



# COMPENDIUM OF INDIAN STANDARDS ON

# WASTE MANAGEMENT

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## " Compendium of Waste Management "

Waste refers to any substance or material that is discarded after primary use or is considered no longer useful. It includes a wide range of items from household garbage, industrial by-products, agricultural residues, electronic scraps, biomedical leftovers, to construction debris. Waste can be solid, liquid, or gaseous, and its composition varies depending on the source—such as residential, commercial, industrial, or institutional.

Rapid urbanization and economic growth are causing cities to grow and expand, and with this growing population and industrial activity have led to increased waste generation placing a strain on the resources and infrastructure currently in place for garbage disposal. Therefore, it becomes imperative to handle and dispose of this growing trash in an efficient manner in order to stop environmental degradation and the health risks that go along with it. The total amount of solid trash produced in the nation is 160,038.9 tons per day (TPD), according to the CPCB (Central Pollution Control Board) report 2020-21. Out of this, 152,749.5 TPD of waste is efficiently collected. Fifty percent (79,956.3 TPD) of the total garbage collected is treated, while the remaining thirty-seven percent (31.7%) is transferred to landfills and 29,427.2 TPD (18.4%) is left unaccounted. Meena et al. (2023) point out that unscientific practices, urbanization, population expansion, lifestyle ethics, and a lack of ecological knowledge are all closely linked to the frequent and careless dumping of Municipal Solid Waste (MSW). Open dumping of MSW, for example, has negative environmental and health consequences. The production, storage, collection, transfer, transportation, processing, and disposal of solid wastes are all included in the broad category of solid waste management activities (Meena et al., 2023). The mismanagement of these stages not only leads to environmental degradation but also poses a serious threat to the well-being of the residents in these densely populated urban areas.

As we know, Effective waste management is essential for sustainable development. The Bureau of Indian Standards (BIS) formulates technical standards to guide municipalities, industries, and service providers in managing solid, liquid, biomedical, and hazardous waste safely and efficiently, in line with environmental regulations. Here are the list of Standards for each sector is given below –

**Solid Waste:** Solid waste, also known as refuse, is any discarded material that is non-liquid, encompassing a wide range of materials like garbage, trash, and building debris. It includes both household waste (food scraps, packaging, etc.) and industrial waste (metal, paper, etc.). The Bureau of Indian Standards (BIS) has published approximately 40 standards under the solid waste management category. These are further classified into the following subcategories:

## **STANDARDS RELATED TO MUNICIPAL SOLID WASTE**

### **1. IS 9569 : 2022 Solid Waste Management – Glossary of Terms**

This standard gives the understanding of terms related to the waste category.

### **2. IS 16556 : 2016 Municipal solid waste compost, manure grade - Specification**

These Specification describes the requirements and methods of sampling and tests for municipal solid waste compost, manure grade.

### **3. IS 10447 : 1983 Guidelines for Utilization and Disposal of Solid Wastes from Integrated Steel Plants**

This standard prescribes guidelines for the present and possible future uses of the solid wastes generated in an integrated steel plant.

### **4. IS 12647 : 2021 Solid Waste Management Collection Equipment Requirements and Guidelines**

This standard provides requirements and guidelines for collection equipment used in solid waste management.

### **5. IS 16557 : 2016 Solid Waste Management - Segregation, Collection and Utilization at Household/Community Level - Guidelines**

This standard prescribes guidelines for segregation, collection and utilization of solid waste (SW) generated at household and/or community level

### **6. IS 16603 : 2018 Solid Waste Management in the Fertilizer Industry Code of Practice**

This standard describes the guidelines for disposal and use of various wastes generated by the fertilizer industry. Source of generation and characteristics of these wastes have also been prescribed.

### **7. IS 17317 : 2019 Gradation of Post-Consumer (Recycled) Paper**

Prescribes standard grades for recovered paper and board suitable for recycling.

### **8. IS 12402 (Part 1) : 1988 Mobile containers for solid waste: Part 1 general characteristics**

Covers the general characteristics of the mobile containers for solid waste ( household refuse, industrial waste and others ).

**9. IS 12402 (Part 2) : 1988 Mobile containers for solid waste: Part 2 methods of test**

Prescribes the methods of tests applicable to mobile containers described.

**10. IS 18520 : 2024 Solid Waste Management Segregation Collection and Utilization at Commercial Facilities Shops Markets Malls etc Guidelines**

This standard prescribes guidelines for segregation, collection and processing of solid waste (SW) generated at commercial facilities including shops, markets, malls etc.

**11. IS 18664 : 2024 Utilization of Coarse Compost cum Soil Improver/Conditioner from Municipal Solid Waste - Guidelines**

This Standard covers the guidelines for utilization of coarse compost cum soil improver/conditioner prepared from municipal solid waste with or without biowastes/sludges from sewage treatment plants.

**12. IS 19209 : 2025 Implementation of Occupational Health Safety Management System in Agencies Dealing with Solid Waste Management Guidelines**

This standard provides guidelines to agency dealing with solid waste management

**13. IS 3762 : 1979 Metal Waste Paper Bins - Specification**

This standard lays down the requirements for materials, sizes, construction and finish of metal waste paper bins.

**14. IS 9234 (Part 1) : 2021 Methods of Sampling and Test for Solid Waste Part 1 - Preparation of Samples for Analysis**

This Indian Standard (Part 1) prescribes a method for preparation of samples of solid waste for physical, chemical and microbiological analysis.

**15. IS 9234 (Part 3) : 2023 Methods of Sampling and Test for Solid Waste Part 3 Chemical Analysis (Excluding Industrial Solid Wastes) (First Revision)**

This standard prescribes methods of analysis of solid wastes (excluding industrial solid wastes)

**16. IS 6904 : 1973 Specification for receptacle, waste**

Dimensions and other requirements of waste receptacle for use in hospitals.

**17. IS 8595 : 2023 Parameters of Stationary Steam Boilers and Waste Heat Boilers - Terminology (First Revision)**

This standard covers the terminology used to define the basic parameters of stationary steam boilers and waste heat boilers.

**18. IS 17946 : 2022 Recycled rubber vulcanized crumb particulate - Specification**

This Indian Standard prescribes classification based on particle size, requirements and methods of sampling and test for vulcanized crumb particulate, manufactured from rubber products like tyre and non-tyre.

**STANDARDS RELATED TO PLASTIC WASTE**

**1. IS 14534 : 2023 Plastics - Recovery and recycling of plastics waste - Guidelines (Second Revision)**

This standard prescribes guidelines for the recycling of plastics waste/scrap by different techniques based on technological trends and policy directives issued for the plastics waste management in India.

**2. IS 14402 : 1996 Glass Fibre Reinforced Plastics (GRP) Pipes, Joints and Fittings for Use for Sewerage, Industrial Waste and Water (Other than Potable) - Specification**

The standard prescribes a set of dimensions for the pipes and their corresponding tolerances and classification system which is based on the stiffness and pressure requirements

**3. IS 14535 : 1998 Recycled plastics for the manufacturing of products - Designation**

This standard is intended to be used for the identification and classification of the recycled plastics material on the basis of its basic properties and applications.

**STANDARDS RELATED TO INDUSTRIAL WASTE**

**1. IS 10447 : 1983 Guidelines for Utilization and Disposal of Solid Wastes from Integrated Steel Plants**

This standard prescribes guidelines for the present and possible future uses of the solid wastes generated in an integrated steel plant.

**2. IS 11768 : 1986 Recommendations for disposal of asbestos waste material**

This standard lays down the recommendations for disposal of asbestos waste materials without significant generation of airborne asbestos dust.

**3. IS 10153 : 2021 Utilization of Fly Ash Guidelines**

This standard lays down guidelines for utilization of fly ash.

**4. IS 18832 : 2025 Industrial Wastewater Classification**

This document specifies the principles, categories, and codes for the classification of industrial wastewater and is applicable to all types and sources of industrial wastewater.

**5. IS 16603 : 2018 Solid Waste Management in the Fertilizer Industry Code of Practice**

This standard describes the guidelines for disposal and use of various wastes generated by the fertilizer industry. Source of generation and characteristics of these wastes have also been prescribed.

**6. IS 5485 : 2022 Textiles - Cotton Yarn Waste - Specification (second revision)**

This standard prescribes the requirements of two types of teased cotton yarn waste.

**STANDARDS RELATED TO HAZARDOUS WASTE**

**1. IS 2549 : 2023 Processed Ferrous Scrap - Code for Classification ( Second Revision)**

This standard classifies all types of ferrous scrap.

**2. IS 2963 : 2013 Copper Alloy Waste Fittings and Waste Plug for Wash Basin and Sinks - Specification (second revision) (amalgamating IS 3311)**

This standard covers the requirements for materials, manufacture, workmanship, nominal sizes and dimensions, finish and testing of copper alloy waste fittings and waste plugs

**3. IS 2066 (Part 1) : 2024 Coding and classification for non-ferrous scrap metals and residues Part 1 aluminium scrap (first revision)**

This standard (Part 1) covers coding and classification of aluminium scrap.

**STANDARDS RELATED TO BIO-MEDICAL WASTE**

**1. IS/ISO 15883-3 : 2006 Washer - Disinfectors: Part 3 requirements and tests for washer - Disinfectors employing thermal disinfection for human waste containers**

This part of ISO 15883 specifies particular requirements for washer-disinfectors (WD) that are intended to be used for emptying, flushing, cleaning and thermal disinfection of containers used to hold human waste for disposal by one operating cycle.

**2. IS 6904 : 1973 Specification for receptacle, waste**



Dimensions and other requirements of waste receptacle for use in hospitals.

**3. IS 18200 (Part 1) : 2024 Sharps injury protection - Requirements and test methods  
Part 1: Single Use Sharps containers**

This document specifies requirements for single-use sharps containers intended to hold potentially hazardous sharps medical waste with or without sharps protection features, e.g. scalpel blades, trocars, hypodermic needles and syringes.

**4. IS 18481 : 2024 Sharps Injury Protection - Requirements and Test Methods - Sharps Protection Features for Single-use Hypodermic Needles Introducers for Catheters and Needles Used for Blood Sampling**

This International Standard gives requirements and test methods for evaluating the performance parameters of sharps injury protection features, whether active or passive in design, for medical devices containing (sharp) hypodermic needles for single use, introducers for catheters and lancets, and other needles used in blood sampling. The sharps injury protection devices it covers may be provided integral to the device or combined with the device prior to use to achieve the sharps injury protection.

**STANDARDS RELATED TO E-WASTE**

**1. IS 17862 : 2022 Storage Collection Dismantling and Recycling of E-Waste Guidelines**

This standard specifies guidelines for the storage, collection, dismantling and recycling of E Waste by the producer of electrical and electronic equipment (EEE), the dismantler and/or recycler

**STANDARDS RELATED TO VEHICULAR WASTE**

**1. IS 12662 (Part 1) : 2021 Guidelines for Use of Vehicles for Collection and Transportation of Solid Wastes Part 1 Selection of Vehicles**

This standard (Part 1) prescribes the guidelines for selection of vehicles for collection and transportation of solid wastes to processing or disposal sites.

**2. IS 12662 (Part 2) : 2025 Guidelines for Use of Vehicles for Collection and Transportation of Municipal Solid Wastes Part 2 Maintenance ( First Revision )**

This standard prescribes the guidelines for maintenance of vehicles for collection and transportation of urban solid wastes for processing at disposal sites.

**3. IS 18511 : 2024 Energy Consumption of Refuse Collection Vehicles Method of Test**

A uniform and reproducible testing process for various drive units, constructions and lifting devices for the Refuse Collection Vehicles described in EN 1501.

#### **4. IS 18510 : 2024 Refuse Collection Vehicles Waste Odour and Leachate Prevention and Control**

This document specifies methods for preventing the spread of waste odour and the leakage of leachate during the collection and transportation of waste in refuse collection vehicles (RCVs).

#### **5. IS 18512 : 2024 Refuse Collection Vehicles Safety of Manual and Rear-Loaded Refuse Collection Vehicles**

This document provides support and guidance to owners, waste-service providers, consultants, authorities, etc. related to Manual and Rear-Loaded Refuse Collection Vehicles to improve the safety of waste collection operators.