



Reducing UPOPs and Mercury Releases from  
The Health Sector in Africa



**2019**  
**Technical specifications for healthcare waste  
management equipment**

## **Technical Specification: HCW Equipment**

<b>PPE-01-01</b>	<b>SAFETY GOGGLES.....</b>	<b>6</b>
<b>PPE-01-02</b>	<b>WORKING GLOVES FOR CHEMICALS .....</b>	<b>7</b>
<b>PPE-01-03</b>	<b>ANTI-NEEDLESTICK GLOVES.....</b>	<b>8</b>
<b>PPE-01-04</b>	<b>WORKING GLOVES – LOGISTIC.....</b>	<b>9</b>
<b>PPE-01-05</b>	<b>WORKING OVERALL.....</b>	<b>10</b>
<b>PPE-01-06</b>	<b>SAFETY BOOTS.....</b>	<b>11</b>
<b>PPE-01-07</b>	<b>SAFETY MASK.....</b>	<b>12</b>
<b>PPE-01-08</b>	<b>WORKING GLOVES - HEAT RESISTANT .....</b>	<b>13</b>
<b>PPE-01-09</b>	<b>WATER/CHEMICAL RESISTANT APRON .....</b>	<b>14</b>
<b>PPE-01-10</b>	<b>NEEDLE STICK PROTECTION .....</b>	<b>15</b>
<b>PPE-02-01</b>	<b>HAND RUB DISINFECTANT DISPENSER.....</b>	<b>16</b>
<b>PPE-02-02</b>	<b>PAPER TOWEL DISPENSER.....</b>	<b>17</b>
<b>PPE-02-03</b>	<b>SOAP DISPENSER .....</b>	<b>18</b>
<b>LOG-01-02</b>	<b>SAFETY BOX WHO – 5L.....</b>	<b>20</b>
<b>LOG-01-03</b>	<b>SHARPS CONTAINERS – PLASTIC (SMALL).....</b>	<b>21</b>
<b>LOG-01-04</b>	<b>SHARPS CONTAINERS – PLASTIC (LARGE).....</b>	<b>22</b>
<b>LOG-01-07</b>	<b>BAG - INFECT - AUTO. (SMALL) .....</b>	<b>23</b>
<b>LOG-01-08</b>	<b>BAG - INFECT - AUTO. (LARGE) .....</b>	<b>24</b>
<b>LOG-01-11</b>	<b>DEBRIS POTS FOR NEEDLE CUTTER.....</b>	<b>25</b>
<b>LOG-02-01</b>	<b>INFECTIOUS WASTE BIN - SMALL.....</b>	<b>27</b>

## Reducing UPOPs and Mercury Releases from The Health Sector in Africa


---

<b>LOG-02-02</b>	<b>INFECTIOUS WASTE BIN – LARGE .....</b>	<b>28</b>
<b>LOG-02-04</b>	<b>GENERAL WASTE BIN – LARGE.....</b>	<b>29</b>
<b>LOG-02-06</b>	<b>MOBILE BAG STAND.....</b>	<b>30</b>
<b>LOG-02-08</b>	<b>GLASS COLLECTION BIN .....</b>	<b>31</b>
<b>LOG-02-09</b>	<b>OUTDOOR - WASTE BIN.....</b>	<b>32</b>
<b>LOG-02-10</b>	<b>NEEDLE CUTTER .....</b>	<b>33</b>
<b>LOG-02-11</b>	<b>MULTI PURPOSE BIN – X-LARGE.....</b>	<b>34</b>
<b>LOG-03-01</b>	<b>WHEELIE-BIN 240 L (GENERAL WA.).....</b>	<b>35</b>
<b>LOG-03-04</b>	<b>BIN TROLLEY (INFECT. WASTE) .....</b>	<b>37</b>
<b>LOG-03-06</b>	<b>TRANSPORT-BIN 240 .....</b>	<b>38</b>
<b>LOG-03-07</b>	<b>TRANSPORT-BIN 770 .....</b>	<b>39</b>
<b>LOG-03-08</b>	<b>CHEM. TRANSP. BOX (SMALL) .....</b>	<b>40</b>
<b>LOG-03-11</b>	<b>TRANSPORT CONTAINER FOR BIO-HAZARDOUS WASTE .....</b>	<b>41</b>
<b>LOG-03-12</b>	<b>BARREL FOR SOLID HAZARDOUS WASTE .....</b>	<b>42</b>
<b>LOG-03-14</b>	<b>GROUND SCALE - MECHANICAL .....</b>	<b>43</b>
<b>LOG-03-15</b>	<b>GROUND SCALE - ELECTRONIC.....</b>	<b>44</b>
<b>LOG-03-16</b>	<b>PRESSURE SPRAYER .....</b>	<b>45</b>
<b>LOG-03-17</b>	<b>WATER HOSE.....</b>	<b>46</b>
<b>LOG-03-18</b>	<b>COLD-WATER HIGH-PRESSURE CLEANER.....</b>	<b>47</b>
<b>LOG-04-02</b>	<b>SHELF FOR REACTIVE LIQUIDS.....</b>	<b>48</b>
<b>LOG-04-03</b>	<b>SHELF FOR WATER POLLUTING LIQUIDS.....</b>	<b>49</b>

<b>LOG-04-05</b>	<b>60 L DRUM FOR STORAGE OF MERCURY WASTE.....</b>	<b>50</b>
<b>LOG-04-08</b>	<b>FREEZER FOR PATHOLOGICAL WASTE .....</b>	<b>51</b>
<b>TRE-02-04</b>	<b>MANUAL FRACTIONATED TREATMENT EQUIPMENT, &gt;400 L .....</b>	<b>53</b>
<b>TRE-03-02</b>	<b>TREATMENT EQUIPMENT MONITORING SET .....</b>	<b>57</b>
<b>TRE-03-05</b>	<b>TOOL-BOX „BASIC MAINTENANCE“ .....</b>	<b>58</b>
<b>TRE-03-07</b>	<b>TEMPERATURE TESTING TOOL .....</b>	<b>59</b>
<b>TRE-04-01</b>	<b>ON-SITE SHREDDING SYSTEM (SMALL) .....</b>	<b>60</b>
<b>TRE-04-02</b>	<b>ON-SITE SHREDDING SYSTEM (MEDIUM) .....</b>	<b>61</b>

## **A) Personal protective equipment**


## PPE-01-01 Safety goggles

Item:	Photo / Drawing / Graphic
<p>Safety goggles with close fit and excellent protective features  <i>Code: PPE-01-01</i></p>	
<p><b>Technical Data:</b> (Main)</p>	
<p>Material</p>	
<p><b>Application:</b></p>	
<p>For the protection of workers eyes. Must protect the workers eyes from liquid splashes</p>	


### Further relevant information:

- High velocity requirements of ANSI Z87.1-2010 (+) or CE-EN-166
- Ratchet strap to strap and save the load during transportation
- Cargo fixing during transport of waste bins in order to prevent accidents.
- According to DIN standard EN 12195-2 with GS seal
- Expansion : < 5%

## PPE-01-02 Working gloves for chemicals

Item:	Photo / Drawing / Graphic
<p>Strong working gloves – Chemicals Code: PPE-01-02</p>	
<p><b>Technical Data:</b> (Main)</p>	
<p>Size To be advised later Material Strong textile with a plastic coating</p>	
<p><b>Application:</b></p>	
<p>Personal Protection Equipment for the handling of chemical waste.</p>	

## PPE-01-03 Anti-Needlestick Gloves


Item:		Photo / Drawing / Graphic
Anti-Needlestick Gloves* Code: PPE-01-03		
Technical Data: (Main)		
Size	To be advised later	
Length	280 mm	
Material	Kevlar, Nitrile Butadiene	
Test results:	(EN388)	
Abrasion Resist:	(1-4): Rating 3	
Cut Resistance:	(1-5): Rating 5	
Tear Resistance:	(1-4): Rating 4	
Prick Resistance:	(1-4): Rating 4	
Application:		
Flexible protective gloves manufactured from Teflon Steel platelets covering a knitted Kevlar inner, under a Nitrile outer glove. To protect against needle stick injury and cuts in all sorts of hazardous working conditions.		

### Further relevant information:

- ☐ The Nitrile Butadiene coating is water repellent and cuts down penetration by blood and body fluids, sewage etc.
- ☐ The inner Gloves are made from knitted Kevlar for cut resistance, and have more than 350 elasticated steel Teflon platelets incorporated into them to stop needles penetrating.
- ☐ Test Standard: Injection Needle, DIN 13097, ISO 7864
- ☐ Personal equipment of staff, should not be borrowed




## PPE-01-04 Working gloves – Logistic

Item:	Photo / Drawing / Graphic	
General working gloves <i>Code: PPE-01-04</i>		
<b>Technical Data:</b> (Main)		
Size		To be advised later
Material		Strong textile with a Nitrile coating
Safety Category:		CE 2 Mechanical
<b>Application:</b>		
Personal Protection Equipment for the handling of non-hazardous materials (household waste, waste for recycling, etc.)		

### Further relevant information:

- ❑ Safety category: Mechanical protection CE 2, Directive: 89/686/EEC
- ❑ Must fulfil EN 420: 2003


## PPE-01-05 Working overall

Item:	Photo / Drawing / Graphic	
<p>Working Overall Code: PPE-01-05</p>		
<p><b>Technical Data:</b> (Main)</p>		
<table border="1"> <tr> <td data-bbox="212 409 539 544">Size Material</td><td data-bbox="539 409 853 544">To be defined later Polyester/Cotton hardwearing, &gt; 260 gr/m<sup>2</sup></td></tr> </table>		Size Material
Size Material	To be defined later Polyester/Cotton hardwearing, > 260 gr/m <sup>2</sup>	
<p><b>Application:</b></p>		
<p>Personal Protection Equipment for the loading / unloading of waste bags in incinerators, Treatment Equipments, etc.</p>		

### Further relevant information:

- ❑ High quality, robust, easy to clean with two way metal zip front.
- ❑ Full back elasticsation and an action back.
- ❑ Two zipped chest pockets, two large back patch pockets, one zipped.

## PPE-01-06 Safety Boots

Item:		Photo / Drawing / Graphic
Safety Boots Code: PPE-01-06		
Technical Data: (Main)		
Size	To be defined later	
Material shoe	Leather with rubber	
Material sole	Double density polyurethane	
Safety Category:	EN345 (200 Joules) with steel toe-cap	
Application:		
Personal Protection Equipment		

### Further relevant information:

- ☐ Leather upper, padded collar,
- ☐ Steel midsole for underfoot protection heat, heat resistant to 200C
- ☐ Antistatic sole, resistant to petrol, oil, alkalis and some acids.
- ☐ Must fulfil requirements of EN ISO 20345:2004 S3 or ANSI Z41.1-1991


## PPE-01-07 Safety mask

Item:	Photo / Drawing / Graphic	
<div>Valved dust mask with adjustable boomerang nose clip and latex-free straps. Code: PPE-01-07</div>		
<div>Technical Data: (Main)</div>		
Size	One size	
Material	Filter with valve	
Safety Code	P3	
<div>Application:</div>		
<div>Personal Protection Equipment for the handling of infectious waste.</div>		

### Further relevant information:

- ☐ Disposable filter integrated
- ☐ High filtration efficiency for protection against maximum fine dust and fibres
- ☐ Personal equipment of staff, should not be borrowed
- ☐ Must fulfil requirements of EN 149: 2001 + A1: 2009


## PPE-01-08 Working gloves - Heat resistant

Item:	Photo / Drawing / Graphic
Heat resistant gloves <i>Code: PPE-01-08</i>	
<b>Technical Data: (Main)</b>	
Size	
Material	
Safety Category:	
<b>Application:</b>	
Personal Protection Equipment for the loading / unloading of waste bags in incinerators, Treatment Equipments, etc.	

### Further relevant information:

- ☐ High heat resistant and protection >200 °C
- ☐ Good protection against cuts
- ☐ Must fulfil ASTM ANSI Cut Level 4 or EN 420: 2003


## PPE-01-09 Water/chemical resistant apron

Item:	Photo / Drawing / Graphic
Water/chemical resistant apron <i>Code: PPE-01-09</i>	
<b>Technical Data:</b> (Main)	
Size	
Material	
<b>Application:</b>	
Personal Protection Equipment for the collection of waste materials.	

### **Further relevant information:**

- ☐ Adjustable neckstrap
- ☐ 100% waterproof
- ☐ Longer length extends coverage (35"W x 47"L)
- ☐ One size fits most
- ☐ Excellent splash protection against most mild chemicals
- ☐ Adjustable Neckstrap
- ☐ 100-Percent Waterproof



## PPE-01-10 Needle stick protection

Item:	Photo / Drawing / Graphic
Inside Glove – needle stick protection <i>Code: PPE-01-10</i>	
<b>Technical Data:</b> (Main)	
Size	
Material	
Test: Abrasion Resist: Cut Resistance: Tear Resistance: Prick Resistance:	
<b>Application:</b>	
Puncture protection for the palm and fingertips	

### Further relevant information:

- Can be used as an insider glove to add puncture and cut resistance
- Puncture resistance to needles and fine metal, glass and wire
- Thin protective material for good dexterity

## PPE-02-01 Hand rub disinfectant dispenser



Item:	Photo / Drawing / Graphic
<p>Hand rub disinfectant dispenser Code: PPE-02-01</p>	 
<p><b>Technical Data:</b> (Main)</p>	
<p>Size: Material:</p>	
<p>500 ml Plastic / metal</p>	
<p><b>Application:</b></p>	
<p>For hygienic and surgical rub-in hand disinfection – independent of washbasin and water. For all areas that are relevant to hygiene Including of 5 l of alcohol based, approved hand disinfectant</p>	

### Further relevant information:

Each dispenser has to be provided with 5l disinfectant which fulfils the requirements of DIN EN 1500



## PPE-02-02 Paper towel dispenser


Item:	Photo / Drawing / Graphic
<p>Multi fold paper towel dispenser and towels Code: PPE-02-02</p>	 
<p><b>Technical Data:</b> (Main)</p>	
<p>Dimensions:</p> <p>Material:</p>	
<p>H 420mm W280mm D145mm Plastic / metal</p>	
<p><b>Application:</b></p>	
<p>Safe hand drying device. Disposable multi fold towels must be available.</p>	

### Further Relevant information:

Each dispenser has to be provided with 1000 paper towels

- Unit will dispense interleaved or 'C' fold paper. Visual indicator shows paper level
- wall mounted

## PPE-02-03 Soap dispenser


Item:	Photo / Drawing / Graphic
Soap dispenser <i>Code: PPE-02-03</i>	
<b>Technical Data:</b> (Main)	
Size: Material:	
500 ml Plastic / metal	
<b>Application:</b>	
Safe hand washing device	

### Further Relevant information:

Each dispenser has to be provided with 5l liquid soap

## **B) Consumables**


## LOG-01-02 Safety Box WHO – 5l

Item:	Photo / Drawing / Graphic
Safety Box WHO – 5l Code: LOG-01-02	
<b>Technical Data:</b> (Main)	
Volume 5 l Material Strong Cardboard Standard WHO PQS listed	
<b>Application:</b>	
For the safe collection of sharp items in a puncture proof box.	

### Further relevant information:

- Material: Bio-degradable cardboard-based materials – post-consumer recycled material is preferred
- Single use only
- Boxes must be fitted with a sharps aperture, capable of receiving syringes and needle assemblies of all standard sizes up to and including 20 ml, together with other sharps.
- It must be possible to close and seal the aperture at any time between empty and full to maximum capacity.
- Boxes must be supplied with a handle or other lifting device which allows the container to be carried safely with one hand.
- Boxes must be clearly marked with the international bio-hazard warning not less than 50mm diameter
- Capable of withstanding a one-meter vertical drop to a concrete fall without fracture, puncture or loss of contents
- Boxes, filled to their maximum capacity, must be able to withstand 48 hours at 43°C and 90% relative humidity in 5 mm of water, without spilling any part of the load.
- In addition to the international bio-hazard symbol, clear pictorial instructions without writing are to be printed on two sides of the container showing:
  - How to assemble the box.
  - How to use the box as a container for contaminated sharps;
  - Syringe disposal direction (needle down).
- How to close the sharps aperture when the box is full.
- Colour: Yellow
- Must fulfil PQS code E10/SB01.1


## LOG-01-03 Sharps containers – Plastic (Small)

Item:		Photo / Drawing / Graphic	
Sharps containers – Plastic (Small) Code: LOG-01-03			
<b>Technical Data:</b> (Main)			
Volume	1 litre		
Material	Polypropylene		
<b>Application:</b>			
For the safe collection of sharp items in a puncture proof container during outreach activities, including needle strip of devices to remove needles from syringes.			

### Further relevant information:

- Must fulfil British Standard BS EN ISO 23907:2012 or French Standard NFX 30-500 or United States ASTM F2132-01 or Canadian Standard Z316.6-07 or Australian Standard AS 4031 or South African Standard SANS 452 or similar specifications for sharp containers.
- For single use only
- For collection of used hypodermic needles, syringes, scalpels, droppers and other sharp items.
- With the possibility of re-openable closure (soft pressing) and non-re-openable after final closure (capable of being sealed).
- Marked with a horizontal line indicating maximum filling
- Capable of withstanding a one-meter vertical drop to a concrete fall without fracture, puncture or loss of contents.
- Made from polypropylene for easy incineration
- To be preferred colour: Yellow or red


## LOG-01-04 Sharps containers – Plastic (Large)

Item:		Photo / Drawing / Graphic
Sharps containers – Plastic (Large) Code: LOG-01-04		
<b>Technical Data:</b> (Main)		
Volume	2,5 l	
Material	Polypropylene	
<b>Application:</b>		
For the safe collection of sharp items in a puncture proof container, including needle strip of devices to remove needles from syringes.		

### Further relevant information:

- Must fulfil British Standard BS EN ISO 23907:2012 or French Standard NFX 30-500 or United States ASTM F2132-01 or Canadian Standard Z316.6-07 or Australian Standard AS 4031 or South African Standard SANS 452 or similar specifications for sharp containers.
- Single use only
- For collection of used hypodermic needles, syringes, scalpels, droppers and other sharp items.
- With the possibility of re-openable closure (soft pressing) and non-re-openable after final closure (capable of being sealed).
- Marked with a horizontal line indicating maximum filling
- Capable of withstanding a one-meter vertical drop to a concrete fall without fracture, puncture or loss of contents.
- Made from polypropylene for easy incineration
- Bin must be marked with the bio-hazardous sign
- To be preferred colour: Yellow or red

## LOG-01-07 Bag - infect - Auto. (Small)

Item:	Photo / Drawing / Graphic	
Infectious waste bags (Small) for steam treatment (Treatment Equipment) Code: LOG-01-07		
<b>Technical Data:</b> (Main)		
Volume		40 l
Thickness:		50 µm
Material		Polypropylene or Polyethylene
<b>Application:</b>		
For the safe collection of infectious waste at the wards and laboratories.		

### Further relevant information:

- ☐ To be able to be used with: LOG-02-01 Infectious Waste Bin – Small
- ☐ Must fulfil requirements of ASTM D1709 – 15
- ☐ Single use only
- ☐ For collection of different kind of solid infectious waste (excluding sharp items)
- ☐ Made from polyethylene or polypropylene – heat resistance up to 121 °C
- ☐ Bag must be marked with the bio-hazardous sign
- ☐ Preferred colour: Yellow or red- to be advised later

## LOG-01-08 Bag - infect - Auto. (large)

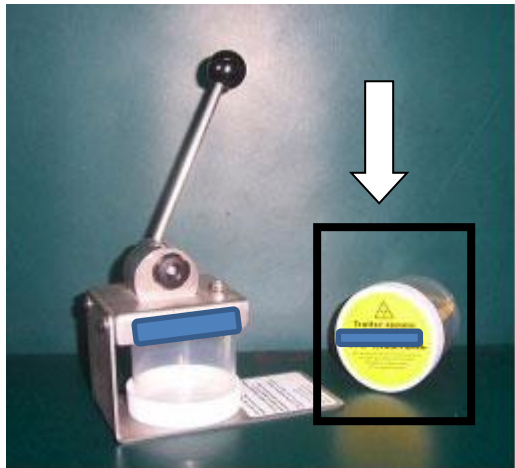
Item:	Photo / Drawing / Graphic						
<p>Infectious waste bags (large) for steam treatment (Treatment Equipment) Code: LOG-01-08</p>							
<b>Technical Data:</b> (Main)							
<table><tr><td>Volume</td><td>100 l</td></tr><tr><td>Thickness:</td><td>50 µm</td></tr><tr><td>Material</td><td>Polypropylene</td></tr></table>		Volume	100 l	Thickness:	50 µm	Material	Polypropylene
Volume		100 l					
Thickness:		50 µm					
Material	Polypropylene						
<b>Application:</b>							
<p>Liner for infectious waste collection bin (80l). For the collection of infectious waste bags coming from wards and laboratories.</p>							

### Further relevant information:

- ☐ Single use only
- ☐ Must fulfil requirements of ASTM D1709 – 15
- ☐ For collection of different kind of solid infectious waste (excluding sharp items)
- ☐ Made from polyethylene or polypropylene – heat resistance up to 121 °C
- ☐ Bag must be marked with the bio-hazardous sign
- ☐ Preferred colour: Yellow or red- to be advised later



## LOG-01-11 Debris Pots for Needle Cutter


Item:	Photo / Drawing / Graphic
Debris Pot for Needle Cutter <i>Code: LOG-01-11</i> <i>(Referring to LOG-02-10)</i>	
<b>Technical Data:</b> (Main)	
Volume	
Material	
<b>Application:</b>	
disposable sharp box for needle cutter	

### Further relevant information:

- ❑ Debris Pot is equipped with a screw top for safe disposal of the sharps
- ❑ Labelled with the international "Infectious" Sign
- ❑ Written: Treat as Clinical Waste (This pot contains the debris of used needles that may be contaminated with body fluids)

## **C) Small equipment**


## LOG-02-01 Infectious Waste Bin - Small

Item:	Photo / Drawing / Graphic
Infectious Waste Bin <i>Code: LOG-02-01</i>	
<b>Technical Data: (Main)</b>	
Volume	
Size	
Material	
<b>Application:</b>	
For the collection of infectious materials at wards, laboratory, etc.	

### Further relevant information:

- ☐ Bin must be marked with the bio-hazardous sign
- ☐ Preferred colour: Yellow or red- to be advised later
- ☐ Tight lid should prevent spreading of germs, odour
- ☐ Sturdy pedal system of high durability.
- ☐ Rounded edges for easy cleaning.
- ☐ Quiet opening without touching.
- ☐ Possibility to clamp a waste bag into the wastebasket enabled by its design
- ☐ To be used with LOG-01-07 Bag - infect - Auto. (Small)


## LOG-02-02 Infectious Waste Bin – Large

Item:		Photo / Drawing / Graphic
Infectious Waste Bin - Large Code: LOG-02-02		
Technical Data: (Main)		
Volume	About 60 litres	
Material	Plastic (PE)	
Application:		
For the collection of infectious materials at wards, laboratory, etc.		

### Further relevant information:

- ☐ Bin must be marked with the bio-hazardous sign
- ☐ To be preferred colour: Yellow or red- to be advised later
- ☐ Tight lid should prevent spreading of germs, odour
- ☐ Sturdy pedal system of high durability.
- ☐ Rounded edges for easy cleaning.
- ☐ Quiet opening without touching.
- ☐ Possibility to clamp a waste bag into the wastebasket enabled by its design

## LOG-02-04 General Waste Bin – large

Item:		Photo / Drawing / Graphic
General Waste bin Code: LOG-02-04		
<b>Technical Data:</b>	<b>(Main)</b>	
Volume	70 litres	
Size	500 x 675	
Material	Plastic (PE)	
<b>Application:</b>		
For the collection of non-risk waste (household waste) at wards, kitchen, etc. With lid to minimize odour.		

### Further relevant information:

- ☐ Light, easily moveable, frost- and UV-resistant.
- ☐ Resistant to acids and oils.
- ☐ With lid of the container to cover the content and prevent spread of odour.
- ☐ With ergonomically designed handles to simplify handling
- ☐ To be preferred colour: Black, blue or green. To be advised later


## LOG-02-06 Mobile Bag Stand

Item:	Photo / Drawing / Graphic
<p>Mobile Bag Stand Code: LOG-02-06</p>	
<p><b>Technical Data:</b> (Main)</p>	
<p>Volume Size Material</p>	
<p>For 80 litre bags 1180 x 460 x 920 Metal frame (galvanic zinking) with plastic lid (PE)</p>	
<p><b>Application:</b></p>	
<p>Triple-stand waste separator for the central separation of waste for recycling at wards, offices, kitchen, etc.</p>	

### Further relevant information:

- ☐ Easy and fast clamping of sacks enables easy handling of waste
- ☐ Rubber bumpers prevent objects in room against damage
- ☐ Lids with different colours (according to internal collection system)


## LOG-02-08 Glass collection bin

Item:		Photo / Drawing / Graphic
Bin for the collection of glass Code: LOG-02-08		
Technical Data:	(Main)	
Volume	50 litres	
Size	390 x 610	
Material	Plastic (PE)	
Application:		
For the de-central collection of glass for recycling. Glass is collected in the container. Container will be emptied directly at the waste function area.		

### Further relevant information:

- ☐ For a bin exchange system
- ☐ Light, easily moveable, frost- and UV-resistant.
- ☐ Resistant to acids and oils.
- ☐ To be preferred colour: Depending of recycling system (e.g. green)

## LOG-02-09 Outdoor - waste bin


Item:		Photo / Drawing / Graphic	
Outdoor Waste collector Code: LOG-02-09			
<b>Technical Data: (Main)</b>			
Volume	50 litre		
Material	Plastic with metal frame		
<b>Application:</b>			
For the outside collection of waste in public areas (pathways, etc.)			

### Further relevant information:

- ☐ Light, easily moveable, frost- and UV-resistant.
- ☐ Resistant to acids and oils.
- ☐ With a good standing and a possibility to fix on the ground
- ☐ Easy to be emptied with a key system
- ☐ Includes device for the extinguishing of cigarettes
- ☐ To be preferred colour: Orange or Green



## LOG-02-10 Needle Cutter


Item:		Photo / Drawing / Graphic
Needle Cutter Code: LOG-02-10 (Debris Pots: LOG-01-11)		
Technical Data: (Main)		
Volume	0,01 kg / h	
Material	Stainless Steel – debris pot: plastic	
Application:		
Needle cutters aim at reducing the sharp hazard at source by separating the needle from the syringe immediately after use.		

### Further relevant information:

- ☐ 5 years life span – 200.000 needles
- ☐ Insert the needle into the hole and cut the hub using the handle
- ☐ Plastic syringe bodies are put in a disposal box or bag for further recycling or disposal
- ☐ When the pot is 3/4 full, remove carefully and screw lid on top

## LOG-02-11 Multi purpose Bin – X-large


Item:	Photo / Drawing / Graphic	
General Waste bin Code: LOG-02-04		
Technical Data:		(Main)
Volume	80 - 100litres	
Size	About 500 x 800	
Material	Plastic (PE)	
Application:		
For the collection of different type of waste at wards, kitchen, etc. With lid to minimize odour.		



### Further relevant information:

- ☐ Light, easily moveable, frost- and UV-resistant.
- ☐ Resistant to acids and oils.
- ☐ With lid of the container to cover the content and prevent spread of odour.
- ☐ With foot-pedal for opening
- ☐ With ergonomically designed handles to simplify handling
- ☐ Needed colour for colour coding: Black, yellow and red. To be advised later

## LOG-03-01 Wheelie-Bin 240 l (General Wa.)

Item:		Photo / Drawing / Graphic
Wheelie-Bin 240 l for general Waste Code: LOG-03-01		
<b>Technical Data:</b> (Main)		
Volume	240 litres	
Material	HDPE	
<b>Application:</b>		
For the collection of normal waste bags, to be used as de-central collection point.		

### Further relevant information:

- ☐ Suitable for non-risk, solid waste
- ☐ Correspond to DIN 30 740.
- ☐ Resistant to UV radiation, lower and higher atmosphere temperatures.
- ☐ Smooth surfaces avoid waste adhering.
- ☐ Resistant to chemical and biological impacts.
- ☐ Manufactured from recyclable material without cadmium content.
- ☐ To be preferred colour: grey, black, green- to be advised later



## LOG-03-04 Bin trolley (infect. Waste)


Item:	Photo / Drawing / Graphic
Waste collecting trolley – Infectious Waste Code: LOG-03-04	
<b>Technical Data:</b> (Main)	
Wheels	
Size	
Material	
<b>Application:</b>	
For the internal transport of two (2) collection bins for infectious waste.	

### Further relevant information:

- ☐ With a ground clearance of not less than 200 mm
- ☐ Manufactured in a robust and stabile way
- ☐ To be preferred colour: Yellow

**Note: must be designed in a way to hold at least 2 bins of code: Log-03-03**

## LOG-03-06 Transport-Bin 240


Item:		Photo / Drawing / Graphic
Waste transportation bin – 240 l Code: LOG-03-06		
Technical Data: (Main)		
Volume	240 l	
Wheels	200 mm	
Standard	EN 840	
Material	Polyethylene	
Application:		
For the collection, storage and transportation of infectious waste on public streets		

### Further relevant information:

- ☐ Manual lock
- ☐ Special grey rubber 'no marking wheels'
- ☐ Hot printings: logo of the bio hazard symbol.
- ☐ Numbering of the bins.
- ☐ Preferred colour: Yellow or red

## LOG-03-07 Transport-Bin 770


Item:	Photo / Drawing / Graphic	
Waste transportation bin – 770 l Code: LOG-03-07		
Technical Data:		(Main)
Volume	770 l	
Weight	50 kg	
Material	Polyethylene	
Application:		
For the internal collection, storage and transportation of infectious waste		



### Further relevant information:

- ☐ Manual lock
- ☐ Special grey rubber 'no marking wheels'
- ☐ Hot printings: logo of the bio hazard symbol.
- ☐ Numbering of the bins.
- ☐ To be preferred colour: Yellow or red

## LOG-03-08 Chem. Transp. Box (Small)



Item:		Photo / Drawing / Graphic
Chemical waste transportation box (Small) Code: LOG-03-08		
Technical Data: (Main)		
Volume	60 l	
Size	600 × 400 × 340	
Material	Aluminium or PP	
Application:		
For the internal collection and transportation of hazardous, chemical waste		

### Further relevant information:

- ☐ Stackable universal box fabricated from high-strength aluminium or polypropylene.
- ☐ Can be loaded on to pallets, to suit pallet dimensions to DIN 15 141.
- ☐ Lid with stainless steel strap hinge, seal, retaining straps, stacking corners in light metal alloy.
- ☐ Edges reinforced by means of high-quality extrusions.
- ☐ Reinforcement by means of peripheral beading and corner beading.
- ☐ Spot-welded body sheet jointing.
- ☐ Ergonomic sprung drop-type handles, plastic-covered.
- ☐ Special latches secured by means of lead seals and/or padlock. Manual lock




## LOG-03-11      Transport container for bio-hazardous waste

Item:	Photo / Drawing / Graphic
<p>Transport container for solid bio-hazardous waste Code: LOG-03-11</p>	
<p><b>Technical Data:</b>                      <b>(Main)</b></p>	
<p>Volume</p>	
<p>125 l</p>	
<p>Size (about)</p>	
<p>600x450x450</p>	
<p>Material</p>	
<p>Polyethylene</p>	
<p><b>Application:</b></p>	
<p>Designed for the storage and small scale transportation (below 333 kg per transport) of collected bio-hazardous waste from small generators. Maximum load 10kg.</p>	

### Further relevant information:

- ☐ Suitable for storing and transportation of minor amounts of infectious waste from minor waste generators.
- ☐ Sturdy structure enables multiplied stacking.
- ☐ The container is equipped with removable but closable lid.
- ☐ Front flat areas enable placing of identification (type of waste - labels).

## LOG-03-12      Barrel for solid Hazardous Waste

Item:		Photo / Drawing / Graphic
Storage barrel for solid, less hazardous waste Code: LOG-03-12		
Technical Data: (Main)		
Volume	200 l	
Material	Polyethylene	
Application:		
Designed for the storage and transportation of less hazardous waste as pharmaceutical waste, etc.		

### **Further relevant information:**

- ☐ Suitable for storing and transportation of less hazardous solid waste as outdated pharmaceuticals, etc.
- ☐ With a removable lid.
- ☐ Sturdy structure enables multiplied stacking.
- ☐ The container is equipped with a strong strap for fastening the lid with the barrel

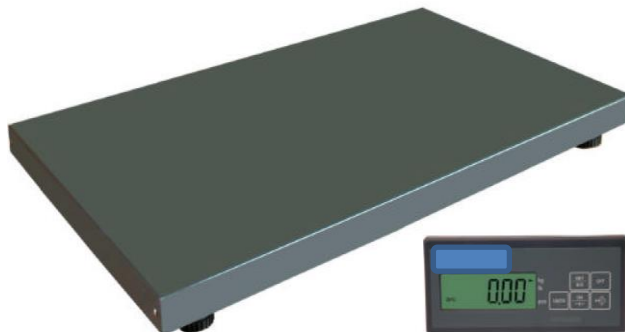
## LOG-03-14      Ground scale - mechanical

Item:	Photo / Drawing / Graphic
Universal ground scale - Mechanical Code: LOG-03-14	
<b>Technical Data:</b> (Main)	
Capacity150 kg	
Division scale100 g	
Dimension weighing platform:800X600	
<b>Application:</b>	
Universal floor scale for the weighing of different kind of bins and containers.	

### **Further relevant information:**

- ☐ Robust ground scale, easy to clean and to disinfect
- ☐ Clear and easy to read weight
- ☐ Splash water proof


## LOG-03-15      Ground scale - electronic

Item:		Photo / Drawing / Graphic
Universal ground scale <i>Code: LOG-03-15</i>		
<b>Technical Data:</b>	<b>(Main)</b>	
Capacity	150 kg	
Division	100 g	
Tare weight	100 %	
Power supply	AC/DC	
	adaptor/battery	
Operating Temp.:	5-35 °C	
Dimension:	900X550X6	
<b>Application:</b>		
Digital universal ground scale for the weighing of different kind of bins and containers.		

### Further relevant information:

- ☐ Power supply unit: 230 V AC 9V/300mA ; battery operation
- ☐ Clear LCD Display (with letter >25 mm high)
- ☐ Splash water proof
- ☐ Digital indicator can be wall mounted and is connected to the weighing platform by a spiral extension cable (Length >1 m)


## LOG-03-16 Pressure Sprayer

Item:	Photo / Drawing / Graphic
<p>Mobile pressure cleaner for daily commercial use. With standard accessories: Pivoting stainless steel spray lance, flexible high-pressure hose, Easy-Press trigger gun, shoulder strap. <i>Code: LOG-03-16</i></p>	
<p><b>Technical Data: (Main)</b></p>	
<p>Holding tank 5 l</p>	
<p>Operating pressure 6 bar/MPa</p>	
<p><b>Application:</b></p>	
<p>For cleaning and disinfection of surfaces, containers, other ranges</p>	

### Further relevant information:

- ☐ Steel sheet container, hot-dip galvanizes
- ☐ Manometer, bleeder valve,
- ☐ TÜV and GS certificated
- ☐ Different kinds of nozzles (accessories)
- ☐ Pump to create compression


## LOG-03-17 Water hose

Item:		Photo / Drawing / Graphic
Water hose with rack Code: LOG-03-17		
Technical Data: (Main)		
Length	10 m	
Material	Plastic	
Application:		
For usage of cleaning of bins – the water hose should be equipped with nozzle and a holding devise for wand moulding.		

### Further relevant information:

- ☐ Special hose with textile inlay and spiral wound cross-weave.
- ☐ Flexible and pressure-resistant.
- ☐ With a spraying nozzle with water stop
- ☐ With a tap connector 1/2"


## LOG-03-18 Cold-water high-pressure cleaner

Item:	Photo / Drawing / Graphic
<p>Cold-water high-pressure cleaner Code: LOG-03-18</p>	
<p><b>Technical Data:</b> (Main)</p>	
<p>Power supply Water flow rate Operating pressure</p>	
<p>Max. water feed temp. Weight Connected load Dimensions (l x w x h)</p>	
<p><b>Application:</b></p>	
<p>For the cleaning of waste bins and containers With standard accessories: Pivoting stainless steel spray lance (850 mm), Triple nozzle 0°/25°/40° High-pressure hose 10 m Easy-Press trigger gun</p>	

### Further relevant information:

- ❑ Full shock-resistant plastic covering to protect the high-pressure pump and the motor from damage and soiling, electric cable retractor (with plug lock) and a nozzle compartment on the back of the unit.
- ❑ Included is a three-way nozzle (high-pressure pencil jet, a high-pressure fan jet (25°), low-pressure fan jet.).
- ❑ Large-volume oil container to ensure that the unit is always adequately lubricated, with oil level inspection glass.
- ❑ Three-piston axial pump with stainless steel pistons and a brass cylinder head (both the water inlet and the high-pressure outlet are made of brass, which makes them highly resistant to fracture and corrosion).

## LOG-04-02 Shelf for reactive liquids

Item:		Photo / Drawing / Graphic
Shelf for chemical waste storage Code: LOG-04-02		
Technical Data: (Main)		
Size	1355x445x2200	
Material	Galvanized steel	
Shelves	4	
Shelf Spillage Tray	Plastic (PP)	
Application:		
<ul style="list-style-type: none"><li>- shelf for corrosive / reactive fluids</li></ul>		



### Further relevant information:

- ☐ Containment Shelving is designed for storing small containers.
- ☐ Shelving provides separation of materials
- ☐ Shelves made of durable galvanized steel
- ☐ Steel uprights are coated with an corrosion resistant coating
- ☐ Plastic Liner to be placed in shelves when storing acids and corrosives



## LOG-04-03 Shelf for water polluting liquids


Item:	Photo / Drawing / Graphic	
Shelf for water polluting liquids Code: LOG-04-03		
Technical Data:		(Main)
Size	1355x445x2200	
Material	Galvanized steel	
Shelves	4	
Containment Volume of Shelves	4 x 25 l	
Application:		
For proper storage of flammable liquids F+, F and water polluting liquids in water pollutant in accordance with the regulations.		



### Further relevant information:

- ☐ Containment Shelving is designed for storing small containers.
- ☐ Shelving provides separation of materials
- ☐ Shelves made of durable galvanized steel
- ☐ Steel uprights are coated with an corrosion resistant coating


## LOG-04-05      60 l Drum for storage of mercury waste

Item:		Photo / Drawing / Graphic
Storage Drum for solid chemical waste Code: LOG-04 -05		
<b>Technical Data:</b> (Main)		
Volume	60 l	
Material	Plastic (PE)	
<b>Application:</b>		
For the central storage of mercury containing solid waste.		

### Further relevant information:

- ☐ Material not reacting with corrosive material
- ☐ Closable with a lid
- ☐ Strong plastic
- ☐ Liquid proofed

## LOG-04-08 Freezer for pathological waste


Item:		Photo / Drawing / Graphic
Pathological waste compression-cycle freezer Code: LOG-04-08		
Technical Data: (Main)		
Volume	> 200l	
Temperature	<-15°C	
Material	CFC/HCFC/HFC free	
Power	refrigerant 220-240 volt 50/60 Hz	
Application:		
Designed to deep-freeze and store pathological waste, placentas, etc.		

### Further relevant information:

- ❑ Stable temperature control in a range below -15°C
- ❑ Hot zone appliances, must operate at a steady +43°C ambient temperature and over a +43°C/+25°C day/night cycling temperature range.
- ❑ Refrigeration cycle: Compression-cycle unit operating on alternating current electricity.
- ❑ The waste load must remain below -15°C during any continuous ambient temperature test(s) or day/night cycling temperature test(s).
- ❑ Externally readable cabinet-mounted gas or vapour or electronic thermometer
- ❑ The door or lid must be fitted with a lock. Two keys are to be supplied with every unit
- ❑ Internal and external cabinet, lid and frame protected against corrosion
- ❑ Manufacturer to certify compliance with IEC 60335-1 and IEC60335-2-24.
- ❑ All electrical components must be compatible with voltage stabilizers that use tap-changing technology
- ❑ With a power lead with a sealed-on plug compatible with the electricity socket standard in the country where the equipment is to be installed. The power lead must be at least 1.5 meters.
- ❑ Controls, thermometer and other visual displays may be positioned on the front of the unit
- ❑ Refrigerant: HC (hydrocarbon) refrigerant.
- ❑ CFC (chlorofluorocarbon), HCFC (hydrochlorofluorocarbon) and HFC (hydrofluorocarbon) gases are not acceptable.
- ❑ Thermal insulation foaming agents: Any gas complying with the limitations and deadlines set by the Montreal Protocol on the elimination of ozone-depleting chemicals.
- ❑ User and maintenance instructions in Russian and English. The instructions are to be written for users and repair technicians and are to cover the following topics:
  - installation procedures;
  - compatible types of voltage stabilizer;
  - temperature adjustments (if applicable);
  - simple daily, weekly and monthly maintenance tasks;
  - periodic preventative maintenance checks;
  - diagnostic and repair procedures;
  - itemized list of spare parts including part numbers;
  - end-of-life resource recovery and recycling procedures.

## **D) Waste treatment equipment**

## TRE-02-04 Manual Fractionated Treatment Equipment, >400 l

Item:	Photo / Drawing / Graphic	
Manual operated Treatment Equipment for the treatment of infectious waste, horizontal loading, vacuum-steam-vacuum type Code: TRE-02-03		
<b>Technical Data:</b> (Main)		
Capacity:		> 30 kg/h > 275 l/h
Chamber size		> 400 l
Material		Stainless steel
Temperature	121°C, 134°C	
<b>Application:</b>		
For the treatment of infectious waste in medium hospitals. Including: Waste loading trolleys and basket (2x) Water softener unit (1x) Air compressor (1x)		

### Further relevant information:

#### NOTE:

- Bidders may propose any product/system which is equivalent or better than the requirements specified in the following.
  - All equipment needing consumables must allow the possibility to use generic and/or locally made consumables and/or disposables. Compliance to this condition must be declared here by the bidders.
  - Bidder shall furnish a clause-by-clause commentary on the requirements below. Bidder who comment with texts such as "Refer to catalogue", copying texts directly from the technical specifications form, leave any parameter line blank and/or submit any text or content of this nature would be considered as NON-RESPONSIVE.
- ☐ A floor standing, single door, horizontal sterilizer for sterilizing of bio-contaminated (infectious) waste, design based on EN 285 requirements
  - ☐ The unit shall be of fractionated vacuum type (pre-vacuum with several steam and vacuum pulses) to allow the safe processing of infectious waste
  - ☐ Manual controls (mechanical wheel and cam system) to permit manual operation following the required sequential modes of operation.
  - ☐ Recommended sequential modes of operation
    - Steam mode 1 up to 180 kPa
    - Vacuum mode 1 to -50 kPa
    - Steam mode 2 up to 180 kPa
    - Vacuum mode 2 up to - 50 kPa
    - Sterilizing mode for 15 minutes
    - Drying mode for 10 minutes
    - Door release mode

#### Chamber:

- ☐ Treatment Equipment shall be horizontal, rectangular single ended construction with internal sterilizing chamber size: approximately 4000 litre. The chamber shall be able to

hold a loading trolley with an effective volume of not less than 275 l. Bidder shall indicate the inside dimension of the loading trolley offered in HxWxL in mm.

- ❑ Double-jacket pressure chamber shall be thermally insulated with environmental friendly materials. Bidder to indicate insulation materials here.
- ❑ Working pressure: 2 bar (0.2 MPa). Tested at 5 bar
- ❑ Chamber shall be made of stainless steel construction.
- ❑ Main shell – 304L stainless steel; jacket cells – A240 type 304L stainless steel
- ❑ Chamber provided with rails to allow smooth loading of loading rack
- ❑ Front panel and casing in stainless steel

Door:

- ❑ Shall be a single door system and the door shall be made of stainless steel material equivalent to the standard specified above for the chamber
- ❑ Quick opening sliding door with expanding gasket
- ❑ The door should be thermally insulated with environmental friendly materials sealed with silicon gasket.
- ❑ A safety mechanism shall be provided to prevent the cycle being started until the door is locked and sealed and to prevent the door being opened until chamber pressure is at atmospheric pressure.

Vacuum pump and steam generator:

- ❑ Treatment Equipment shall be provided with a built-in automatic electric steam generator, capacity adapted to needs. With average steam pressure up to 2 bar (0.2 MPa)
- ❑ With controlled pressure valve for steam release to prevent over boiling of liquid products.
- ❑ The Treatment Equipment shall be provided with a built-in steam ejector system capable of achieving -60 kPa;
- ❑ Meets section 8.2.2 of EN 285:2006+A2:2009 (i.e., uniform colour change throughout a Bowie-Dick indicator when tested on the empty Treatment Equipment)
- ❑ The process shall include pulsating pre-vacuum and post vacuum phase for effective air removal from the chamber, it shall also include a drying phase.

Controls:

- ❑ Recording: Recording of temperature using a graph or printout; printed records should be readable for 3 years.
- ❑ Overpressure safety relief valve and pressure limiting
- ❑ Control to keep the pressure below the maximum allowable pressure
- ❑ Display indicators: Pressure gauge readable by normal vision from a distance of  $(1.00 \pm 0.15)$  m
- ❑ Indicator for temperature  $\pm 1\%$  accuracy or better over the scale range 50°C to 150°C
- ❑ Indicator for pressure  $\pm 1.6\%$  or better over the scale range -1 bar to 3 bar

Chamber Drain System:

- ❑ Steam and condensate discharged from the chamber shall be cooled by a high capacity water cooled condenser to reduce discharge temperature to less than 60 degrees C to avoid risk of damage to the building drainage system.
- ❑ Condenser shall be made of stainless steel with large cooling surface.
- ❑ With validation ports for external temperature sensors for validation and qualification checking purposes.
- ❑ The Treatment Equipment offered must comply with the directives and requirements specified in the relevant safety standards below:
  - European Committee for Standardization (CEN)
  - EN285 (Norm for large sterilizer) or must exceed STAATT Level III microbial inactivation efficacy criterion
  - IEC 60601 Electrical equipment for medical use or IEC 61010-2-040, UL 61010A-2-041, or equivalent electrical safety standard.
  - Other relevant accepted safety standards

- Bidder must attach such certificates.

□ Power Supply: 3 phase 380V 50Hz

Exhaust Air Treatment:

- For the treatment of the outgoing air. Air removed during the vacuum cycle must be decontaminated by mixing with steam to prevent release of pathogens.
- The filters must be heat resistant, steam resistant, hydrophobic and pressure resistant for the pressure difference. Only validated membrane filters with a validation of 0.01µm in gaseous substances and 0.2µm for liquids shall be allowed

Ancillary:

- 2 units of loading basket on 4 temperature resistant wheels, for loading of up to 275 l of infectious waste. The framework and construction shall be made of stainless steel DIN 1.4301 or 304 stainless steel or other equivalent standards. The basket shall be equipped with the possibility to collect up to 5l liquids generated during treatment and with a steam resistant valve to empty the basket.
- 2 units of transport trolley for carrying the loading rack with 4 lockable castors, pushing handles with coupling device for connecting and disconnecting to the sterilizer. Cart construction made of stainless steel DIN 1.4301 or 304 stainless steel or other equivalent standards.
- Water softening equipment, capacity adapted to the need of the above Treatment Equipment. Bidder shall indicate the capacity of the unit offered.
- The unit offered shall be certified to meeting the relevant requirements, especially the relevant of safety requirements for pressurized equipment, of TUV, BS, CE mark (MDD), FDA, MOL, AFS, ASME and etc.
- The system offered shall be designed to be able to decontaminate infectious waste packed in plastic bags. A certificate of the homologation test for the sterilization of infectious waste with the offered system issued by a recognized institute (e.g. Robert Koch Institute, Pasteur Institute, etc.) or by an UN organization must be provided.
- The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.
- Please declare in detail compliance of this item offered with any relevant quality and safety standards.

Accessories:

- All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer. Bidders shall specify, in a separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in Part A above.
- All applicable standard Maintenance tools and cleaning /lubrication materials shall be included. Bidders shall specify, in a separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in Part A above.

Following accompanying documents should be supplied with the treatment system and shall be available at the Site (all documents in English and in local language):

- (A) Detailed Operation instructions (including process description)
- (B) Waste loading and maintenance procedures.
- (C) Short-form of operation and loading procedures.
- (D) P&I diagram, circuit plan, technical data sheet, pressure vessel certificate.

□ Treatment Equipment – spare part set:

- Supply of all needed spare parts for at least 1000 treatment cycles
- At least:
  - Paper and pens for the cycle printer (if included)
  - 1 full set of heating element and lid seal
  - 1 full set of all filters needed (includes validated exhaust air-filter)

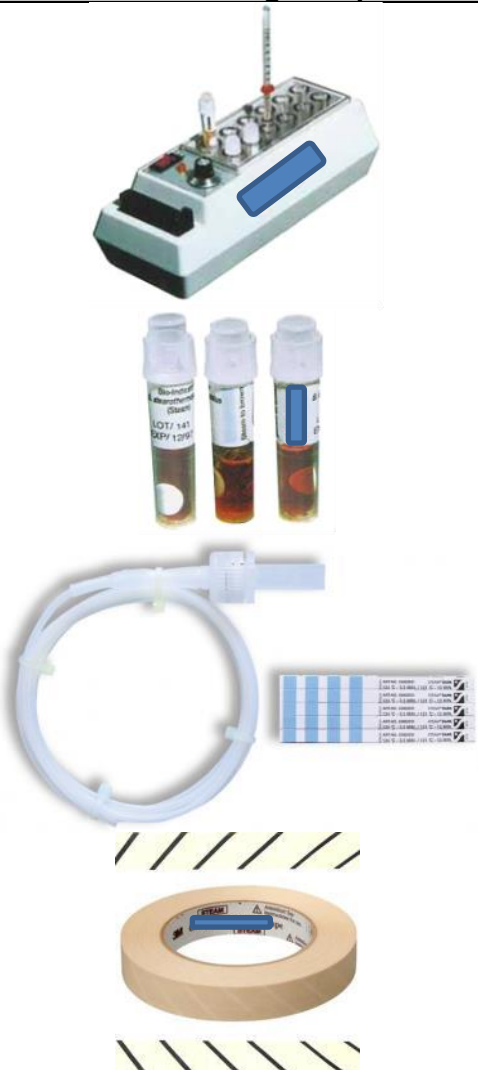
## Reducing UPOPs and Mercury Releases from The Health Sector in Africa

---

- 1 pressure and 1 temperature indicator,
- 1 safety valve
- 10 sets of fuses








## TRE-03-02 Treatment Equipment Monitoring set

Item:	Photo / Drawing / Graphic
Monitoring equipment Code: TRE-03-02	
<b>Technical Data:</b> (Main)	
See below	
See below	
<b>Application:</b>	
Package for the successful operation of the Treatment Equipment system for the first 12 month	

### Further relevant information:

- Treatment Equipment – monitoring equipment
  - Supply of needed monitoring equipment for at least 1000 treatment cycles
  - At least:
    - 1000 chemical indicators test stripes (for fractionated vacuum-steam-vacuum Treatment Equipment, 121/134°C) ISO 11140 - 1: 2005: Class 5 Integrating Indicators
    - 150 biological spore test (Bacillus Stearothermophilus)
    - 1 incubator for spore test (see picture)
    - 50 Bowie-Dick tests (for vacuum Treatment Equipment only), lead-free and no toxic heavy metals, conforms to EN ISO 11140-4
    - 5 rolls of Treatment Equipment tape
- Helix Process Challenges Device for chemical indicators (PCD test): Teflon tubing which is connected to a capsule inside where a chemical indicator strip is put, 1,5 m long – 2mm diameter including chemical Indicators strips for the PCD helix (250 pcs.)


## TRE-03-05 Tool-Box „Basic Maintenance“

Item:	Photo / Drawing / Graphic
<p>Tool-Box „Basic Maintenance“</p> <p>Code: TRE-03-05</p>	
<p><b>Contents of Toolbox (Main)</b></p>	
<p>Adapted steel enamel chest, size approx. L 80 x W 60 x H 50 cm; must include and come with the following tools:</p> <ol style="list-style-type: none"> <li>1. Set of 12 spanners, 6 x 7 and 27 x 32</li> <li>2. Set of hexagonal keys, male, 1,5 to 5 mm</li> <li>3. Self-gripping Pipe Wrench, 25 cm, 40 cm</li> <li>4. Screwdriver, set, slotted, 4, 6.5, 8 x 120 mm</li> <li>5. Claw Hammer, approx. 500 gr., high quality</li> <li>6. Screwdriver crossing blade, 7 x 125 mm, 9 x 150 mm, 10 x 175 mm</li> <li>7. Set of cleaning brushes</li> <li>8. Heavy duty knife, blade 125 x 25 mm</li> <li>9. Philips screwdriver, 5 x 60 mm, 6 x 100 mm</li> <li>11. Cutting pliers</li> <li>12. Pelican grip</li> <li>13. Vice grip</li> <li>14. Mounting saw</li> <li>15. Case 10 blades</li> <li>16. Square point</li> <li>17. Half-round file set with plastic handle</li> <li>18. Flat file set with wood handle</li> <li>19. Center Punch</li> <li>20. Stitch mason</li> <li>21. Level</li> <li>22. Measuring tape, 5 m</li> <li>23. Pipe wrench</li> <li>24. Pipe wrench with chain</li> <li>25. Pipe cutter (0,5" – 2")</li> </ol>	   
<p><b>Application:</b></p>	
<p>For the maintenance of water system and sewage line.</p>	

### Further relevant information:

- Tools made of high quality. All components chrome vanadium steel with chrome mirror finish or full shock-resistant plastic

## TRE-03-07 Temperature testing tool


Item:		Photo / Drawing / Graphic
Logger and Thermocouple  Code: TRE-03-07		
Technical Data: (Main)		
Data logger (1)	-100°C to + 1300°C	
Thermocouple (5x)	Diameter: 0,3 mm Length: 2000 mm	
Software	Included	
Application:		
Testing equipment for testing of operating temperatures of Treatment Equipment and incinerators		

### Further Relevant information:

Data logger	
Data record	up to 10000 readings per channel
Accuracy	± 0.1% of reading +0.7°C (-100°C to + 1300°C)
Resolution	0.1°C/°F/K
Power supply	4 AAA batteries
Thermocouple	
Semi rigid thermocouples	
Mineral Insulated Thermocouple with Pot Seal	
Insulated junctions to prevent earth loops and can be formed to shape to suit particular applications without impairing performance.	
Range of temperature	- 100 – 1300 °C
Diameter	3.0 mm
Length	2000 mm

To be included: Vacuum and pressure proof connector for validation port (1/2") for external temperature sensors for validation and qualification checking purposes.

## TRE-04-01 On-site shredding system (small)

Item:	Photo / Drawing / Graphic
<p>On-site shredding system for decontaminated healthcare waste (small type)</p> <p>Code: TRE-04-01</p>	
<p><b>Technical Data:</b> (Main)</p>	
<p>Cutting unit mouth: about 400 x 250 mm</p> <p>Shaft diameter: &gt;45 mm</p> <p>Dimensions of cutting unit: About 1000 x 450 mm</p> <p>Overall height: Below 2 m</p> <p>Total weight: 230 Kg About 200 kg</p> <p>Drive power: &gt;2 kW</p> <p>Funnel mouth: About 600 x 450 mm</p>	
<p><b>Application:</b></p>	
<p>Shredding machine (rotor shear type) for volume reduction (up to 80%) and for the rendering of waste unrecognizable.</p>	

### Further Relevant information:

The shredding machine must be suitable for wet waste.

Requested Throughputs:

- Kitchen waste, bones, food leftovers, wet waste: ca. 100 kg/h
- Plastic containers up to 2 l: ca. 100 kg/h
- Metal containers up to 2 l: ca. 150 kg/h
- Syringes, tubes: ca. 100 kg/h
- Turnings: ca 1,5 m<sup>3</sup>/h


The shredding machine must follow the operating principle of rotor blades

- Two shafts rotating in opposed cutting directions.
- If a fault occurs, the cutting unit must stop automatically.
- After fault, the cutting unit must go into reverse and then rotates again in cutting direction.

Further Requirements:

- The machine must be a smoothly and slowly running cutting unit ensures low dust, vibration and noise generation.
- Must have an extremely robust design guarantees high operating safety and low susceptibility to faults.
- Must include an overload protection which is linked to motor speed and temperature to protect the machine and minimize failures.
- Make-up welding must ensure low cost of wear and tear.

## TRE-04-02 On-site shredding system (Medium)

Item:	Photo / Drawing / Graphic													
<p>On-site shredding system for decontaminated healthcare waste (medium type)</p> <p>Code: TRE-04-02</p>														
<p><b>Technical Data: (Main)</b></p>														
<table border="1"> <tr> <td>Cutting unit mouth:</td><td>about 400 x 350 mm</td></tr> <tr> <td>Shaft diameter:</td><td>&gt;55 mm</td></tr> <tr> <td>Dimensions of cutting unit:</td><td>About 1000 x 450 mm</td></tr> <tr> <td>Overall height:</td><td>Below 2 m</td></tr> <tr> <td>Total weight: 230 Kg</td><td>About 500 kg</td></tr> <tr> <td>Drive power:</td><td>&gt;5 kW</td></tr> <tr> <td>Funnel mouth:</td><td>About 750 x 650 mm</td></tr> </table>		Cutting unit mouth:	about 400 x 350 mm	Shaft diameter:	>55 mm	Dimensions of cutting unit:	About 1000 x 450 mm	Overall height:	Below 2 m	Total weight: 230 Kg	About 500 kg	Drive power:	>5 kW	Funnel mouth:
Cutting unit mouth:	about 400 x 350 mm													
Shaft diameter:	>55 mm													
Dimensions of cutting unit:	About 1000 x 450 mm													
Overall height:	Below 2 m													
Total weight: 230 Kg	About 500 kg													
Drive power:	>5 kW													
Funnel mouth:	About 750 x 650 mm													
<p><b>Application:</b></p>														
<p>Shredding machine (rotor shear type) for volume reduction (up to 80%) and for the rendering of waste unrecognizable.</p>														

### Further Relevant information:

The shredding machine must be suitable for wet waste.

Requested Throughputs:

- Plastic containers up to 20 l: ca. 150 kg/h
- Metal containers up to 10 l: ca. 400 kg/h
- Glass, bottles: ca. 1,5 m³/h
- Biowaste, bones: ca 1,5 m³/h
- Turnings: ca 2 m³/h

The shredding machine must follow the operating principle of rotor blades

- Two shafts rotating in opposed cutting directions.
- If a fault occurs, the cutting unit must stop automatically.
- After fault, the cutting unit must go into reverse and then rotates again in cutting direction.

Further Requirements:

- The machine must be a smoothly and slowly running cutting unit ensures low dust, vibration and noise generation.
- Must have an extremely robust design guarantees high operating safety and low susceptibility to faults.
- Must include an overload protection which is linked to motor speed and temperature to protect the machine and minimize failures.
- Make-up welding must ensure low cost of wear and tear.