BIO-MEDICAL WASTE MANAGEMENT (AMENDMENT) RULES -2018
BIOMEDICAL WASTE RULES APPLY TO:-

All who generate, collect, receive, store, transport, treat, dispose, or handle biomedical waste :-

- Hospitals,
- Nursing homes
- Clinics
- Dispensaries,
- Veterinary institutions
- Animal houses,
- Pathological laboratories (irrespective of the size)
- Blood banks,
- Clinical establishments
- Research or educational institution
- Health camps,
- Medical or surgical camps,
- Vaccination camps,
- Blood donation camps,
- First aid rooms of schools,
- Forensic and research labs.
- Ayush hospitals,
WHY BMW Rules?

Hospital or Lab/Infectious waste is not dumped in open ground .... potentially hazardous to the environment and human beings.
BMW RULES COMPRIS OF :-

➢ 18 Rules, 4 Schedules, and 5 Forms
➢ Schedule I BMW color coding, collection, treatment and disposal
➢ Schedule II Standards for treatment and disposal
➢ Schedule III Prescribed Authorities and Responsibilities
➢ Schedule IV Labels for BMW containers and Bags
➢ Form I Accident Reporting
➢ Form II and III Application and Authorization document
➢ Form IV Annual Report
➢ Form IVA Annual Report by SPCB or AFMS to CPBB
➢ Form V Appeal
DEFINITIONS COMMONLY USED IN BMW

OCCUPIER means a person having administrative control over the institution and the premises generating bio-medical waste, which includes a hospital, nursing home, clinic, dispensary, veterinary institution, animal house, pathological laboratory, blood bank, health care facility and clinical establishment, irrespective of their system of medicine and by whatever name they are;

OPERATOR of a common bio-medical waste treatment facility" means a person who owns or controls a Common Bio-medical Waste Treatment Facility (CBMWTF) for the collection, reception, storage, transport, treatment, disposal or any other form of handling of bio-medical waste;
KEY FUNCTIONS – AUTHORISATION

Every occupier or operator handling bio-medical waste, irrespective of the quantity shall make an **application in Form II** to the prescribed authority i.e. State Pollution Control Board and Pollution Control Committee, for grant of authorisation.

**Prescribed authority** shall grant the authorisation in **Form III** and the validity of authorisation synchronised with validity of consent orders. One time authorisation for non bedded HCF.
KEY FEATURES BMW

Occupier or Operator shall make an application in Form II

State Pollution control Board

Grant authorization in Form III
PROCESS FLOW OF BMW

- Generation
- Segregation
- Collection
- Storage
- Transportation
- Treatment & Disposal
WASTE CATEGORIZATION

- Non Infectious: 75-85%
- Infectious: 10-15%
- Hazardous: 5-15%
How to segregate waste .... in Non Chlorinated Bags
What goes in RED BAG

➢ Disposable contaminated waste which can be recyclable – will be disposed by autoclaving treatment followed by shredding
➢ Tubing, bottles,
➢ Intravenous tubes and sets, catheters, urine bags,
➢ Syringes (without needles and fixed needle syringes) and
➢ Vaccutainers with their needles cut and gloves.
WHAT GOES IN YELLOW BAG

➢ Human anatomical wastes
➢ Body parts / tissues etc
➢ Cotton dressings, plaster casts Gauze pieces
➢ Antibiotics and other drugs
➢ Microbiology waste
➢ Culture devices, stocks or specimen of microorganisms
➢ Discarded linens, mattresses, dressings soiled with blood or body fluids, routine masks and gown.
WHAT GOES IN BLUE BAG...Puncture proof or leak proof Container

Glassware – broken, Contaminated glass Medicine Vials, ampoules etc
WHAT GOES IN WHITE PUNCTURE PROOF CONTAINER

- White (Translucent) – Waste sharps including metals – packed in puncture proof containers
- Needles, syringes with fixed needles
- Scalpels, Blades, lancet
- Suture needle, aluminum foil
- Any contaminated sharp object causing puncture/cuts

Handed over to Waste Agency… when 2/3 full.
CHEMICAL/LIQUID WASTE

liquid waste: To be treated with 1 to 2% Hypochlorite or to have an ETP.

Floor washing etc should be pre-treated onsite using 1-2% Sodium Hypochlorite or connected to ETP.
AT SOURCE PRE TREATMENT

PRE-TREATMENT BY AUTOCLAVE

pre-requisites: Ideally each autoclave should have graphic or computer recording devices which will automatically and continuously monitor and record dates, time of day, load identification number and operating parameters throughout the entire length of the autoclave cycle.

(All records to be kept for 05 years)
VALIDATION TEST FOR AUTOCLAVE

Use four biological indicator strips, one is used as a control and left at room temperature, Three will be placed in the approximate centre of three containers with the waste.

Frequency: Conduct this test three consecutive times to define the minimum operating conditions. The temperature, pressure and residence time at which all biological indicator vials or strips for three consecutive tests show complete inactivation of the spores.

Follow-on action once in three months and maintain records.
STANDARDS FOR AUTOCLAVING OF BIO-MEDICAL WASTE  (Pre-treatment..at source)

➢ PROCEDURE : The autoclave should be dedicated for the purposes of disinfecting and treating bio-medical waste.

➢ When operating a gravity flow autoclave, medical waste shall be subjected to: A temperature of not less than 121° C and pressure of 15 pounds per square inch (psi) for an autoclave residence time of at least 20 minutes.

➢ Chemical indicator strip….is to be used with each batch of waste and note change in color as an indication of temperature and pressure achieved.

Frequency: To use more than one strip with every batch and bag, record the same.

Spore testing at least once in every week

➢ Medical waste shall not be considered as properly treated unless the time, temperature and pressure indicators indicate that the required time, temperature and pressure were reached during the autoclave process - AUTOCLAVE AGAIN
DUTIES OF OCCUPIER -

Healthcare facility

1) Handle waste as per norms
2) Arrange safe storage of waste
3) Follow onsite pre-treatment of infective waste
4) Replace chlorinated plastic bags, gloves and blood bags with non chlorinated
5) Dispose of solid waste separate from bio medical waste other than bio-medical waste in accordance
6) Provide training to all its health care workers at the time of induction and thereafter at least once every year and the details of training programmes conducted, number of personnel trained and number of personnel not undergone any training shall be provided in the Annual Report
7) Immunise all its health care workers against Hepatitis B and Tetanus as per protocol
8) Establish a Bar- Code System for bags or containers containing bio-medical waste
9) Ensure segregation of liquid chemical waste at source and ensure pre-treatment or neutralisation
DUTIES OF OCCUPIER-Healthcare facility

10) Provide PPE to healthcare workers
11) Report major accidents
12) Make available the annual report on its web-site
13) Inform the prescribed authority immediately if waste is not picked or retained for more than 48 hrs
14) Establish a committee to review and meet once in every six months and the record of the minutes of the meetings of this committee and incorporate in annual report
15) Maintain all records for a period of 05 yrs
16) Conduct health check up at the time of induction and at least once in a year for all its health care workers
17) Maintain daily register and upload monthly records on website
Occupier

- Handle/Segregation
- Committee
- Storage/disposal
- Non chlorinated bags
- Pre-treatment
- Register
- Monthly report/Annual report
- Training
- Immunisation
- Health check

Committee

Register
## TIMELINES FOR NEW REQUIREMENTS

<table>
<thead>
<tr>
<th>New Requirements</th>
<th>Timeline for implementation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-treatment of laboratory waste, microbiology waste, blood samples before giving to disposal</td>
<td>*Immediate effect.</td>
<td></td>
</tr>
<tr>
<td>Phase out chlorinated bags, gloves, blood bags</td>
<td><strong>Within 2 years from date of issue for Principle BMW 2016 now extended to 27th March 2019</strong></td>
<td></td>
</tr>
<tr>
<td>Training Health care workers about handling of Biomedical waste</td>
<td>*Immediate effect</td>
<td>Details of training to be submitted along with Annual report</td>
</tr>
<tr>
<td>Immunization of Health care workers for Hepatitis B and Tetanus</td>
<td>*Immediate effect</td>
<td>Records of vaccination to be maintained.</td>
</tr>
</tbody>
</table>
## TIMELINES FOR NEW REQUIREMENTS

<table>
<thead>
<tr>
<th>New Requirements</th>
<th>Timeline for implementation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barcode system for bags or containers containing Biomedical waste</td>
<td><strong>Within 1 year from date of issue of Principle rules BMW 2016 now extended to 27(^{th}) March 2019</strong></td>
<td></td>
</tr>
<tr>
<td>Health check up of Health care workers during induction and annually there after.</td>
<td>*Immediate effect</td>
<td>Records to be maintained</td>
</tr>
<tr>
<td>Maintain and update biomedical waste management register and monthly report on website</td>
<td><strong>Within 2 years from date of issue of Principle rule BMW-2016 rules i.e. within 28(^{th}) March 2018</strong></td>
<td>On Complinace Portal in ESS</td>
</tr>
<tr>
<td>Major accidents to be reported along with annual report</td>
<td>Should be documented and reported</td>
<td>Nil</td>
</tr>
<tr>
<td>Maintain records of autoclaving, Microwaving etc for a period of five years</td>
<td>*Immediate effect</td>
<td>Nil</td>
</tr>
<tr>
<td>New Requirements</td>
<td>Timeline for implementation</td>
<td>Remarks</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Annual report on website</td>
<td>Within 2 years from date of issue of Principle Rules 2016 now extended to 16th March 2020.</td>
<td></td>
</tr>
<tr>
<td>Setup BMW management committee, and</td>
<td>*Immediate effect</td>
<td></td>
</tr>
<tr>
<td>meetings be done bi-annually. Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>submitted in annual report.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>