

Bio Medical Waste Management- Strategies for Waste Disposal

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Bio Medical Waste Management



The Rules

- By section 6, 8 and 25 of the Environment (Protection) Act, 1986 the Central Government notified the rules for the management and handling of bio-medical waste
- The rules are called the Bio-Medical Waste (Management and Handling) (Second Amendment) Rules, 2000
- Apply to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any form

BMW(Management and Handling) (Second Amendment) Rules, 2000

- "Bio-medical waste"
 - Diagnosis ,treatment or immunisation of human beings or animals
 - In research activities pertaining thereto
 - In the production or testing of biologicals,
- "Occupier" -a person who has control over that institution and/or its premises;

Duty of Occupier

- To take all steps to ensure that such waste is handled without any **adverse effect to human health and the environment**
- Bio-medical waste shall be treated and disposed of in accordance with Schedule I, and in compliance with the standards prescribed in Schedule V

Schedules 1 & 2

Cat 1

Human
Anatomical
Waste

Incineration,
Deep Burial

Yellow Bag

Cat 3

Microbiology &
Biotechnology
Waste

Autoclave,
Microwave,
Incineration

Yellow Bag

Cat 4

Waste Sharps

Chemical
disinfection,
Autoclaving/
Microwaving

Blue Puncture
Proof Box

Schedules 1 & 2

Cat 5

Discarded Medicines

Incineration,
Secured Land
fill

Yellow Bag

Cat 6

Soiled Waste

Autoclave,
Microwave,
Incineration

Yellow Bag

Cat 7

Solid Waste
(Non sharp
disposables)

Mutilate followed
by Autoclaving/
Microwaving

Blue Bag

Simplifying Matters

- Sharps
- Puncture proof boxes

Mutilate &
Autoclave/MW

- Disposables
- Blue Bags

Mutilate &
Autoclave/MW

- Everything else
- Yellow Bags

Incineration

Treatment & Disposal

- Every occupier will set up facility or join CTF
- The Municipal body of the area shall continue to pick up and transport for disposal at municipal dump site
 - segregated non bio-medical solid waste generated in hospitals and Health Centres
 - **duly treated** bio-medical wastes

Segregation and Packing

- BMW shall not be mixed with other wastes
- BMW shall be segregated into containers/bags at the point of generation prior to its storage, transportation, treatment and disposal.
- The containers shall be labelled according to Schedule III

Schedule 3



Transport & Storage

- No untreated bio-medical waste shall be kept stored beyond a period of 48 hours
- If kept the authorised person must take permission of the prescribed authority and take measures to ensure that the waste does not adversely affect human health and the environment

Authorisation

- Every occupier of an institution generating, collecting, receiving, storing, transporting, treating, disposing and/or handling bio-medical waste in any other manner, except such occupier providing services to less than 1000 (one thousand) patients per month, shall make an application in Form 1 to the prescribed authority for grant of authorisation.

Mode of getting Authorisation

- From www.wbpcb.gov.in
 - Download form
 - Challan
 - Address of Regional Office of PCB
 - Address of UBI Bank Branch
- Fill up form, challan and get countersigned by the officer of regional office
- Deposit fee (Rs 300) and submit form and challan to Regional office
- Collect authorization certificate from regional office

Action by the Occupier

Application for Authorisation

Collect form from WBPCB

Pay the required charges



Sign the MoA with the BMWCTF and give work order for collection

Submit form with copy of MoA

Collect the Authorisation Certificate



Prepare and execute the BMW Management Plan

Procure the logistics including CCS

Start segregation and send for disposal



Sustaining the Process

Record of mid night census and waste collected

Payment of bills

Amount of Waste Generated per day*

- For bedded Institutions
 - 750 gms/bed/day
 - 60% general
 - 40% BMW – 300 gms/bed/day
- For non bedded institutions
 - 10 gm/beneficiary/day
 - 80% BMW- 8 gm/beneficiary/day
 - 20% General
 - * Study on BMWM by DISHA & GTZ
 - Tamil Nadu 1 -1.5 kg /bed/day

No of Bags Generated Per Day

- Add together the workplaces
 - No of wards
 - OT
 - Labour Room
 - Emergency
 - OPD
- At least the above number of blue and yellow bags each

4 Key Steps

- Segregation at point of generation & storage in colour coded bags placed in reusable containers
- Transportation of bags to common waste collection site
- Transportation to Waste treatment facility
 - On site
 - Off site
- Final disposal

BMW Management Plan

- Read the government order with its annexures in full
- Set up a BMWM committee and monitoring team with defined responsibilities
- All Doctors, Nurses and Technicians to ensure segregation of waste at point of generation

BMW Management Plan

- Mark out site of placement of bins and common collection site
- Procure and use logistics rationally
- Set up collection and transport system from workplace to common collection site
- Ensure correct final disposal

Use of services of BMWCTF

- Enter into contract with BMWCTF authorized for your area
- Procure bags, bins, Puncture Proof boxes, needle cutters, adhesive tape- RKS funds or through DRS
- Identify a Common Collection Site
- Collect BMW from workplaces and transport to Common Collection Site
- Hand over waste and data on mid night census
- Seek allotment from Addl DHS (AAV) in BMW Head
- Pay bills quarterly

Last Thoughts

- Ensure that each facility has a written BMW Management Plan
- Training should be part of preparation of the Plan. Training should not be an end by itself.
- Have a checklist for all workplaces
 - Needle cutters functional
 - At least 1 blue and 1 yellow bag removed daily