

►► CREATIVE TECHNOLOGY

PPE LIMITATIONS AND TOLERANCES

WHEN EXPOSED TO CLEANING AGENTS AND DISINFECTANTS



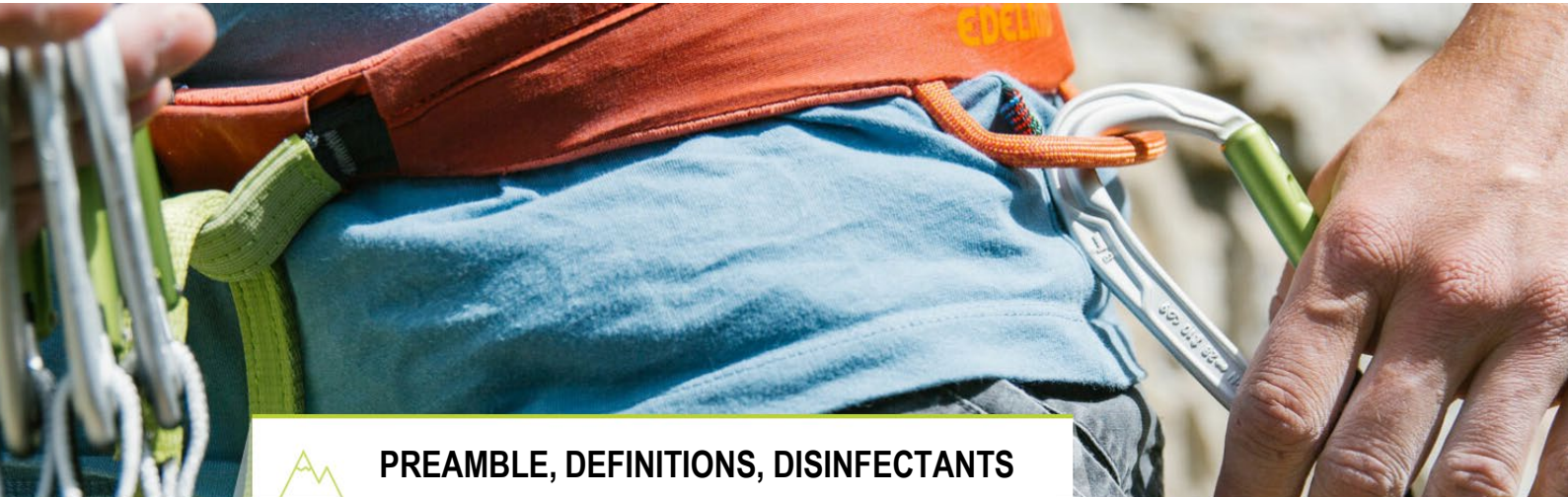
EDELDRID 





CONTENT

PG 1	PREAMBLE, DEFINITIONS, DISINFECTANTS
PG 2	METHODS
PG 3	ROPES, WEBBING, SLINGS
PG 4	BELAY DEVICES & CARABINERS
PG 5	HARNESSES
PG 6	HELMETS
PG 7	CLIMBING SHOES
PG 8-9	REFERENCES



PREAMBLE, DEFINITIONS, DISINFECTANTS

PREAMBLE

In response to the COVID-19 virus, the following information and resources are intended to assist you in your decision making when it comes to the topic of disinfectants and their effects on nylons, polyamides, and other materials commonly used in the manufacturing of EDELRID products.

As a manufacturer of climbing goods, it is not our intent to present this material as a definitive source regarding the effectiveness of certain chemicals against the COVID-19 virus, but rather to present you with data to support the use of certain disinfectants as it relates to their effects on nylons, polyamides, and other materials commonly found in EDELRID's products.

On behalf of all of us at Edelrid North America, we are here to support you in every way that we can. Our hearts and best wishes accompany this message and we are reminded during times like this what a resilient and amazing community we are a part of. Please don't hesitate to reach out to me directly if you have additional questions.

Blair Williams

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DEFINITIONS

- **Polyamide** – For the purposes of this reference, Polyamide refers specifically to Polyamide-6 or PA6. Polyamide is also referred to as Nylon. PA6 is also commonly referred to as Nylon. PA6 is a synthetic polymer that can be made into fibers, spun into yarn and woven to create textiles.
- **Polyester** – Polyester is another type of polymer that can similarly be made into textiles as PA6. It is often referred to as PET.
- **Dyneema®** – Dyneema is a proprietary type of polymer that is generically referred to as HMPE.
- **Aramid** – A type of aromatic polyamide fiber, also in the polymer family, and similarly used in textiles as PA6.

DISINFECTANTS CONSIDERED IN THIS REPORT

- **Isopropanol Solution** $\text{CH}_3\text{CHOHCH}_3$ – Recommended minimum 70% Isopropanol mixed with 30% distilled water. Distilled water is preferred because it does not support microbes. Keep away from open flames, as the vapors are flammable. Isopropanol is the same as Isopropyl Alcohol and Isopropyl Rubbing Alcohol. NOTE: Approved Rubbing Alcohols do not contain Ethyl Alcohol. <http://www.labchem.com/tools/msds/msds/LC15750.pdf>
- **Mild PH Neutral Soap** – A natural soap that has a neutral PH balance. Detergents or soaps with a more basic PH balance will degrade textiles.



METHODS

APPROVED METHODS

- **Disclaimers**
 - None of the statements below are meant to confirm or deny the effectiveness of disinfectants on the COVID-19 Virus.
 - After completing any of the approved methods detailed below, prior to putting products back into use they should be inspected visually to ensure product(s) have not been compromised or negatively effected in any way that would impact Edelrid's safety standards and or compromise the safety reserves of the product(s). Prior to using any disinfectant Edelrid requires that all users read and adhere to the manufacturers Safety Data Sheet.
 - Per our standard product technical specification notices, EDELRID states a maximum washing temperature of 40° C / 104° F. In light of the Covid 19 virus, EDELRID is approving a maximum washing temperature of 65° C / 149° F. **This exception only applies to products detailed, if stated as such, in this document.** The higher approved temperature rating does not negatively affect a products safety related parameters; however, exposing products to the higher temperature can impair their feel, appearance, and functionality. Further details found in the following content.
 - Not all APPROVED METHODS apply to all products. See category descriptions, e.g., ROPES, WEBBING SLINGS, or HELMETS, to determine which APPROVED METHODS are approved for which product(s).
- **Submersion** – Fill a container with enough of the disinfectant, at room temperature, to cover the product being disinfected. Fully submerge the product for a maximum of 3 minutes.
- **Spray and Wipe** – Spray the disinfectant on the surface of the product. After one minute, wipe the surface with a sponge to ensure even dispersion of the disinfectant. Spray down the sponge with the disinfectant before wiping down the product.
- **Agitation Methods** - Hand agitation and front-loading washers are approved. In both cases, use warm to hot water (maximum 65° C / 149° F for Polyamide and Polyester) and mild, PH neutral soap. For hand agitation submerge the product, allow it to fully saturate with the soapy water. Agitate by hand for several minutes. Rinse the product with clean water until the water runs clear and there is no remaining soap residue on the product. Heat resistant gloves and protective gear should be worn when washing. **Products that are entirely or partly made of HMPE (e.g. Dyneema®) should not be exposed to temperatures above 40° C / 104° F**
- **Room Drying** – Room temperature cannot exceed 56° C or 132.8° F. Product(s) must be kept out of direct heat, sunlight, or UV light. Products must be kept a minimum of 1 meter or 3 ft and 3.37 inches from Heat Source.

UNAPPROVED METHODS: Edelrid does not endorse the use of any of the below methods or methods not listed here that are not included in the APPROVED METHODS listed above.

Considering the current COVID-19 virus, the following methods have begun to circulate as potential options for disinfecting products. EDELRID does not approve using the following methods to disinfect or clean their products. In most of the examples below, heat is a primary ingredient. Through internal research, EDELRID has shown that heat can significantly degrade the safety reserves of PPE equipment.

- **Steam Cleaning** – **EDELRID does not approve of this method** because the temperature gradients can be excessive and/or outside of a product's maximum tolerances, and the variables within this method are too difficult to control and specify.
- **Dry Steam Superheated Cleaning** – **EDELRID does not approve of this method** because the temperature gradients can be excessive and/or outside of a product's maximum tolerances, and the variables within this method are too difficult to control and specify.
- **Ozone Generator** – **EDELRID does not approve of this method.** At this time, research is inconclusive at best with some reports indicating that ozone generators can have a negative effect on materials used in PPE equipment.
<https://www.ozonesolutions.com/knowledge-center/ozone-compatible-materials.html>
- **Essential Oils** – **EDELRID does not approve of this method.** All essential oils, such as cinnamon, lemon, eucalyptus, cloves, etc, are not approved to use on EDELRID products.



ROPES, WEBBING, SLINGS

	Polyamide (PA6)	Polyester (PET)	Dyneema (HMPE)	Aramid
Tower Lite 10mm	✓			
Tower Static 10.1mm	✓			
Boa 9.8mm	✓			
Boa Gym 9.8mm	✓	✓		
Tubular Webbing	✓			
Tech Web	✓		✓	
Aramid Cord	✓			✓

EDELRID Approved

Cleaning Agents/Disinfectants:

- ✓ 70% Isopropyl Alcohol / 30% Distilled Water
- ✓ Mild PH neutral soap

Approved Cleaning Methods:

- ✓ Submersion
- ✓ Front loading washer, delicate cycle only
- ✓ Spray and wipe
- ✓ Warm Water and mild PH neutral Soap

Tolerances and Limitations:

- Washing Temp:
65° C / 149° F – Polyamide / Polyester / Aramid
40° C / 104° F – Dyneema
- Drying Temperature:
Room temperature cannot exceed 56° C or 132.8° F. At all times, regardless of room temperature, product(s) must be kept out of direct heat, sunlight, or UV light. Products must be kept a minimum of 1 meter or 3' and 3.37" from Heat Source.



CARABINERS & BELAY DEVICES

	Aluminum	Steel	Aluminum/Steel Hybrid
Bruce Steel	✓	✓	
HMS Strike	✓		
Bulletproof			✓
Steel HMS Triple		✓	
Pure	✓		
Oval Power	✓		
D-Classic	✓		
HMS Magnum	✓		

EDELRID Approved

Cleaning Agents/Disinfectants:

- ✓ 70% Isopropyl Alcohol / 30% Distilled Water
- ✓ Mild PH neutral soap

Approved Cleaning/Disinfecting methods:

- ✓ Submersion
- ✓ Spray and wipe
- ✓ Warm Water and mild PH neutral Soap

Tolerances and Limitations:

- Washing Temp: Agitation Method
Maximum temperature of 65° C / 149° F
Heat resistant gloves and protective gear should be worn when washing.
- Drying Temperature:
Room temperature cannot exceed 56° C or 132.8° F.
At all times, regardless of room temperature, product(s) must be kept out of direct heat, sunlight, or UV light. Products must be kept a minimum of 1 meter or 3' and 3.37" from Heat Source.



HARNESSES

	Polyamide (PA6)	Polyester (PET)	Dyneema (HMPE)	Aluminum
Zack Gym	✓			✓
Zack	✓			✓
Jay / Jayne	✓	✓	✓	✓
Joker / Joker Jr.	✓			✓
Fraggle / Finn	✓			✓
Radialis Comp / Pro / Pro Adjust	✓			✓

EDELRID Approved

Cleaning Agents/Disinfectants:

- ✓ 70% Isopropyl Alcohol / 30% Distilled Water
- ✓ Mild PH neutral soap

Approved Cleaning/Disinfecting methods:

- ✓ Submersion
- ✓ Front loading washer, delicate cycle only
- ✓ Spray and wipe
- ✓ Warm Water and mild PH neutral Soap

Tolerances and Limitations:

- Washing Temp:
 - 65° C / 149° F – Polyamide / Polyester / Aramid
 - 40° C / 104° F – Dyneema**
 - Heat resistant gloves and protective gear should be worn when washing.
- Drying Temperature:
 - Room temperature cannot exceed 56° C or 132.8° F.
 - At all times, regardless of room temperature, product(s) must be kept out of direct heat, sunlight, or UV light. Products must be kept a minimum of 1 meter or 3' and 3.37" from Heat Source.



HELMETS

	Polyamide	Polystyrene	Polycarbonate	Polypropylene	Acrylonitrile Butadiene Styrene (ABS)
Zodiac	✓			✓	✓
Ultralight	✓	✓			
Ultralight Jr	✓	✓			
Salathe	✓			✓	
Shield	✓	✓	✓		
Kid's Shield	✓	✓	✓		

EDELRID Approved

Cleaning Agents/Disinfectants:

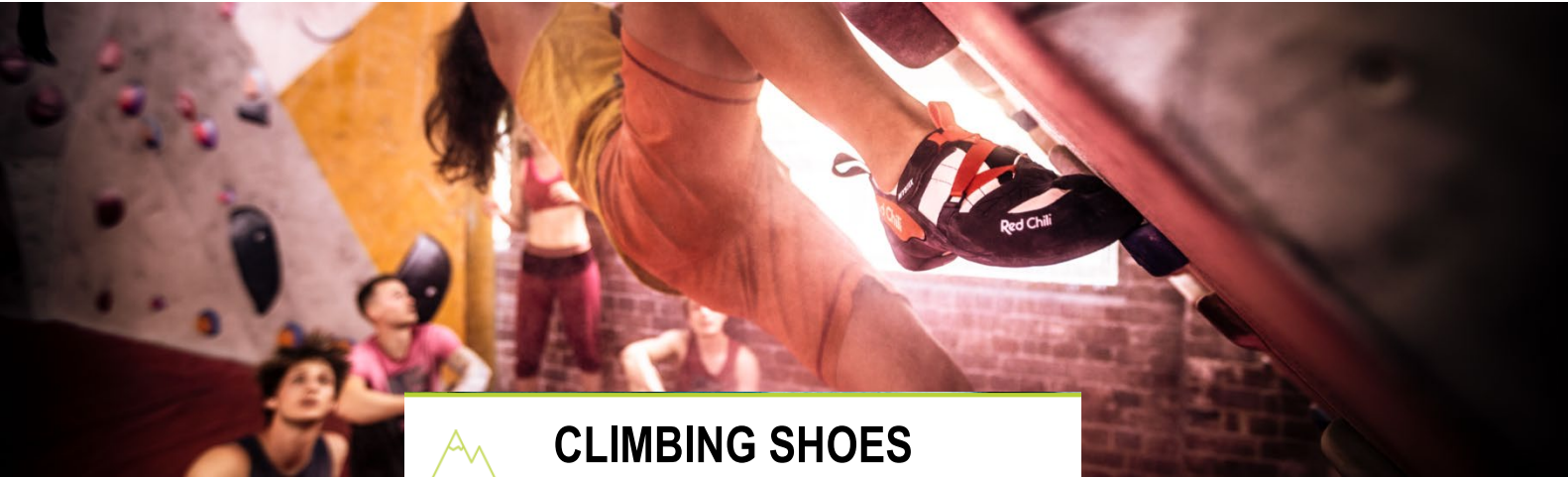
- ✓ 70% Isopropyl Alcohol / 30% Distilled Water

Approved Cleaning/Disinfecting methods:

- ✓ Spray and wipe

Tolerances and Limitations:

- Drying Temperature:
Room temperature cannot exceed 56° C or 132.8° F. At all times, regardless of room temperature, product(s) must be kept out of direct heat, sunlight, or UV light. Products must be kept a minimum of 1 meter or 3' and 3.37" from Heat Source.



CLIMBING SHOES

	Leather	Rubber	Aluminum	Polyamide	Knitted Fabric	Hemp
Session Air		✓	✓		✓	✓
Session	✓	✓	✓			✓
Session Kid's	✓	✓	✓			✓
Sausalito	✓	✓		✓		✓

EDELRID Approved

Cleaning Agents/Disinfectants:

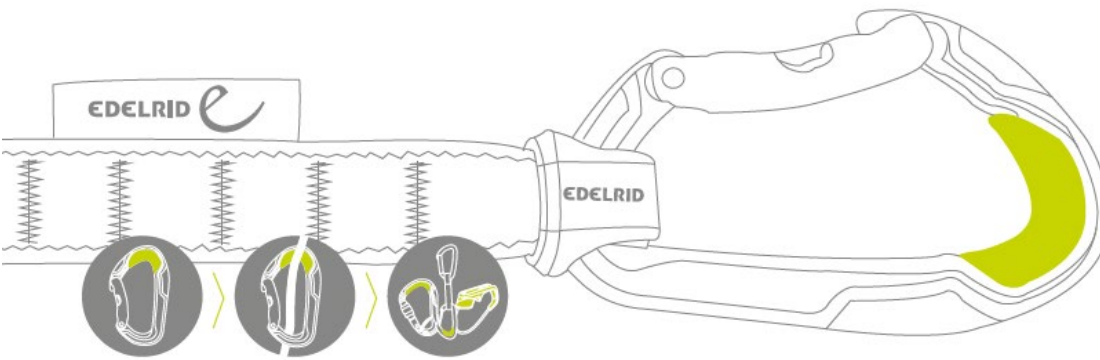
- ✓ Mild PH neutral soap
- ✓ Lysol Disinfectant Aerosol Spray

Approved Cleaning/Disinfecting methods:

- ✓ Spray and wipe
- ✓ Warm Water and mild PH neutral Soap

Tolerances and Limitations:

- Washing Temp:
Maximum temperature of 65° C / 149° F
Heat resistant gloves and protective gear should be worn when washing.
- Drying Temperature:
Do not exceed 40° or 104° F. Product should not be exposed to direct heat, sunlight, or UV light.



REFERENCES

Governing Bodies References:

CDC Chemical Disinfectants

<https://www.cdc.gov/infectioncontrol/guidelines/disinfection/disinfection-methods/chemical.html>

EPA Disinfectant List

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

OSHA Guidance on Preparing Workplaces for COVID-19

<https://www.osha.gov/Publications/OSHA3990.pdf>

WHO COVID-19 Guidance

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/guidance-for-schools-workplaces-institutions>

Industry References:

Climbing Business Journal Covid-19 Resource List

https://www.climbingbusinessjournal.com/climbing-gym-resources-during-covid-19-outbreak/?mc_cid=286934215a&mc_eid=bfbbc9b018

Climbing Wall Association Covid-19 Resources

https://climbingwallindustry.site-ym.com/page/Coronavirus?mc_cid=286934215a&mc_eid=bfbbc9b018

Head Rush Technology Press Release

<https://www.climbingbusinessjournal.com/wp-content/uploads/Protecting-and-Disinfecting-Your-Devices-Head-Rush-Tech.pdf>

Eldorado Climbing Walls Cleaning and Disinfecting Procedures

<https://eldowalls.com/coronavirus-climbing-gym-cleaning>

Kong Italy Sars-CoV2 Disinfection Guidelines PDF

https://www.kong.it/en/15-download/items/media/11-documents/KONG_SARS-CoV-2_DISINFECTION_IT_EN1.pdf

Petzl Disinfection Recommendations

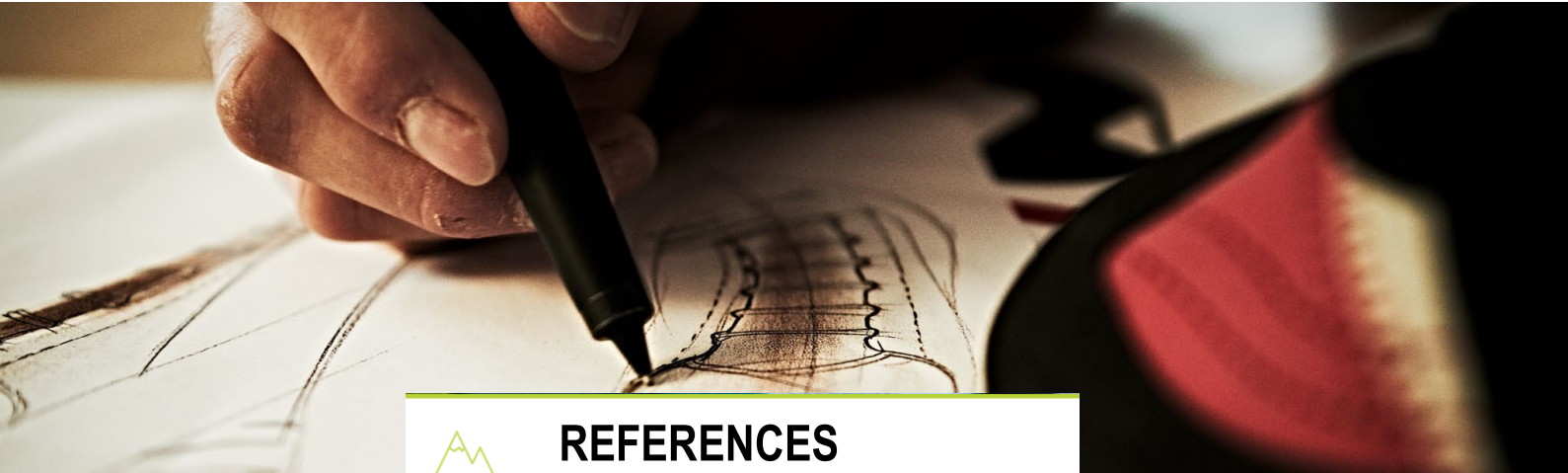
<https://www.petzl.com/INT/en/Professional/News/2020-4-17/Recommendations-for-disinfecting-your-equipment>

Teufelberger/MAXIM Ropes COVID-19 Rope Disinfection

<https://www.teufelberger.com/en/products-services/safety-and-rescue-ropes/application-specific-menu-safety-and-rescue-ropes/covid-19-corona-virus-rope-disinfection.html>

Italian Adventure Park PDF

https://www.saminfo.com/images/mountain_departments/COVID-19_Recommendations_Park_Operators.pdf



REFERENCES

EDELRID References:

Edelrid Knowledge Base

<https://www.edelrid.de/en/knowledge-base/?rel>

EDELRID Carabiner Knowledge Handbook PDF

https://www.edelrid.de/en/sports/knowledge/pics/2018/Karabiner_Fibel_EN_ANSICHT.pdf?m=1536741641

EDELRID Harness Knowledge Handbook PDF

https://www.edelrid.de/en/sports/knowledge/pics/2018/Gurtfibel_EN_ANSICHT.pdf?m=1536741909

EDELRID Rope Knowledge Handbook PDF

https://www.edelrid.de/en/sports/knowledge/pics/2018/Seilfibel_EN_ANSICHT.pdf?m=1572363926

EDELRID Belay Device Knowledge Handbook PDF

https://www.edelrid.de/en/sports/knowledge/pics/2018/Sicherungsgeraete_EN_ANSICHT.pdf?m=1536742729

EDELRID Dynamic Rope Manual

https://media.edelrid.de/images/attribut/54517_GAL_DynamicRope_Seilteppich_ANSICHT.pdf

EDELRID Harness Manual

https://media.edelrid.de/images/attribut/54507_GAL_Gurte_Sport_ANSICHT.pdf

EDELRID Carabiner Manual

https://media.edelrid.de/images/attribut/54530_GAL_KARABINER_ANSICHT.pdf

EDELRID Helmet Manual

https://media.edelrid.de/images/attribut/54514_GAL_Helme_ANSICHT.pdf