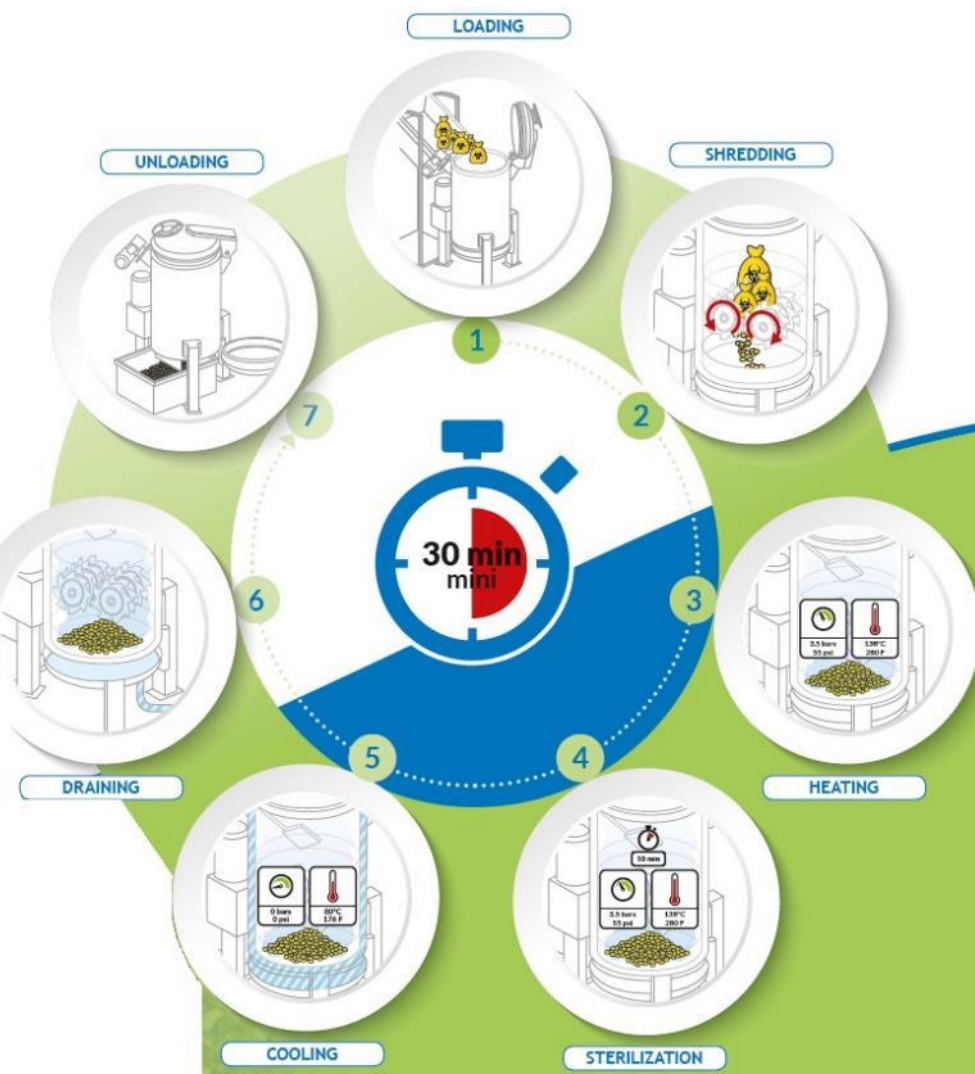
CERTIFICATE NUMBER: **59077**



Board Chair, Conformity Assessment



Managing Director, Conformity Assessment



1

The **automatic loading** of the waste is performed through the opening of the machine.

2

Shredding starts as soon as the cover is closed, sealed, and locked. The heavy-duty shredder features a regular automatic reverse rotation to prevent jamming, effectively shreds all kinds of waste.

3

The **heating** is achieved through saturated steam that raises the temperature to 138 °C (280 F) and the pressure to 3,5 bars (51 psi)

4

The **sterilization** is achieved by maintaining 138 °C (280 F) and 3,5 bars (51 psi) at the core of the waste for 10 minutes. The combination of these different factors achieves a microbial inactivation of 10⁸ reduction (8log10).

5

Decompression through the flash tank reduces temperature and pressure in preparation of the opening of the machine.

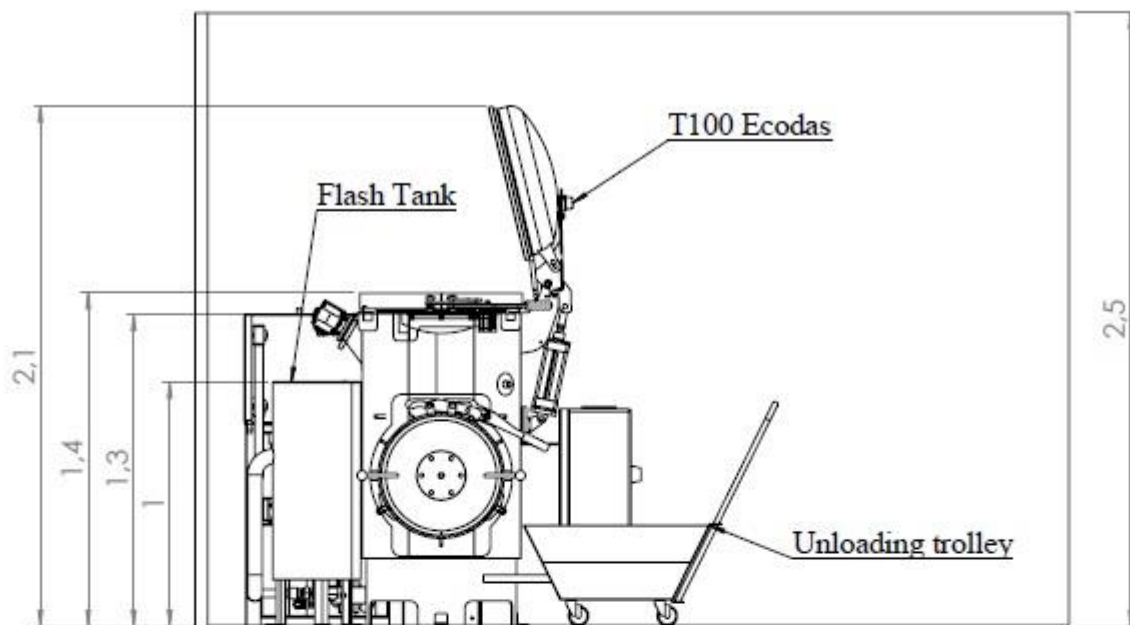
6

The condensates and the cooling water are discharged into the **sanitary drain**, and the recovered heat is used to preheat the boiler.

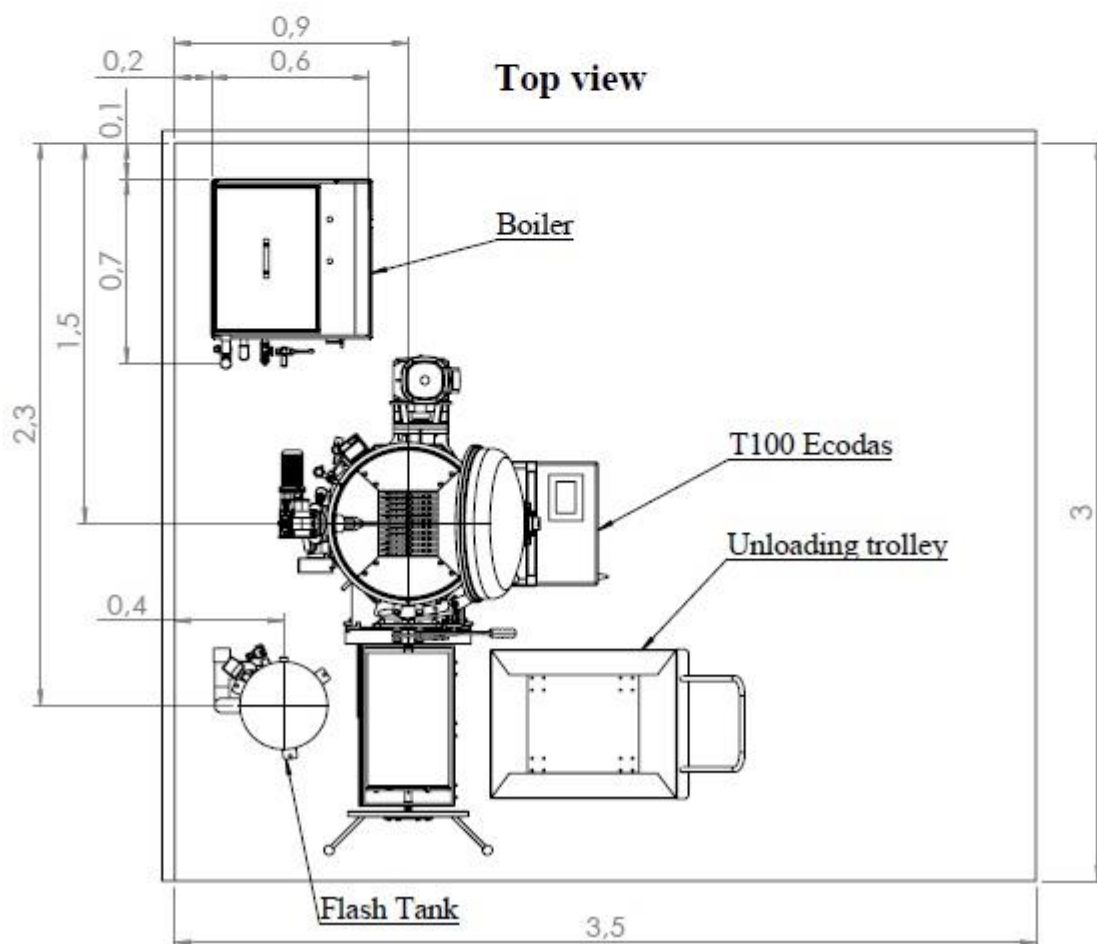
7

The **unloading** of the final sterilized waste is carried out by gravity discharge into a garbage bin placed directly under the machine.

Front view



Top view



General Characteristics	
- Dimensions (L x l x H), cm	200x120x212
- Dimensions (L x W x H).ft	6,6x3,8x7
- Total volume. L	377
- Shipping Weight. Kg	635
- Max weight when filled with water For a special hydraulic test. Kg	1012
- Stress kg/cm ²	0.1
- Steam Pressure. Bar	8
- Max Steam Flow. Kg/h	35
- Compressed Air. Bars	6
- Electricity 380 V / 3-Phase	5 kW
Operating Characteristics	
- Average Cycle Time. Minutes	30
- Process Volume Capacity. Liters	100
- Average Waste Density. Kg/m ³	100-150
- Average Process Weight Capacity-kg/cycle	10-15
- Average Process Weight Capacity-lb/cycle	22-33
- Microbial Inactivation	10 ⁸
- Waste Volume Reduction	80%
Consumption / cycle	
- Steam. Kg	6
- Electricity. Kwh	0.55
- Water. Liters	5

Ministry of Ecology, Sustainable Development and Energy Ministry of Social Affairs and Health

<p>General directorate of risk prevention Service of prevention of pollution and environmental quality Office of Planning and Waste Management Person in charge of this issue: Mr. Thibaut NOVARESE Tel.: 01.40.81.87.59 Fax: 01.42.19.14.68 Email: thibaut.novarese@developpement-durable.gouv.fr</p>	<p>General directorate of Health Sub-directorate for prevention of risks relative to environment and food Office of the external environment and chemicals Person in charge of this issue: Mrs. Delphine CAAMANO Tel.: 01.40.56.71.86 Fax: 01.40.56.50.56 Email: delphine.caamano@sante.gouv.fr</p>
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**The Minister of Ecology, Sustainable Development, and Energy
Minister of Social Affairs and Health
to
Distinguished regional prefects
(for information)
Distinguished general directors of regional health agencies
(for information)
Distinguished department prefects
(for information)**

INTERMINISTERIAL CIRCULAR No. DGS / EA1 / DGPR / 2013/173 of March 1, 2013 concerning the implementation of the pre-treatment device by disinfection of Infectious waste (HCW) "ECODAS T100" of ECODAS company and to the departmental administrative procedure applicable to pre-treatment devices by disinfection of infectious waste (HCW).

Application Date: Immediate

NOR: AFSP1310810C Theme: Environmental Health

Certified by CNP on January 18, 2013 - Visa CNP 2013-04

<p>Summary: this circular:</p> <ul style="list-style-type: none"> allows the implementation of the pre-treatment device by disinfection of Infectious waste (HCW) "ECODAS T100" of ECODAS company; describes the evolution of departmental administrative procedures applicable to pre-treatment devices by disinfection of infectious waste (HCW)
<p>Keywords: pre-treatment by disinfection, Infectious waste (HCW)</p>
<p>Mandate:</p> <ul style="list-style-type: none"> Public Health Code and particularly Articles R.1335-1 to R.1335-14; Departmental Health Regulations (Article 88 and 164.); Circular No. 53 of July 26, 1991 relative to the implementation of contaminated waste disinfection processes of hospitals and similar establishments; Circular of December 24, 2010 relative to detailed rules for implementing the decrees n° 2009-1341, n° 2010-369 and n° 2010-875 amending the nomenclature of classified installations carrying a waste treatment business.
<p>Repealed or amended texts: amendment of Circular n° 53 of July 26, 1991 relative to the implementation of contaminated waste disinfection processes of hospitals and similar establishments.</p>
<p>Appendices</p> <p>Appendix 1: provisions relative to the pre-treatment device by disinfection of Infectious waste (HCW) and similar waste "ECODAS T100."</p> <p>Annex 2: Opinion of the High Council of Public Hygiene of France (HCPHF) of November 16, 1999 relative to the monitoring of the effectiveness of disinfection devices of infectious waste (HCW) after validation by the HCPHF.</p>
<p>Distribution: concerned establishments or organizations to be recipients of this circular, through decentralized services or Regional Health Agency (RHA), as the existing system at the regional level.</p>

I - Validation of the pre-treatment device by disinfection of HCW "ECODAS T100" of ECODAS company.

Previously subject to an opinion of the High Council of Public Hygiene of France, the national validation procedure of pre-treatment devices by disinfection of HCW must now upgrade to a compliance certificate issued by an accredited body on the basis of a system of reference relying in particular on the standard NF X 30-503 relative to the reduction of microbiological and mechanical risks by pre-treatment devices by disinfection of HCW and similar risks, developed for this purpose. Transiently, the issue, instructed by the General Directorate of Health, is the subject of a review by a committee of experts before validation. INERIS provides its technical support for this approval procedure.

The INERIS report of December 4, 2012 on the device "ECODAS T100" attests that the technical and microbiological tests achieved on the device "ECODAS T100" according to the protocol approved by the committee of experts, whose results are consistent with the standard NF X 30-503, have demonstrated the effectiveness of this device in the shredding and disinfection of HCW and similar risks. The technical requirements for implementation and monitoring associated with the device are specified in Annex I.

Waste allowed on this type of installation is the HCW defined in Article R. 1335-1 of the Public Health Code which simply subtract waste which may contain non-conventional transmittable agents. Furthermore, it is strictly forbidden to bring in these devices cytotoxic drugs used to treat cancers.

Pre-treated waste can be disposed of either by incineration or by disposal in a non-hazardous waste storage facility, according to the usual procedures relative to non-hazardous waste from all sources. It is appropriate to exclude composting technologies because of the characteristics and origin of such waste.

II- Evolution of the departmental administrative procedure relative to pre-treatment devices by disinfection of HCW

Pending the publication of the decree relative to the rules of issuance of the certificate of conformity of disinfection devices of HCW, pursuant to Article R.1335-8 of public health code, provisions of Article 88 of the departmental health regulations (DHR) requiring incineration of health care waste remain applicable. Pursuant to Article 164 of this regulation and as outlined in the Circular n° 53 of July 26, 1991 referred to above, prefects may derogate by order from the requirement of the obligation to incinerate HCW and authorize the use of disinfection devices previously approved at national level.

Furthermore, provisions of Decree n° 2010-369 of April 13, 2010 amending the nomenclature of classified installations and establishing especially the section 2790 relative to hazardous waste facilities, apply to HCW treatment facilities by disinfection. However, as it emerges from the circular of December 24, 2010 relative to detailed rules for implementing decrees n° 2009-1341, n° 2010-369 and n° 2010-875 amending the nomenclature of classified installations having a waste treatment business, a treated waste on its production site should not be considered as a waste only if its holder intends to dispose of it at the time of treatment. Thus, if a facility that processes HCW waste from various sources has indeed to be permitted under section 2790 seeing that it receives external waste, an internal facility that handles HCW from one care facility only isn't the concern of this section.

the pre-treatment devices by disinfection continue to be an order of the prefect:

- either an exemption of departmental sanitary regulation (DSR) for internal devices of a facility that only treat the HCW of this facility, procedure conducted by the regional health agency on the same basis as before (in this case, the regional health agency is also in charge of the inspection of these devices),
- or an authorization on behalf of classified facilities for environmental protection (CFEP) for the another (facilities that process HCW from various sources). In the latter case, Regional Directorate of Environment, Development and Housing (RDEDH) has to ensure the investigations of this issue, to write the order of the prefect with its technical requirements and to support on-site inspections.

New information relative to devices that do not fall under section 2790 of the nomenclature of CFEP will be given with the publication of the above-mentioned decree, when Article 88 of the DSR will be repealed, making obsolete the exemption to the incineration obligation allowing currently to authorize by order of prefect the installation of pre-treatment device by disinfection of HCW.

Would you please keep us informed of the difficulties you might encounter during the implementation of this Circular.

For the Minister of Ecology,
Sustainable Development
and Energy

For the Minister of Social Affairs
and Health

The General Director of Risk Prevention

The General Director of Health

Dr Jean-Yves GRALL

APPENDIX I

Provisions relating to the pre-treatment devices by disinfection of infectious waste (HCW) and similar risks "ECODAS T100"

According to the standard NF X 30-503 relative to the reduction of microbiological and mechanical risks by pre-treatment devices by disinfection infectious waste and similar risks,

Whereas the process parameters: heat treatment by wet heat, with a step of 138 ° C for 10 minutes under 3.8 bar, preceded by a shredding step (identical technology to the disinfection processes of devices ECODAS T150 and ECODAS T300 approved by the circular DGS / SDEA1 / DPPR n° 2008-225 of July 9, 2008 relative to the implementation of the pre-treatment device by disinfection of HCW "ECODAS T150" and the circular of January 8, 1996 relative to the implementation of the disinfection process "Lajtos TDS 300" for contaminated waste from hospitals and similar); average production capacity of 100 kg per hour;

Whereas the results of technical and microbiological tests achieved on the site of the ECODAS company in Roubaix (59) by the laboratories Biorisk Expertise and SOCOR demonstrate the effectiveness of the process in terms of HCW disinfection during the microbiological indicators tests and the tests of revival of germs in the treated waste, under the conditions described above;

Whereas the results of size tests on shredded waste and air contamination tests meet the above-mentioned standard;

Whereas the opinions of the High Council of Public Hygiene of France dated of November 21, 2003 and November 16, 1999;

The implementation of the pre-treatment device by disinfection of HCW "ECODAS T100" of ECODAS company is subject to the following provisions:

The installation site of the device must comply with the decree of September 7, 1999 relative to the storage of HCW and conditions of use must comply with the regulations relative to hygiene and safety rules.

The following waste are excluded from pre-treatment: silver salts, X-ray negatives, chemicals, high oxidizing power explosives, mercury waste, radioactive waste, anatomical parts and dead animals intended for cremation or burial, toxic, waste associated with the use of cytostatic drugs, waste that may damage the operation of the device, waste which may contain Unconventional Transmissible Agents (NCTA).

The holder must conduct continuous recording of disinfection parameters when the unit is in service. Records and results of control parameters remain available to state services for three years.

The holder must achieve quarterly microbiological indicators tests described in the notice of the High Council of Public Hygiene of France dated of November 16, 1999 (biological indicator containing spores of *Bacillus subtilis* CIP 7718, as a 10⁵ bacterial spores). These tests are performed by a laboratory using the sampling and analysis methodology described in the standard NF X 30-503. Test results are at the Regional Health Agency and state services disposal for three years.

In case of non-compliant tests (less than 5 log reduction), the tests are repeated within 48 hours following the publication of the result. If two consecutive tests are not in conformity, the holder must implement all corrective actions to achieve compliant tests.

Thenceforth microbiological indicators tests are non-compliant or in case of failure of the device, the holder is required to dispose of waste of infectious waste (HCW) as required by the order of prefect authorizing its operation. In these cases, the holder must keep informed the regional health agency and the competent states.

The holder shall annually achieve a microbiological control of air quality described in the notice of the High Council of Public Hygiene of France dated of November 16, 1999 in the immediate vicinity of the device by a laboratory, according to the sampling and analysis methodology described in the standard NF X 30-503. Test results are available to the Regional Health Agency and state services for three years. In case of non-conformity of the test results with the NF X 30-503, the tests are repeated within 48 hours of publication of the result. If two consecutive tests are not in conformity, the holder must notify the Regional Health Agency and the competent departmental state services where the device is installed and implement all corrective actions to achieve compliant tests.

Any change on the pre-treatment parameters or device capacity must be subject to a new validation request addressed to the Directorate General of Health.

Appendix II

HIGH PUBLIC HEALTH COUNCIL OF FRANCE SECTION LIVING ENVIRONMENTS

Meeting on Tuesday, November 16, 1999

OPINION

Relative to the control of the effectiveness of disinfection devices
For infectious waste (HCW) after approval by the HCPHF

Whereas the experience gained in the field of disinfection of infectious waste (HCW) and similar risks;

Whereas the future of disinfected waste of care activities (landfill site class II or household waste incinerator after possible transit by the waste reception pit);

The High Council of Public Health of France gives the following opinion:

1. Any holder of a disinfection device conducts a continuous recording of disinfection parameters (time, temperature, pressure, ...). If the technology of the device permits, a control of disinfection parameters is achieved monthly by treatment chemical integrator strip. Records and results of control parameters remain available to state services for one year;
1. Any holder of a disinfection device proceeds to microbiological indicators tests (*Bacillus subtilis* or *Bacillus stearothermophilus* spores, calibrated and meeting to the Pharmacopoeia). These tests are conducted quarterly by a laboratory that received the approval from the Departmental Directorate of Health and Social Affairs where the device is installed. They are made on D + 0 (day of collection) and D + 14 (after 14 days of storage in the laboratory, to ensure the absence of revival of germs). Upon receipt, the results are sent to the Departmental Directorate of Health and Social Affairs (DDHSA) and if necessary the inspection of classified installations for environmental protection. If reduction is less than five logarithms, the concerned state services are immediately warned. The holder shall arrange new tests within 48 hours. If the results are confirmed, the State services require the shutdown of the facility. Then, infectious waste (HCW) are routed to the backup installation (disinfection or incineration);
1. Any holder of a disinfection device achieves annually control of the air quality in the immediate vicinity of the device by a laboratory that received the approval of the DDHSA. This control consists of a bacterial and a fungal air count;

For producers whose monthly waste production of infectious waste (HCW) is less than or equal to five kilograms,
- a control of disinfection parameters is monthly achieved by treatment chemical integrator strip. Results of this control are available to the state services for a year,
- once a year, microbiological indicators tests are achieved as described in point 2 above,
- annual control of the air quality as described in point 3 above is recommended.

State services may request that additional controls are performed if necessary, the involved costs are supported by the holder or by the producer when the monthly production of waste is less than or equal to five kilograms.

In case of repeated failures, approval shall be suspended and the issue must be presented again to the High Public Health Council of France.

This opinion may be distributed in its entirety only, without suppression or addition.



ORGANISME AGREE PAR
LE MINISTRE DES AFFAIRES
SOCIALES ET DE LA SANTE

ATTESTATION DE CONFORMITE ATTESTATION OF CONFORMITY

N° 34817 - 1

APPAREILS DE PRETRAITEMENT PAR DESINFECTION DISINFECTION PRETREATMENT APPLIANCES

Documents de référence / Reference document

Textes réglementaires / Regulations :

Article R.1335-8 et suivants du code de la santé publique

Arrêté du 20 avril 2017 relatif au prétraitement par désinfection des DASRIA (NOR: AFSP1618294A)

Arrêté du 28 avril 2017 portant agrément du LNE (NOR: AFSP1712530A)

Normes / Standard : NF X 30-503-1 : Février 2016

Référentiel / Framework : Référentiel LNE - Revue n°0 - Mai 2017

Titulaire de l'attestation / Attestation holder :

ECODAS

28 RUE DE SEBASTOPOL

FRANCE - 59100 - ROUBAIX

Appareil fabriqué par / Appliance manufactured by :

ECODAS

28 rue de SEBASTOPOL

FRA - ROUBAIX - 59100

Référence commerciale de l'appareil / Commercial reference of the appliance : **ECODAS T100**

Technologie pour la modification de l'apparence / Technology for the appearance modification :

Broyage / Grinding

Technologie pour la désinfection / Technology for the disinfection :

Traitement thermique - Stérilisation à la vapeur d'eau saturée / Heat treatment - Steam sterilization

Référence du dossier technique / Technical file reference : **ANNEXE 3 T100 Rev 1**

Référence du rapport d'évaluation / Evaluation file reference : **P171722/1**

Le LNE atteste que l'appareil décrit dans le dossier technique et le rapport d'évaluation susvisés répond aux prescriptions réglementaires et normatives définies dans les documents de référence.

The LNE attests that the appliance referenced in the technical file and in the evaluation file aforementioned meets the regulatory and normative requirements defined in the reference documents.

Date de première délivrance : 27 septembre 2018

First issue date

Date de début de validité : 27 septembre 2018

Effective date

Valable jusqu'au : 26 septembre 2023

Valid until

Délivré à Paris, le

10 octobre 2018

Pour le Directeur Certification



Pascal PRUDHON

Responsable du Pôle Certification Plurisectorielle

Annule et remplace le certificat 34817-0

Laboratoire national de métrologie et d'essais • Établissement public à caractère industriel et commercial

Siège social : 1, rue Gaston Boissier - 75724 Paris Cedex 15 • Tél. : 01 40 43 37 00 • Fax : 01 40 43 37 37

E-mail : info@lne.fr • Internet : www.lne.fr • RCS Paris 313 320 244 • NAF : 7120R • TVA : FR 92 313 320 244



Providing Expertise in Hospital Hygiene

*TRANSLATED COPY
Refer to ORIGINAL*

Experimentation conducted from November 12 to December 17, 1993

The LAJTOS TDS equipment uses the principle of sterilization with steam to make sterile the high-risk hospital waste. It allows to obtain by the method of the germ carrier a reduction of the number of living cells by 10⁸ for :

Staphylococcus aureus CNCM 53154
Enterococcus hirae CNCM 5855
Escherichia coli CNCM 54127
Pseudomonas aeruginosa CNCM A 22
Mycobacterium smegmatis CNCM 9326
Aspergillus niger CNCM 1431-83
Bacillus subtilis CNCM 7718
Enterovirus Polio 1
Orthopoxvirus de la vaccine

Made in Villeneuve d'Ascq, on October 17th 1997

Laboratory Technician
F. MARSY

Dept. Manager
Docteur C. KREMBEL

Fondation reconnue
D'utilité publique

1, rue du Professeur Calmette
BP 245 – 59019 LILLE cedex
France
Tél. 03 20 87 78 00
Fax. 03 20 87 79 06

3615 Pasteur Lille
Internet :
<http://www.pasteur-lille.fr>
SIRET 783 696 834 00010

Domaine du Cerila
369, rue Jules Guesde –
BP 39
59651 Villeneuve d'Ascq
cedex
Tél. 03 20 43 89 29



CERTIFICATE

We, BioRisk Expertise, hereby state having tested the microbiological and technical effectiveness of biomedical waste treatment system ECODAS (T2000 / T1000 / T700 / T300 / T150 / T100), according to the methodology of the NFX 30-503 standard with the following results:

1. The microbiologic test results during a cycle (shredding and autoclaving at 138 °C during 10 minutes under a mean pressure of 3.5 bars) showed:
 - *A microbial inactivation of Bacillus atrophaeus spores at least 8log10,*
 - *No microbiological revival after 28 days at 20 °C in the final residues.*

2. The effectiveness results of technical tests showed:
 - *No contamination of the air around the machine,*
 - *No contamination of liquid discharge,*
 - *The shredded waste is in average less than 30 mm.*

According to these results, we hereby state that:

Biomedical waste treatment system ECODAS complies with the acceptability criteria of the standard NFX 30-503 and render biomedical infectious waste unrecognizable and comparable to household wastes.

Made in Saint-André-lez-Lille (France), on september 27, 2018



Dr. Marie-Florence GIREAUDOT, PhD
Microbiologist

Pasteur
*Institute
Of Lille*



Providing Expertise in Hospital Hygiene

Lille October 21, 2002

Mr. Jeff Squalli
ECODAS
28 Rue Sebastopol
Roubaix, 59100 France

Phone: +33 03 20 87 72 61

-- TRANSLATED COPY --
Refer to ORIGINAL

A Controlled Study of Waste Decontamination: ECODAS T1000

Study Date 02/10/2002

Machine type: ECODAS – T1000

Cycle number: 2662

Sterilization time: 10 minutes

Cycle duration: 35 minutes

Principle

Spore strips of containing *Bacillus Stearothermophilis* spores kept in test tubes and capped with water impregnated cotton were placed in the apparatus.

Results

ECODAS - T 1000 Machine

Day 0	Test 1 =	<10	
	Test 2 =	< 10	
	Biological Indicator 1:		$3.5 \cdot 10^6$
	Biological Indicator 2:		$4.0 \cdot 10^6$
Day 14	Test 3 =	< 10	
	Test 4 =	< 10	
	Biological Indicator 3:		$10.0 \cdot 10^6$
	Biological Indicator 4:		$7.0 \cdot 10^6$

Conclusion

Satisfactory results with a 10^6 reduction in *Bacillus Stearothermophilis* following decontamination with ECODAS T-1000 at 138 degrees C.

Laboratory Technician
R. Polyn

Technical supervisor
F. Marsy

Dept. Manager
Dr. C. Krembel

2017 : *Trophy Leadexport: Prize CONQUERANT B TO B* (Conqueror B to B) given by the International Chamber of Commerce and the World Trade Center.

2013 : ECODAS has been rewarded with the "***Jean-Claude OPPENEAU***" ***trophy*** - Jury's favourite Greentech Export Trophy during the Export Greentech Awards 2013 which took place in POLLUTEC - PARIS on December 2013.

2011 : *Performance Prize – Category Best Exporter* – North region – LES ECHOS

2009 : *International Prize* – Ambition Award – North East Region – LA TRIBUNE

2009 : *Sustainable Development Special Prize* – Ambition Award – North East Region – LA TRIBUNE

2008 : *Best Exportating Company 2007* prize - 1st Mondissimo convention of International trade & International Mobility

2008 : *Grand Prix* Ecodas was honored by the Industrial Society of Northern France and was awarded the Grand Prix of the Chamber of Commerce Grand Lille

2006 : *Performance Prize – Category Innovation* - North East Region,– LES ECHOS

2006 : *Citizen action prize* – Alliance Network

2005 : *Trophy GAZELLE 2005* given by the Ministry for the Small and Medium-sized companies, the Commerce, the Craft Industry and the liberal professions. Price rewarding the 2000 French companies having known the strongest growth in 2003-2004

2004 : *Trophy Biology Health 2004* - Price Innovation and Development with International given by the Club Eurasanté Developers

2002 : *Trophy International promotion Future Export* given by UBIFRANCE

More than 500 machines installed worldwide!!!

NORTH AMERICA		EUROPE		ASIA		AFRICA		AUSTRALIA & OCEANIA	
	Canada		Albania		Bangladesh		Algeria		French Polynesia
	Mexico		Bosnia		China		Angola		New Caledonia
	St Pierre Miquelon		Bulgaria		India		Cameroon		
	USA		Cyprus		Indonesia		Egypt		
CENTRAL AMERICA & CARIBBEAN			Denmark		Japan		Gabon		
	Guadeloupe		England		Nepal		Ghana		
	Honduras		Estonia		Philippines		Guinea Konakry		
	Jamaica		France		Russia		Libya		
	Martinique		Greece		South Korea		Ivory Coast		
	Panama		Hungary		Thailand		Maldives		
	Saint Lucia		Italy		Turkmenistan		Mauritania		
SOUTH AMERICA			Kosovo		Vietnam		Mayotte		
	Argentina		Latvia	MIDDLE EAST			Morocco		
	Brazil		Lithuania		Azerbaijan		Mozambique		
	Ecuador		Poland		Bahrain		Nigeria		
	French Guiana		Rep Tchek		Iran		Reunion Island		
	Paraguay		Romania		Iraq		Senegal		
	Peru		Slovakia		Jordan		Sudan		
	Uruguay		Spain		Kurdistan		Tunisia		
	Venezuela		Ukraine		Kuwait		Zanzibar		
					Lebanon				
					Palestine				
					Sult Oman				
					Syria				
					Turkey				
					UAE				

**Thank you for your attention!*