

GLADIATOR PRO		PRODUCT DATA SHEET			SKU FS.5.1 PRO
PRODUCT	GLADIATOR PRO FACE SHIELD	DESIGNED & MANUFACTURED BY	FRICAECO AMERICA SAPI DE CV		
PRODUCT DESCRIPTION		TYPE OF PRODUCT	FECHA:	16/04/2020	
2 mm thickness Lens Polycarbonate LEXAN ML3729R 2 mm Polypropylene adjustable Head Band Weight: 175g Measures: 305mm x 205mm		GLADIATOR PRO face shield is an item of personal protective equipment (PPE) that aims to protect the wearer's mouth, eyes and nose from potentially infectious materials (in medical and laboratory environments).	MANUFACTURING PROCESS: Injection		
		CLEANING INSTRUCTIONS FOR USE			
		To ensure the shield is cleaned properly, we recommend disassembling it first remove the upper part, both "headband" - carefully straighten the side(s) first, then remove the band from the visor. It is highly recommended to submerge (sink) the shield parts into disinfection solutions, this way you will ensure that the solution reaches 100 % of the surface. You can also use aerosol (spray) but apply the procedure at least twice to reach most of the surface.			
		Select one of the disinfecting methods from the RECOMMENDED METHODS TABLE, let the solution do its job. Most of the solutions will evaporate after several minutes. You can remove the remains using a paper towel, avoid using the same towel on multiple shields, avoid cross-contamination. Always wipe in one direction.			
TECHNICAL DATA					
Final Product	Polycarbonate and Polypropylene with FDA Status: Food contact Notification (FCN)				
POLYCARBONATE (PC)					
Toughness and High Impact Strength – Polycarbonate has high strength making it resistant to impact and fracture, and further providing safety and comfort in applications that demand high reliability and performance. The polymer has density 1.2 – 1.22 g/cm3, maintains toughness upto 140°C and down to -20°C. Also, PCs are virtually unbreakable.					
Transmittance – PC is an extremely clear plastic that can transmit over 90% of light as good as glass. Polycarbonate sheets are available in a wide range of shades that can be customized depending on an end-user application.					
Lightweight – This feature allows virtually unlimited possibilities to OEMs to design as compared with glass. The property also allows to increase efficiency, make installation process easier and reduce overall transportation costs.					
Protection from UV Radiations – Polycarbonates can be designed to block ultraviolet radiation and provide 100% protection from harmful UV rays.					
Optical Nature - For having amorphous structure, PC offers excellent optical properties. The refractive index of clear polycarbonate is 1.584.					
Chemical Resistance – Polycarbonate exhibits good chemical resistance against diluted acids, aliphatic hydrocarbons and alcohols; moderate chemical resistance against oils and greases. PC is readily attacked by diluted alkalis, aromatic and halogenated hydrocarbons. Manufacturers recommend to clean PC sheets with certain cleaning agents which do not affect its chemical nature. It is sensitive to abrasive alkaline cleaners.					
POLYPROPYLEN (PP)					
Polypropylene is used in the manufacturing of piping systems, both ones concerned with high purity and ones designed for strength and rigidity (e.g., those intended for use in potable plumbing, hydronic heating and cooling, and reclaimed water). This material is often chosen for its resistance to corrosion and chemical leaching, its resilience against most forms of physical damage, including impact and freezing, its environmental benefits, and its ability to be joined by heat fusion rather than gluing.					
Many plastic items for medical or laboratory use can be made from polypropylene because it can withstand the heat in an autoclave. Its heat resistance also enables it to be used as the manufacturing material of consumer-grade kettles[citation needed]. Food containers made from it will not melt in the dishwasher, and do not melt during industrial hot filling processes. A diversity of medical devices are made from PP.					
It is most often used for single-serve containers like yogurt cups, but also shows up in reusable containers that can store leftovers. On top of being one of the FDA approved food contact materials, it's microwave safe and nonvolatile, meaning it will not react with any type of food you store in it, whether it's acidic, basic or liquid.					
OTHER IMPORTANT INFORMATION					
GLADIATOR PRO face shield attends the urgent demand for the protective equipment required by doctors and other professionals due to COVID-19					
RECOMMENDED METHODS		LEXAN™ RESIN ML3729R			
METHOD	CONDITIONS	EFFECTIVE AGAINST	VERIFICATION STATUS	PROPERTIES	
Hot Air Dryer	65 °C (149 °F), 60 mins	bacteria, viruses	Verified by SYNLAB ¹	TYPICAL VALUES	
WHO Handrub disinfection*	99% IPA, 5 mins	bacteria, viruses	Verified by LCI ²	TEST METHODS	
Isopropanol (IPA)	95%, 5 mins	bacteria, viruses	Verified by LCI ²	IMPACT	
Isopropanol (IPA)	75%, 5 mins	bacteria, viruses	Verified by Labtech ³	Notch Impact, notched, 23°C	686 J/m
Sodium Hypochlorite (household bleach)	min. 0.01 % of hypochlorite (e.g. SAVO 1/10), 2 mins+	bacteria, viruses	Verified by Labtech ³ , SYNLAB ¹	Notch Impact, notched, -30°C	55 J/m
UV-C	radiation, 30W, wavelength below 290 nm, 15 mins	bacteria, viruses	Verified by SYNLAB ¹	Instrumented Impact focal Energy, 23°C	66 J
Ethanol	70-80% max**, 5 mins	bacteria, viruses	Verified by LCI ² , Labtech ³	Notch Impact, notched 80°10°±23°C	12 KJ/m ²
PVP-I (iodine disinfection)	4%, 5 mins	bacteria, viruses	verification in progress	Notch Impact, notched 80°10°±30°C	4 KJ/m ²
Hydrogen Peroxide	5-25%, 5 mins	bacteria, viruses	Verified by FUSIST ⁴	Charpy 23°C, V-notch Edgew 80°10°± sp=62mm	12 KJ/m ²
Soap/water	repeated washing, 5 mins	bacteria, viruses	verification in progress	Charpy -30°C, V-notch Edgew 80°10°± sp=62mm	5 KJ/m ²
				Polycarbonate LEXAN material complies with ANSI Z87.1	
				*Tested on the WHO Handrub formulation 2 (IPA 99.8%)	
				**Higher Ethanol concentration significantly decreases its effectivity	
				1) SYNLAB - www.synlab.com	
				2) www.lci.com	
				3) LABTECH - www.labtech.eu	
				4) NIPH - www.niph.com	
				5) www.mashit.com	
FRICAECO AMERICA SAPI DE CV (ENERGRYN)					
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