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GUIDELINES FOR PACKAGING AND TRANSPORTATION OF BIOMEDICAL WASTE FOR UTILIZATION

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1. Introduction

Biomedical Waste Management Rules, 2016 (BMWM Rules, 2016) stipulates that every Healthcare Facility shall take all necessary steps to ensure that biomedical waste is handled without any adverse effect to human health and the environment. Bio-medical wastes such as pleural fluid, ascetic fluid, HBsAG positive blood, placenta etc are also generated by the Healthcare Facilities (HCFs) which are being utilized by pharmaceutical industry for production of drugs, reagent chemicals, markers, etc.

These guidelines provide guidance to the Healthcare Facilities as well as to industry/vendors for the purpose of utilization waste for collection, transportation, use and disposal of biomedical wastes to ensure handling of biomedical waste with adequate safe guard to protect Health and Environment.

2. Applicability of Authorization for stakeholders

a) The industries/vendors involved in collection and transportation of biomedical waste for the purpose of utilization shall obtain authorization from the concerned Pollution Control Board/Pollution Control Committee of the State/UT where they are engaged in collection and transportation of biomedical waste. They shall also obtain authorization for collection, use and disposal of biomedical waste from State / Union Territory where their facility exists.

b) The Health Care Facility involved in providing biomedical waste to an industry or vendor for the purpose of their utilization shall inform concerned SPCB and they shall provide such details while seeking renewal of authorization.

c) No authorization would be necessary for the Courier Company or transporter of the biomedical waste for the purpose of utilization, since the responsibility during its transport and handling lies with industry/vendor engaged in utilization of such biomedical waste.

3. Responsibilities of the Healthcare Facilities

a) Inform the prescribed authority about the type of biomedical waste which is handed over to the vendor and accordingly shall amend the authorisation while applying afresh or seeking renewal of the same.
b) Hospitals shall provide bio-medical waste only to those industries / vendors who are authorised by concerned SPCB/PCC under BMWM Rules, 2016 for collection and transportation of biomedical waste.
c) Bio-medical waste intended for utilization shall be collected by the nursing staff directly into the leak proof, puncture proof, tamper proof containers/bottles provided by the authorised vendor/industry.
d) The containers / bottles containing bio-medical waste shall be stored in temporary bio-medical waste storage area.
e) Records should be maintained indicating the type of biomedical waste, quantity, date & time of generation and date of collection by the vendor/industry.

4. Responsibilities of Vendor/Industry

a) Shall obtain authorization from concerned SPCB/PCC where they are engaged in collection and transportation of BMW for utilization.
b) Ensure use of appropriate bottles/containers and safe packaging as specified in the following section (section 5).
c) The containers/bottles used for collection of bio-medical waste shall be labelled with bio-hazard symbol in accordance with BMWM Rules, 2016.
d) The containers/bottles used for collection of bio-medical waste shall be labelled with the following labels:

Name of the Sender (Healthcare Facility): Address & Contact Number: Name of the ward: Type of biomedical waste: Quantity of biomedical waste: Date of generation: Name of the receiver (Industry/vendor): Address & Contact number:

e) Shall ensure safe transportation of biomedical waste either by own vehicles or by any transport agency.
f) Industry or vendor shall be liable for any leakages and environmental consequences thereof.
g) Ensure disposal of used or residual BMW as well as the containers used in collection and transportation of BMW through an authorised CBWTF located close to the facility where the BMW was utilized.
h) Ensure disposal of liquid biomedical waste which is expired or found positive with Infectious Disease Test (ID Test), as per BMWM Rules, 2016.
i) Shall maintain records / log book for the waste being collected by industry/vendor.

5. Procedure for packaging:

The substances in bio-medical waste intended for utilization might contain viable microorganism - such as bacterium, virus, parasite or fungus that may cause disease in humans or animals. Therefore, packaging of such bio-medical waste shall be packed in triple packaging system comprising of three layers of packaging as specified below:

- Primary receptacle: Bottle/container for bio-medical waste shall be leak proof, puncture proof and tamper proof. Each bottle containing biomedical waste shall be sealed in self sealing plastic bags provided with absorbent so as to absorb the liquid in case of any leakages. In case of liquid bio-medical waste, size of each bottle shall not exceed 500ml.

- Secondary receptacle: This is a second layer of packing which will be water tight, leak proof receptacle such as big plastic bag to enclose and to protect primary receptacle. Several primary receptacles wrapped along with absorbent may be placed in one secondary receptacle.

- Third receptacle: After secondary layer packaging, the secondary receptacle shall be placed in hard / rigid box for protection. This box shall also contain absorbent material such as foam cushioning to absorb the leakages, if any.

- The containers should be marked with sign of biohazard along with following warning text

"Sealed Bio-Medical Waste – Handle with Care"

6. Transportation of Biomedical Waste:

Following guidelines shall be applied for transportation of bio-medical waste packed in bottles/containers for utilisation purpose:

a) Biomedical waste is allowed to transport by road or by rails, ensuring the packing procedure as mentioned above.
b) Vehicles registered under Motor Vehicle Act shall be permitted for transportation of biomedical waste.
c) For transportation of biomedical waste by air, WHO guidelines vide WHO/HSE/GCR/2015.2 entitled "Guidance on regulations for the transport of infectious substance 2015-2016" shall be followed by the Healthcare Facilities.
d) The industry/vendor utilizing biomedical waste shall be responsible for transportation and the risks associated with transportation.
e) Industry/vendor may make own arrangement for transportation of BMW or may engage professional transportation agency.
f) A spill kit containing absorbent material, a disinfectant, a leak proof waste disposal container and heavy duty reusable glove should be kept in the transport vehicle.
g) All the vehicles used for collection of bio-medical waste from the health care facilities should have symbol of BMW.
h) Vehicles used for the transportation of bio-medical waste shall be fully covered

7. Management of plastic containers:

a) After emptying the plastic containers (used for the collection of biomedical fluids), packaging material (zip lock bag, plastic jumbo bag, gloves, masks etc.) should also be disposed as per the provisions under BMWM Rules, 2016.
b) The plastic containers used for collection of biomedical fluids should be emptied and stored in red colour coded bags / containers and should be treated and disposed through Common Biomedical Waste Treatment Facility authorized by the State Pollution Control Board/Pollution Control Committee.
c) Residual body fluid shall be collected separately in yellow colour non-chlorinated plastic container.
d) Red coloured bags/containers should be provided with bio hazard symbol and should be labeled as per Schedule IV of the BMWM Rules, 2016.
e) Separate temporary storage area shall be provided inside the premises of industry for temporary storage of colour coded biomedical waste bags/containers.

f) Records should be maintained with respect to waste generation in yellow and red coloured bag/container.
g) In case plastic crates in which the bottles are placed are to be re-used , then the same shall be disinfect with sodium hypochlorite and shall be washed with detergent prior to re-use the same.
h) Other solid waste like gloves, mask, cotton, gauze piece, syringe, gels, plastic columns, etc. used or generated during the process of utilization shall be stored in yellow colour plastic bag/container and handover the same to CBWTF operator.

8. Management of liquid waste

a) Industry shall provide Effluent Treatment plant (ETP) for the treatment of effluent generated during the process of utilization, washing of containers, floors etc.
b) Effluent generated from the process of utilization shall be routed to ETP for treatment.
c) In case discharge of treated effluent into drain then the treated effluent should comply with the liquid discharge standards stipulated under the BMWM Rules, 2016.
d) ETP sludge shall be analysed to check the hazardous constituents and in case the hazardous constituents are present then the ETP sludge should be disposed through Hazardous Waste Treatment, storage and Disposal Facility.
e) Records should be maintained w.r.to the waste water generation, its treatment and disposal.

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