



Personal Protective Equipment for Sanitation Workforce

Illustrated Guide





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Introduction

Sanitation workers are vital to the proper functioning of our sanitation systems. They collect garbage, maintain sewers, decant septic tanks, work in garbage transfer stations and treatment plants. They come into direct/close contact with hazardous waste and are exposed to occupational and environmental hazards. One of the key factors for occupational hazards is the lack of proper and adequate use of personal protective equipment (PPE).

The importance of PPE provisioning and usage has been amplified by National and State Governments alike for permanent, contract and private service providers. Several guidelines have been issued. This document aims to support Urban Local Bodies in implementation of PPE for different workers categories.

"I AM YOUR SWACHTA SAATHI. I AM TAKING CARE OF YOU . IT'S TIME YOU TAKE CARE OF ME ."



Introduction

This guide on ‘PPE for Sanitation Workforce’ presents the types of PPE required for different categories of sanitation workforce in a pictorial format. It details material specification and also provides an indicative list of PPE manufacturers and vendors.

Categories of Sanitation Workforce



1. Toilet Cleaners



2. Drain Cleaners



3. Desludging Operators



4. Plant operators



5. Street sweepers



6. Garbage Collectors



7. Garbage collection vehicle driver



8. Transfers Station workers



9. NGO/ASHA workers

The information has been compiled from various studies and guidelines and manuals issued by Central Public Health and Environmental Engineering Organisation (CPHEEO) and Ministry of Housing and Urban Affairs (MoHUA).



PPE for Sanitation Workforce

1. Toilet Maintenance



Hard Coated
Polycarbonate lens



N 95
Reusable mask



Non-Slip Rubber Latex
Reusable gloves



Steel toe, ankle length boots
water proof



Aprons
Polyester Nylon



2. Drain Maintenance



High density
polyethylene helmet



anti-fogging
goggles



High visibility
safety vests



Steel toe, mid-calf
length boots



Half mask
respirators



Nitrile gloves with
flock lining



Non-woven
polypropylene with
polyethylene barrier
film suit (required for
entering the manhole)



high visibility pants.



Bullet shaped ear plugs



3. Desludging Operators



High density polyethylene helmet



anti-fogging goggles



High visibility safety vests



Steel toe, mid-calf length boots



Half mask respirators



Nitrile gloves with flock lining



4. Plant Operators*



Nitrile gloves with flock lining



Aprons
Polyester Nylon



Steel toe, ankle length boots
water proof



N 95
Reusable mask



* (helpers, cleaners, waste segregators, mechanical/electrical staff)

5. Street Sweeping



Nitrile with polyester
Lining Gloves



N 95- Reusable mask



High visibility safety vests



Steel toe, low ankle length



6. Garbage Collectors



Nitrile with polyester
Lining Gloves



N 95
Reusable mask



Steel toe, ankle length
work boots



High visibility
safety vests



7. Vehicle Drivers



Nitrile with polyester
Lining Gloves



N 95
Reusable mask



Steel toe, low
ankle length



High visibility
safety vests



8. Transfer Station Workers



Nitrile with polyester
Lining Gloves



N 95
Reusable mask



Steel toe, ankle length
work boots



High visibility
safety vests



9. NGO & ASHA Workers



Reusable knit gloves



N 95- Reusable mask











Steel toe, low
ankle length















Annexure 1: PPE Material Specification

Product Name/ Picture	Material	Certification	Property
Non-Slipper Latex Reusable gloves 	Latex/ Rubber	EN ISO 374:2016, EN 388:2016	<ul style="list-style-type: none"> • 100% natural latex compound gloves for protection against a vast range of water-based chemicals. • Heavy duty gloves for enhanced mechanical and chemical resistance. Specially treated for lower risk of allergy. • Flock lined from inside for reduced perspiration, hence offering greater comfort and performance, and better dexterity.
Nitrile with polyester Lining Gloves 	Nitrile with double coating on palm with fingers over grey polyester shell and straight knitted with a thickness of 1.83mm	EN 388:2016	<ul style="list-style-type: none"> • A synthetic rubber that resists snags, punctures, abrasions, and cuts. • Nitrile is suitable for people with latex allergies and provides resistance to petroleum, acids, and aromatic and chlorinated solvents. • Economical projection for a good grip, dexterity and comfort.
Nitrile gloves with flock lining 	Nitrile with flock lines for heavy duty work, straight knitted with a thickness of 0.38mm	EN ISO 374:2016, EN 388:2016	<ul style="list-style-type: none"> • 100% nitrile compound gloves for protection. • Protection against a vast range of oil-based chemicals & solvents • Excellent abrasion resistance. • Silicone free, hence leaves no residue. • Flock lined from inside for reduced perspiration, hence offering greater comfort & performance & better dexterity
Reusable knit gloves 	Polyester with a sandy finish lining and straight knitted with a thickness of 1.45mm	EN 388:2016	<ul style="list-style-type: none"> • Improves dexterity, performance, productivity. • Nitrile provides usefulness in an oily and slippery environment. • Absorbs oil from an oily environment to restrict slippery environment.

Product Name/ Picture	Material	Certification	Property
Aprons 	Polycotton, Nylon, Polyester	EN ISO 20471: 2013	<ul style="list-style-type: none"> • Suitable for a wide range of professionals. • Made of best quality polycotton fabric. • Nylon apron coated with polyurethane for which can withstand incidental spills or splashes of septage.
High visibility safety vests 	Mesh polyester or plain polyester	EN ISO 20471: 2013	<ul style="list-style-type: none"> • A heavy duty brass zipper extending from bottom to top of the collar for closure. • Lock stitching with F.R thread. • Breathable 100% polyester material also provides comfort during hot and humid climate.
Highly visibility pants. 	Polyester, Polyurethane coated Polyester, Breathable 100% Polyester.	EN ISO 20471: 2013	<ul style="list-style-type: none"> • High-visibility pants are brightly coloured and have reflective striping around the legs to ensure workers can be seen in all lighting conditions. • Breathable 100% polyester material also provides comfort during hot and humid climate.
Disposable Coveralls 	Non-woven polypropylene with polyethylene barrier film.	EN ISO 20471: 2013	<ul style="list-style-type: none"> • Protective Disposable Coveralls provide breathable, liquid-tight protection against chemical exposure due to accidental liquid splash. • The fabric consists of a hybrid membrane system that combines microporous technology with a surface augmented by additional polymers. • It allows heat and sweat vapor to escape to help reduce heat stress.

Product Name/ Picture	Material	Certification	Property
Helmet 	High density polyethylene.	IS 2925:1984	<ul style="list-style-type: none"> • Hard hats and helmets protect the wearer from hazards that impact the head. • They have a suspension system that moves the impact force through the body to feet, helping to reduce strain to the head, neck, and spine. • Prevents rainwater seepage
Steel toe, low ankle length 	Leather with Polyurethane sole	EN ISO 20345:2011	<ul style="list-style-type: none"> • Low ankle leather shoes with steel toe for protection against falling objects. • The design of the upper body allows better air circulation • they will not provide complete protection under spillage or splash.
Steel toe, ankle length boots (water proof) 	PVC, Polyurethane, Polyblends	EN ISO 20345:2011	<ul style="list-style-type: none"> • Steel toe ankle length boots are designed to be waterproof to keep your feet dry under wet and dirty conditions. • They are also resistant against oil and a wide variety of chemicals. The PVC and Polyurethane Polyblend formula help provide moderate chemical resistance. • Cleated outsoles help to prevent clogging on wet or muddy surfaces.
Steel toe, mid-calf length boots 	PVC gum boots	EN ISO 20345:2011	<ul style="list-style-type: none"> • Steel toe mid-calf length boots are ideal for general purpose applications. • The sockless design helps to promote easy cleaning and minimizes bacteria. • Seamless, injection-moulded PVC construction offers durability, slip-resistance.

Product Name/ Picture	Material	Certification	Property
General safety glasses 	Hard Coated Polycarbonate lens that wraps around the temple.	EN 166:2001 conforms to ANSI Z 87.1-2010	<ul style="list-style-type: none"> • These glasses provide minimum level of eye protection and can be used for general jobs • Protects from splashes when mixing chemical or cleaning products together.
Impact/Chemical splash anti-fogging goggles 	High impact resistant optical class-1 anti-fog coated polycarbonate lens.	EN 166:2001 conforms to ANSI Z 87.1-2010	<ul style="list-style-type: none"> • Has a fully adjustable elastic head-band for a snug fit. • Tested for disinfection, increased robustness. • Has a soft PVC shroud around the lens to ensure 100% sealing of the eyes against chemical & liquid splashes • These glasses can be worn over the spectacles by the worker.
N 95- Reusable mask 	High impact resistant polycarbonate	EN 149: 2001 + A1: 2009	<ul style="list-style-type: none"> • Protects against dusts, fumes, mists, microorganisms. • Aluminum nose adjustments, Wide adjustable elastic straps, Hygienic individual bag, Seagull format, Shape designed to give excellent fit
Half mask respirator 	Thermoplastic Elastomer	EN140:1998	<ul style="list-style-type: none"> • Purifies air: protects against variety of particulates, vapours, dust, mists, fumes; depends on filter cartridge used (<i>requires fit-testing</i>) . • This mask is recommended while opening the septic tank or mixing the contents of the septic tank.

Product Name/ Picture	Material	Certification	Property
Steel toe, ankle length work boots 	Upper body: Grain leather Outsole: Polyurethane	EN ISO 20345:2011	<ul style="list-style-type: none"> • It has all the characteristics of the low ankle length work shoes, however this provides support to the ankle and prevents injuries to the ankles in cases of slip and fall.
Bullet shaped ear plugs 	hypoallergenic PU		<ul style="list-style-type: none"> • These protective earmuffs or ear plugs typically have a noise reduction rating specifying the decibels, or sound intensity, by which they reduce sound levels • Most of the standards call for hearing protectors that reduce exposure to below 85 dB over the course of an average 8-hour work shift to avoid noise-induced hearing loss.



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