



Personal Protective Equipment for Sanitation Workforce

Illustrated Guide

Compiled by Administrative Staff College of India, 2020





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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 ."**



#fightcoronavirus

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.

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).

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



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



8. 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 respirators 	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.



Annexure 2: PPE Manufacturers and Vendors

Sr. No.	Name of Company	Local/International	Category of PPE	Address	Contact Details	
					Contact Number	Email
1	Cabson Enterprises	Dealer of 3M, HONEYWELL, JCB, TIGER & WORKTOES and has manufactured the PPEs with S1 and SPARTAN brands (Local)	SPARTANS & S1 - Hand Protection	5-1-526, Hill Street, Ganji Complex, 2nd Floor, Ranigunj, Secunderabad : 500 003	040-6453 9461, 09949601427	sarah.enterprises@rediffmail.com
2	Karam	Indian Manufacturer	All	T-19 Towers, Block 2, Unit 901, 9th Floor, Karbala Maidan, Besides Ranigunj Bus Depot, Ranigunj, Secunderabad- 500 003 Telangana	040-27807675, 09985953535	karam@karam.in
				5-5-51/1, 2nd Floor, SL Complex, Ranigunj, Secunderabad- 500003, Hyderabad, Telangana 500003, India	096033 05355, 097000 00708	
3	Unique Industrial s	Indian Manufacturer / Local	Hand Protection, Head Protection, Feet Protection	5-1-570, Hill Street, Rani Gunj, Hyderabad-500003, Telangana (India)	8037304413	
4	Mallcom	Indian Manufacturer	Head Protection, Hand Protection, Body Protection, Feet Protection and Fall Protection	EN-12, Sector-V, Salt Lake Kolkata 700 091	033-40161000	sales@mallcom.in

Sr. No.	Name of Company	Indian/International	Category of PPE	Address	Contact Details	
					Contact Number	Email
5	Udyogi	Indian Manufacturer	All	294, B.B.Ganguly Street, 2nd Floor, Kolkata-700 012	033-2225-1470 033-2225-1471 033 2225-1472	info@udyogi.net
6	Safewell	Indian Manufacturer	All	BP-7, Suit No. 504, 5th Floor, Ecostation, Sec-V, Salt Lake City, Kolkata - 700091, India.	033-23674444	kolkata@acmesafety.in hyderabad@acmesafety.in
7	Venus Safety and Health Pvt. Ltd.	Indian Manufacturer	Respiratory Protection, Hearing Protection, Eye Protection, Head and Face Protection,	L75/76, Tondre village, MIDC, Taloja, Maharashtra, 410208.	022-27410018	info@venusohs.com
8	3M India Ltd	International Manufacturer - India Office	Respiratory Protection, Hearing Protection, Eye Protection, Head and Face Protection, Body Protection, Fall Protection, Emergency Equipments	3M India Ltd Concorde Block, UB City, #24, Vittal Mallya Road, Bangalore, Karnataka		
9	DuPont India Pvt Ltd.	International Manufacturer - India Office	Body Protection, Hand Protection,	ICICI Knowledge Park, Genome Valley, Survey No.542/2, DS -9 Turkapally(Village), Shameerpet (Mandal), Ranga Reddy(District), Hyderabad- 500078 (Andhra Pradesh)	040-66247000	
10	Honeywell Safety India	International Manufacturer - India Office	All	5th Floor, Unitech Trade Center, Sector 43, Block-C, Sushant Lok, Phase-1, Gurgaon 122002, Haryana	0124-4975000	hsp-india@honeywell.com

Sr. No.	Name of Company	Indian/International	Category of PPE	Address	Contact Details	
					Contact Number	Email
11	Jayco Safety Products Pvt. Ltd.	Indian Manufacturer	All	125, Neha Industrial Estate, Dattapada Cross Road, Near Su Swagat Restaurant, Borivali(East), Mumbai - 400066.	022-49791200	info@jaycosafety.com
				82/84, 2nd Floor, Above Satkar Hotel, Masjid Bunder, Mumbai - 400 003.	022-23456395	mumbai@jaycosafety.com
12	Uviraj Global Private Limited	Indian Manufacturer	Fall Protection and Feet Protection	S 17-18, Panki Industrial Area, Site-IV, Kanpur, Uttar Pradesh, 208022	0512-2690031, 0032	sales@uviraj.com, support@uviraj.com, enquiry@uviraj.com
13	Neo Safety Products Pvt. Ltd.	Indian Manufacturer	All	23, N.S. Road, 6 Commercial Building 1st Floor, Kolkata - 700 001, India.	09836582791, 033-22421664	sales@neosafety.in
14	Sairam Safety Engineers	Local Dealer	All Equipment Dealer	Safety House, Plot no 55, Malany Colony, New Bowenpally Road, Secunderabad, Telangana	040-42300068	info@subhamsafety.com
15	ALKO PLUS TECHNOSAFE Pvt. Ltd.	Indian Manufacturer	Head Protection, Fall Protection and Feet Protection	Plot No. 69 - 70, Sector 17, HSIIDC Industrial Estate, Bahadurgarh, Haryana - 124507.	9811000742	info@alkoplus.com
16	Unicare Emergency Equipments Pvt. Ltd.	Indian Manufacturer	Eye Protection, Face Protection, Fall Protection	Leslico House, 2nd Floor, Prof. V. S. Agashe Road, Dadar (W), Mumbai-400028 (India)	022-2422 7198 / 1878 /1880	mumbai@unicaremail.com

Sr. No.	Name of Company	Indian/International	Category of PPE	Address	Contact Details	
					Contact Number	Email
17	H.K.Trading Co	Indian Manufacturer	Mask	Block-E, Street No.08, 323, East Vinod Nagar, Delhi, Delhi, 110091, India	7971470690	
18	Versatile Global Suppliers	Dealer	Mask	Dammaiguda, Secunderabad, Hyderabad, Telangana	7971385287	
19	Jetaa Global Traders	Indian Manufacturer	Mask, Gloves, Boots, Goggles and safety jackets	1st Floor, SL Complex, Ranigunj, Secunderabad-500003, Telangana, India	8037179472	
20	Beat clouds	Dealer	Mask	Paigah Housing Colony, Plot No. 21,SP Road,Secunderabad, Telangana,500003	99853-57557	info@beatclouds.com
21	Zoya Trades		Mask	Bhawani Puram, Vijayawada-520012	8187868244	
22	Kumar Enterprises	Local Dealer	Mask	Yandurivari street, Vijayawada	8662424895	
23	Universe Surgical Equipment Co	Indian Manufactures	Mask	No. 86, Old No. 21, Nyniappa Naicken Street, George Town, Chennai- 600003,	8048419411	
24	Trinity Enterprises	Local Dealer	Mask, Gloves	8-4-390/ A/4, 2nd Floor, Prem Nagar Erragadda,, Hyderabad- 500018	8048114698	
25	AMTZ		Gloves	Vizag		administration@amtz.in
26	H S Industries		Mask	Plot no 105, IDA Mallapur, Hyderabad	9866633724	hsindustries@rediffmail.com
27	Welcom traders		Mask, Gloves, Goggles and safety jackets		9985006456	



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