HYGIENE OF SWEDEN

HYGIENE OF SWEDEN CLINICAL TEST SUMMARY

SUMMARY

Over the last decade we have been developing probably the most advanced formula on the planet for hand sanitizing.

Our criteria's to allow ourself to tell a customer that a product is ”good” whether it's intended for use at a clinical setting or for a private customer for use at home is extremely high.

With our experience of water treatment, where we were fighting chloride based products known as a very dangerous chemical with short term effect, we saw the same need for hands where alcohol based sanitizer has been dominating the market for years.

Alcohol not only has a very limited effect eliminating advanced viruses it is also evaporates within seconds.
Our intention was to create something that is more effective and that lasts still gentle to the skin and good for the planet.
To show the efficacy we have conducted a series of studies where you find the results in this summary.
We have chosen bacterias and viruses that are relevant and different types of pathogens like enveloped virus (coronavirus) and non-enveloped viruses (norovirus).
This formula is still active after dried in and gives a long term protection. Studies on long term protection has been conducted at MRSA and e.coli bacteria.

Good for you bad for the bacteria

The largest organ of our body is our skin and the most sensitive part of our skin is our fingers. We want you to keep your sense of touch and feeling 100% so we have focused on creating a formula that is more effective than alcohol but far better for the skin.

A dermatological test has ben done to prove that the formulation is gentle towards the skin and gives us the opportunity to use the product as often as it's needed depending on the environment we expose our hands to without damaging the skin.
The formula is pH adapted to the skin (pH 5,5) and we have added aloe vera and vitamin B5 for moisturizing and skin positive characteristics.

The cationic biopolymer™plus we add is enlarging the molecular size and stops the formula from penetrating the skin so it sticks on top and gives us an extra protection on top of our immune system.

Our planet is literally in our hands. All ingredients are selected with care and 100% biodegradable. The best thing you can actually do for the planet is staying healthy as the health care sector is responsible in many countries for over double digit of the CO2 emission. Also the biopolymer™plus formula does not demand heavy industrial production, no dangerous transportations or special storage and regulations.

We have minimized the amount of active ingredient under the level that on a regular product you would not even have to mention them as an ingredient if it was not a biocidal product as we need to declare an active ingredient to be able to do the claims these studies shows.

Biopolymer™plus

Leave a small footprint with your hands

FROM **THE LAB**

- At Hygiene of Sweden we are constantly questioning what we do, how we do it and the results we achieve. As a part of our DNA we tend to follow patterns. Challenging established standards demands questioning, thinking outside the box, and sometimes provoke the existing "truth".
- Green bioscience by default is a paradigm shift. We no longer just want the effect - today we also want to be humble to the planet. Leaving a small footprint in the nature is as important as the effect.
- A new generation of hand sanitizer
- We are proud to present what we call Hand Hygiene 2.0 and the numbers we achieved during the studies proving that this is a better way to keep the hands clean for the hands, the user and the environment.
- For decades the hands has been flooded by alcohol to "be clean".
- Side effects like dry skin, quickly evaporating protection, fire hazards, heavy industrial process, dangerous transportations and worst of all - bacteria resistance has been overlooked.
- It's time for a smarter and better hand hygiene.

Biochemist
Head or R&D
Philip Wilhelmsson
Hygiene of Sweden Lab

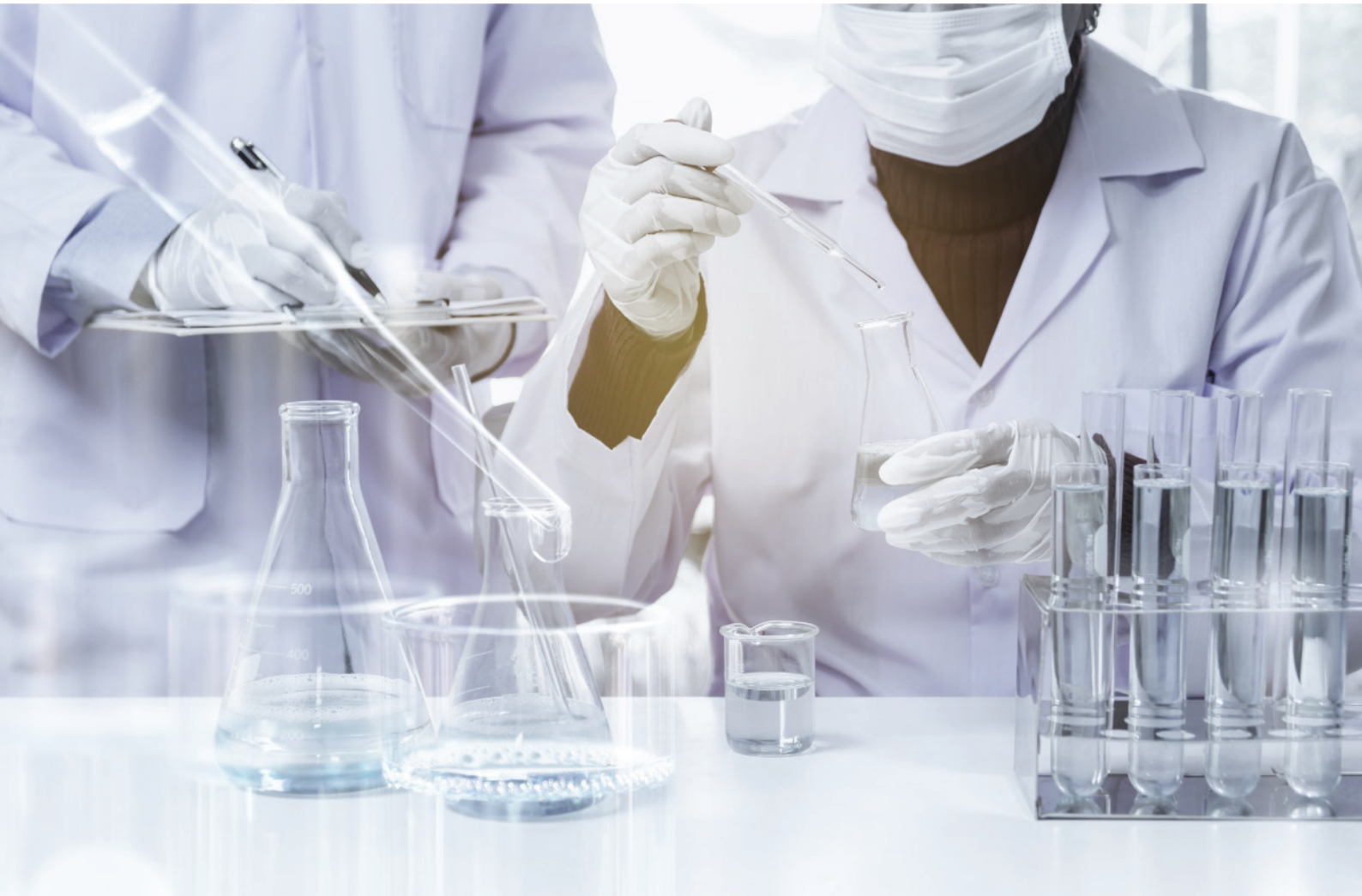
Landskrona 2021-04-02

Clinical test summary
Information Contact details
Found at www.hygieneofsweden.com

PATHOGEN SUMMARY

TESTING SPONSORED BY HYGIENE OF SWEDEN

TEST/ MICRO-ORGANISM	TEST LAB	GROUP	STANDARD	REDUCTION	TIME
Fulfill all efficiency and criteria to be used as hand sanitizer	J.S Hamilton	Bacteria	EN1500:2013	>99.99%	60s
Fulfill all efficiency and criteria to be used instead of soap and water,	J.S Hamilton	Bacteria	EN1499:2013	>99.99%	60s
Dermatological test	J.S Hamilton		Dermatological test		
Listeria monocytogenes ATCC 19111	J.S Hamilton	Bacteria	EN1276	Effective	5 min
Staphylococcus aureus, Escherichia coli, Pseudomonas aer	Helsinki University	Bacteria	EN13697	Effective	5 min
Coronavirus 229E (ATCC VR-740) aliquot: 2019/03/04 passage 2	J.S Hamilton	Encasupled Virus	EN14476	>99.99%	60s
Escherichia coli	J.S Hamilton	Bacteria	EN1500	>99.99%	60s
Escherichia coli	J.S Hamilton	Bacteria	EN1499	>99.99%	60s
Murine norovirus	J.S Hamilton	Non Encasupled Virus	EN14476	>99.99%	5 min



CLINICAL STUDIES

BY HYGIENE OF SWEDEN

Hygiene of Sweden AB, 559078-3436 with product Hygiene of Sweden screen & hand spray/foam/liquid/disinfectant/wipes and Biopocket have gone through following Europe standard test procedures, some tests could be made from our concentrate that is before testing diluted to 1:15, concentrate trading name winovaplus ct-80. Hereby we confirm all test made from Winova technology AB is identical as the tests from Hygiene of Sweden AB.

J.S Hamilton	Hand Wash	EN1499:2013	Chemical Disinfectants And Antiseptics - Hygienic handwash - Test Method And Requirements (phase 2, step 2)	E. coli K12 NCTC 10538	60s	>99,9%	2018/11/01	Fulfill all efficiency and criteria to be used Instead of soap and water, results Significant better < 60 seconds, 99,999% (log5)
J.S Hamilton	Hand Desinfection	EN 1500:2013	Chemical Disinfectants And Antiseptics - Hygienic Handrub - Test Method And Requirements (phase 2, step 2)	E. coli K12 NCTC 10538	60s	>99,9%	2018/11/01	Fulfill all efficiency and criteria to be used as hand sanitizer, <60 seconds. 99,999% (log5)
J.S Hamilton	Murine Norovirus	EN14476:2014	Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine. Test method and requirements (phase 2, step 1) AENOR	Norovirus aliquot: 18/05/17 passage 2	5 min	>99,9%	2019/03/18	
J.S Hamilton	Corona Virus	EN14476:2014	Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine. Test method and requirements (phase 2, step 1) AENOR	Coronavirus 229E (ATCC VR-740) aliquot: 2019/03/04 passage 2	60s	>99,9%	2020/05/05	
J.S Hamilton	Dermatological Test	Semi-occlusive Patch Test	50 ppl in test group		0,0 of 4.0 on skin, (0 = lowest, 4 highest irritation) non-irritant		2016/12/23	
J.S Hamilton	Anticeptics on surfaces	1276:2010	Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas – Test method and requirements (phase 2, step 1)	Listeria monocytogenes ATCC 19111	5 min	>99,9%	2018/11/01	80% and 50 % dilluted solution exhibits bactericidal activity at 5 minutes in both clean and dirty conditions.
Helsinki University	Surface Test	EN 13697	Bactericidal efficiency in both clean and dirty conditions. Quantitative Surface Test of Bactericidal Activity: bacteria	Staphylococcus aureus / Escherichia coli / Pseudomonas aeruginosa / Enterococcus hirae		>99,9%	2013/03/05	
BioLabs	Long term effect on surfaces 24h	Customized Test	Measuring the Antimicrobial Efficacy of a Residual Surface Biocide After 24h	MRSA / E. coli	24h	>99,9%	2013/03/13	
BioLabs	Long term effect on surfaces 7 days	Customized Test	Measuring the Antimicrobial Efficacy of a Residual Surface Biocide After 7	MRSA / E. coli	7 days	>99,9%	2021/02/23	
BioLabs	Long term effect on surfaces 30 days	Customized Test	Measuring the Antimicrobial Efficacy of a Residual Surface Biocide After 30 Days	MRSA / E. coli	30 days	>99,9%	2021/02/23	

2010

LAB ESTABLISHED IN LANDSKRONA
R&D Team lead by biochemist Philip Wilhelmsson is formed with the intention to develop the best possible hand sanitizer

2011

CLINICAL STUDY EN1500
Product shows compliance to standard for hand rub products.

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REGISTERED BY SWEDISH CHEMICAL INSPECTION
The formula was registred by the authorities as a biocidal product for hands & surfaces

2013

INDIAN FACILITY IN COIMBATORE & BIOPOLYMER™PLUS FDA APPROVED
Interest from asian markets starts growing and a facility is opened in India and Thailand

+

THAILAND FACILITY IN HUA HIN & BIOPOLYMER™PLUS FDA APPROVED

2016

OFFICIAL HYGIENE PARTNER, SWEDISH NATIONAL ATHLETIC TEAM
A partnership is established with the team to prevent athletics from getting sick during traning, travelling and competitions

+

BIOPOLYMER™PLUS REGISTRERED IN IRAQ

2017

BIOPOLYMER™PLUS REGISTRERED IN MALAYSIA
A new asian market is opened for Biopolymer™plus

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NEW MARKETS
Denmark and Norway

2018

CLINICAL STUDY
Biopolymer™plus shows significant higher cleaning effect than soap and water in a clinical study

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BIOPOLYMER™PLUS REGISTRERED IN ESTONIA
First Baltic country approving the formula

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NEW MARKETS
Russia - 5000 pharmacies offers Biopolymer™plus in Pocket format

2019

CLINICAL STUDY EN14476 NOROVIRUS
Biopolymer™plus shows effect against Norovirus

2020

CLINICAL STUDY EN14476 CORONA VIRUS
Biopolymer™plus shows effect against Coronavirus

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BIOPOLYMER™PLUS REGISTERED BY FDA IN USA
Formulation approved by FDA and EPA. Hygiene of Sweden opens up FDA compliant facility in Detroit.

OFFICIAL SUPPLIER OF SWEDISH NATIONAL X-COUNTRY SKII TEAM

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BIOPOLYMER™PLUS REGISTRERED IN LITHUANIA

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BIOPOLYMER™PLUS REGISTRERED IN HUNGARY

CORONA PANDEMIC SPREADS GLOBALLY
Hygiene of Sweden supplies leading airline companies, embassies, governments, militaries and medical clinics

2021

CLINICAL STUDY ON LONG-TERM EFFECT ON SURFACES
Indenpendet lab shows 99,9% effect after treating surfaces with Biopolymer™plus after 24h, 7 days and 30 days.

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BIOPOLYMER™PLUS REGISTRERED IN SLOVAKIA

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REGISTRATION PROCESS STARTED IN SPAIN, ITALY, SWITZERLAND AND CHEZ REPUBLIC, CANADA, JAMAICA

ALCOHOL VS BIOPOLYMER™PLUS

A comparison between traditional hand sanitizers and the Biopolymer™plus formula.

ALCOGEL

Traditional hand sanitizers are alcohol based solvents. It's an effective way to kill germs, but also our natural immune system.

VS

BIOPOLYMER™PLUS

Our non-alcoholic formula is as effective as traditional product and adds several advantages for the user.

ALCOGEL	BIOPOLYMER™PLUS
85% ethanol	0% Alcohol. Instead, minimal amount of active ingredient
Plain solvent	Designed to prevent bacteria and virus from spreading
Classified as harmful	No warning symbols
pH is alkaline	Adapted to skin pH5,5
Flammable	Non-flammable
Ineffective against Norovirus	Effective against Norovirus
Requires soap and water before application	No need for soap and water
Dries out skin	Moisturizing effect
Evaporates instantly	Long lasting topical effect
Risk of alcohol abuse	No risk with our water based formula

HYGIENE OF SWEDEN

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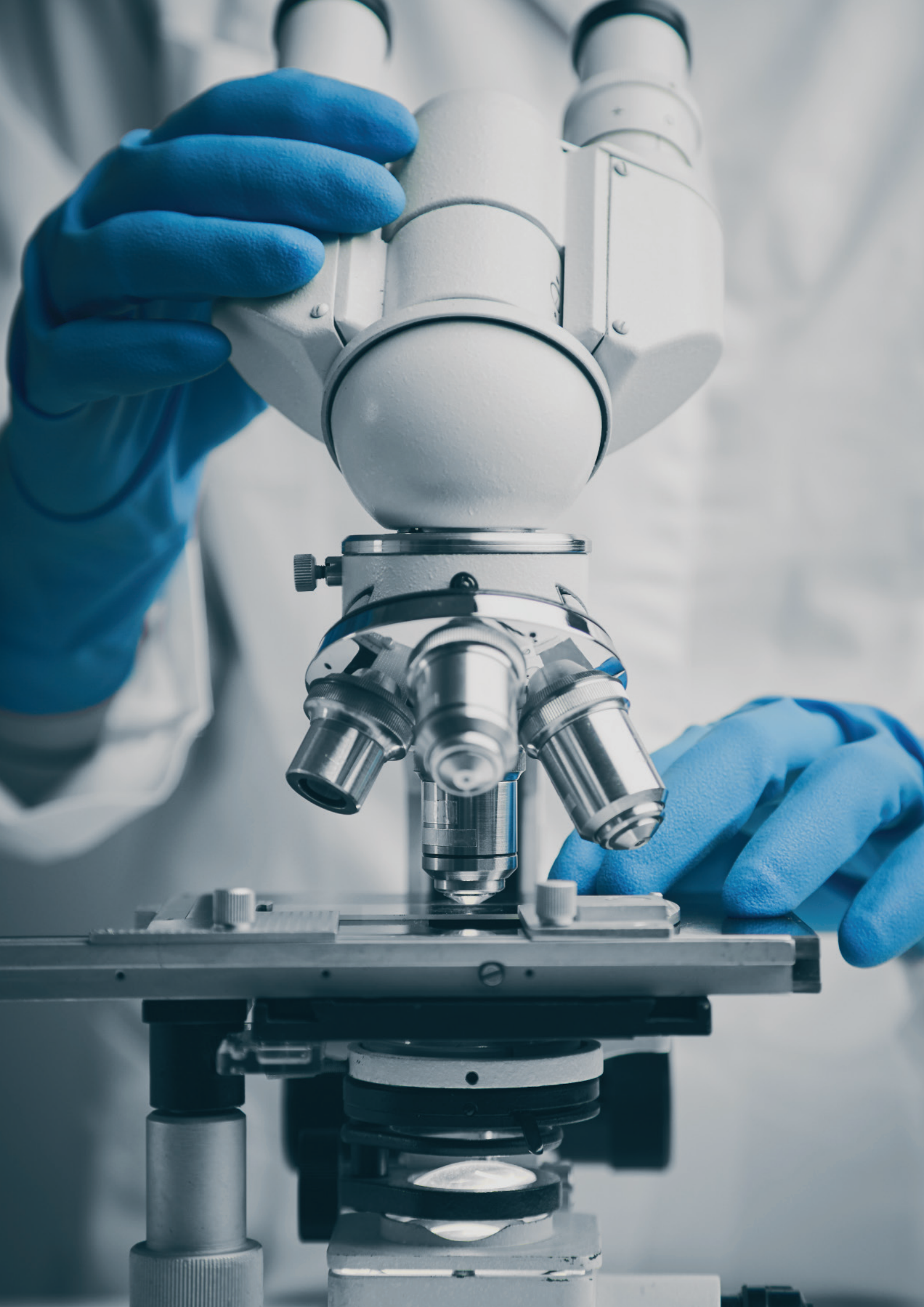

HYGIENE OF SWEDEN

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