

SARS-CoV-2 Sample Type Risk Assessment

Sample types	Potential hazards	Engineering controls	Administrative controls	PPE	Additional controls/ processes
Point of Care sample collection	-Droplet -Fomites -Aerosol	-Negative air flow, if available -Dispersal if outside collection	-Standard precautions -Biohazardous waste -Agent-specific training -Disinfection SOP -Doffing SOP	-Solid front gown, -Single gloves, -Eye protection plus face shield (if available), -Respirator (or mucosal protection if a respirator is not available)	-Hand hygiene
Swabs (collection)	-Droplet -Fomites -Aerosol	Negative air flow, if available	-Standard precautions -Biohazardous waste -Agent-specific training -Disinfection SOP -Doffing SOP	-Solid front gown, -Single gloves, -Eye protection plus face shield (if available), -Respirator or mucosal protection (if a respirator is not available)	-Placed in a transport tube containing either viral transport medium or sterile saline ³ -Hand hygiene
Processing blood, plasma/serum (convalescent, confirmed negative)	-Droplet -Fomites -Aerosol	-Negative air flow (BSC preferred) -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -SARS-CoV-2 -specific training -Disinfection SOP -Doffing SOP -BSL-2 proficiency documented -Bloodborne Pathogens training	-Solid front gown, -Single gloves, -Eye protection, -Respirator or mucosal protection (if a respirator is not available)	-Hand hygiene

Sample types	Potential hazards	Engineering controls	Administrative controls	PPE	Additional controls/ processes
Processing Blood (suspected or confirmed SARS-CoV-2)	-Droplet -Fomites -Aerosol	-Negative air flow -BSC -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 specific training -BSL-2 proficiency documented -Bloodborne Pathogen training	-Solid front gown (fluid resistant) -Eye protection -Mucosal protection -Face shield (if risk for splash) -Double gloves	-Cytometry that has Aerosol control features and/or specimens are inactivated -If BSC not available, work behind a splash shield -Hand hygiene -Specimens, cultures, or isolates should be packaged and shipped as UN 3373 Biological
Processing swab (suspected or confirmed SARS-CoV-2)	-Droplet -Fomites Aerosol	-Negative air flow -BSC -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 -specific training -BSL-2 proficiency documented	-Solid front gown (fluid resistant) -Eye protection -Mucosal protection -Face shield (if risk for splash) -Double gloves	-Hand hygiene -Specimens, cultures, or isolates should be packaged and shipped as UN 3373 Biological Substance, Category B
Urine (suspected or confirmed SARS-CoV-2)	-Droplet -Fomites -Aerosol	-Negative air flow -BSC -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 -specific training -BSL-2 proficiency documented	-Solid front gown (fluid resistant) -Eye protection -Mucosal protection -Face shield (if risk for splash) -Double gloves	-Hand hygiene -Specimens, cultures, or isolates should be packaged and shipped as UN 3373 Biological Substance, Category B

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Stool (suspected or confirmed SARS-CoV-2)	-Droplet -Fomites Aerosol	-BSC -Negative air flow -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 -specific training -BSL-2 proficiency documented	--Solid front gown (fluid resistant) -Eye protection -Respirator or mucosal protection (if a respirator is not available) -Face shield (if risk for splash) -Double gloves	-Hand hygiene -Specimens, cultures, or isolates should be packaged and shipped as UN 3373 Biological Substance, Category B
Lower Respiratory samples	-Droplet -Fomites -Aerosol	-BSC -Negative air flow -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 -specific training -BSL-2 proficiency documented	--Solid front gown (fluid resistant) -Eye protection -Respirator or mucosal protection (if a respirator is not available) -Face shield (if risk for splash) -Double gloves	-Hand hygiene -Specimens, cultures, or isolates should be packaged and shipped as UN 3373 Biological Substance, Category B
Higher Respiratory samples	-Droplet -Fomites -Aerosol	-BSC -Negative air flow -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 -specific training -BSL-2 proficiency documented	--Solid front gown (fluid resistant) -Eye protection -Respirator or mucosal protection (if a respirator is not available) -Face shield (if risk for splash) -Double gloves	-Hand hygiene -Specimens, cultures, or isolates should be packaged and shipped as UN 3373 Biological Substance, Category B

Sample types	Potential hazards	Engineering controls	Administrative controls	PPE	Additional controls/ processes
Environmental samples (wastewater/ sewage)	-Higher concentration of virus -Droplet -Fomites -Aerosol	-BSC -Negative air flow -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 -specific training -BSL-2 proficiency documented	--Solid front gown (fluid resistant) -Eye protection -Respirator or mucosal protection (if a respirator is not available) -Face shield (if risk for splash) -Double gloves	-Hand hygiene -Precipitation; membrane filtration ¹
Environmental samples- (Surface sampling)	Droplet -Fomites -Aerosol	-Negative air flow -Centrifuge cup & lid or sealed rotor	-Universal precautions -Biohazardous waste -Disinfection SOP -Doffing SOP -SARS-CoV-2 -specific training -BSL-2 proficiency documented	--Solid front gown (fluid resistant) -Eye protection -Mucosal protection -Face shield (if risk for splash) -Double gloves	-Hand hygiene

1. <https://www.cdc.gov/coronavirus/2019-nCoV/lab/lab-biosafety-guidelines.html#testing>
2. <https://www.cdc.gov/coronavirus/2019-ncov/php/water.html>
3. <https://www.cdc.gov/coronavirus/2019-nCoV/lab/guidelines-clinical-specimens.html>