BIOSYNEX EASY DIAGNOSTICS FOR LIFE SWISS	DOC 3_ RISK MANAGEMENT FILE		
	Reference : F-QUA-335	Version : 03	Date : 07/07/2020

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1 Purpose of the document

The purpose of this Risk Management is to determine all hazards which may affect:

- Health and Safety of the patient
- Health and Safety of the user
- Manufacturing
- The Environment
- Test Results

2 Scope of the document

The scope of this document is to identify the hazards associated with in vitro medical devices (DMDIV), to estimate and evaluate the associated risks, to control these risks, and to monitor the effectiveness of the controls at all stages of the life-cycle of a medical device.

The document identifies the DMDIV and summarises possible impacts of the DMDIV product quality on patient safety.
The risk management file was prepared in an effort to investigate the safety of BIOSYNEX COVID-19 Ag BSS / BIOSYNEX® COVID-19 Ag BSX / BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 and potential risk factors.

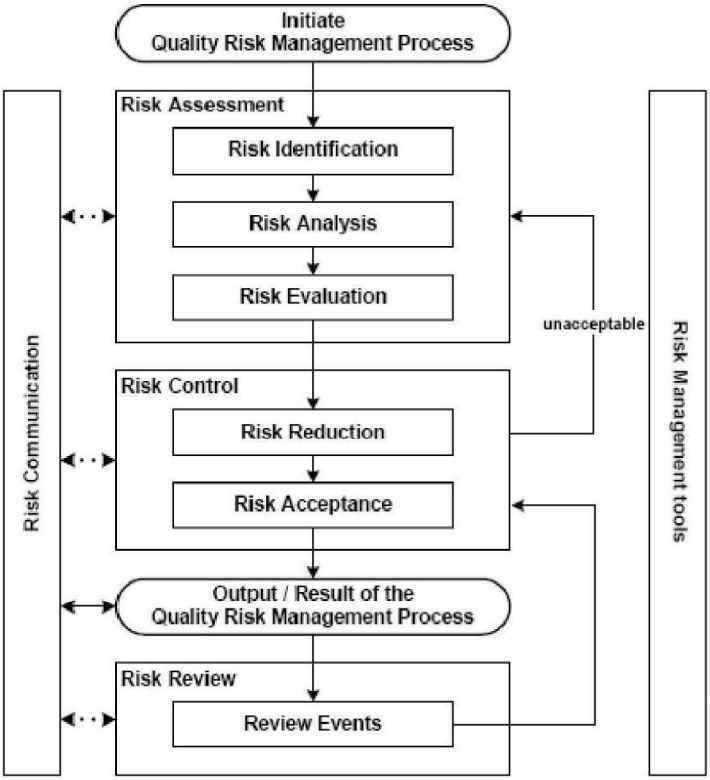
3 References

References to the present document are listed below:

[1] EN ISO 14971:2012 Medical devices-Application of risk management to medical devices (ISO 14971:2007, Corrected version 2007-10-01)

[2] DIRECTIVE 98/79/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 October 1998 on in vitro diagnostic medical devices

[3] BIOSYNEX Process FP-QUA-008 Regulatory affairs and risk management



Risk management Flow

4 Flow-chart

Main steps of the overall risk management of the IVD are described in the above flow chart.

5 Risk Management Plan

According to EN ISO 14971:2012 §3.4 & Annex F.

5.1 Purpose and scope of the plan.

The plan is applicable to the whole life-cycle of the product. The following elements must be considered:

- Purchasing
- Manufacturing
- Assembly
- Packing
- Chemical / biological risks
- Environment
- Utilization depending on intended user
- Performance
- Quality control & release
- Use in combination with the Reader
- Market surveillance & regulatory risks

Risk management file deliverable are the following

Step 1 Risk management plan	Required for
- Purpose and scope of the plan - DMDIV Identification and description - Identification of intended use - Life cycle-phases for which each element of the plan is applicable - Assignment of responsibilities and authorities	All DMDIVs.

Step 2 Risk analysis	Required for
Annex C Questions that can be used to identify medical device characteristics that could impact safety	All DMDIVs.
Annex H Guidance on risk management for in vitro diagnostic medical devices	All DMDIVs. See annex I (*confidential annex)*
DMDIV Risk Analysis & risk evaluation: - criticality evaluation - complexity evaluation	All DMDIVs. See annex I (*confidential annex)*
Risk Control and Definition of corrective actions	DMDIVs with High Risk Level. See annex I (*confidential annex)*
Residual risk evaluation and acceptability	DMDIVs with High Risk Level. See annex I (*confidential annex)*

Step 3 Risk management report	**Required for**
- Residual risk status - Benefit/risk balance	All DMDIVs.

5.2 Responsibilities and authorities

The risk management activities are coordinated by the regulatory / quality department; and executed by a working group gathering people with different functions and competencies. The working group can include the following functions:

- Regulatory Affairs Officer
- Head of Quality and Regulatory department
- Product Manager
- Marketing Director
- R&D Project Manager

The risk management activities are performed under the responsibility of the General Manager.

5.3 DMDIV description

VARIANTS FOR PROFESSIONAL USERS:
BIOSYNEX COVID-19 Ag BSS / BIOSYNEX® COVID-19 Ag BSX is a rapid in vitro immunochromatographic assay for the qualitative detection of nucleocapsid (N) protein antigen of SARS-CoV-2 in nasopharyngeal or nasal swab specimens. It is intended to aid in the rapid diagnosis of SARS-CoV-2 infections. It is intended for professional users only.

VARIANTS FOR LAYMAN USERS:
BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag is a rapid in vitro immunochromatographic assay for the qualitative detection of nucleocapsid (N) protein antigen of SARS-CoV-2 in nasal swab

specimens. It is intended to aid in the rapid diagnosis of SARS-CoV-2 infections. It is a self diagnosis test intended for laymen users only.

5.4 Identification of intended use

EN ISO 14971 / Annex H.2.1
VARIANTS FOR PROFESSIONAL USERS:
BIOSYNEX COVID-19 Ag BSS / BIOSYNEX® COVID-19 Ag BSX:
The test is intended for *in vitro* diagnostic use in the rapid, qualitative detection of nucleocapsid (N) protein antigen of SARS-CoV-2 in nasopharyngeal or nasal swab specimens. The test is intended for use as an aid in the diagnosis of SARS-CoV-2 infections. This is clearly stated in the instructions for use. It is intended for professional use only.
The product BIOSYNEX® COVID-19 Ag BSX is intended for automated readout with the BSX READER.

VARIANTS FOR LAYMAN USERS:
BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag:
The Biosynex COVID-19 Ag Antigenic Self-testing Kit is a rapid, in vitro immunochromatography assay (also known as a lateral flow test) which allows for the qualitative detection of antigens of the nucleocapsid protein (N) of the SARS-CoV-2 virus, in samples of nasal swabs. It has been designed to assist in rapid diagnosis of infections of the SARS-CoV-2 virus.

5.5 Review of risk management activities

This risk management will be reviewed every 3 years.
Moreover, when some changes (examples: test composition or kit components) will be implemented, the related risks will be re-evaluated. This review will also be necessary in case of justified complaint regarding the test utilisation and/or performances.

5.6 Criteria for risk acceptability including criteria for accepting risks when the probability of occurrence of harm cannot be estimated

Biosynex products range are IVD, therefore they are by definition no high risk products compared to the medical device context (implantable or invasive …).
The risk level is represented by a scale going from I to III, the highest risk is represented by risk I and the lowest by III.
After a deployed CAPA the only acceptable level risks are Risk II (if benefice > risk) and Risk III. No risk I should persist in the residual risk.

Risk I: The risk is at an unacceptable level and a CAPA (Corrective action / Preventive action) must be deployed in order to bring the risk to an acceptable level (Risk II or Risk III)
Risk II: The risk is at an acceptable level if benefice > risk.
Risk III: The risk is the lowest one and is considered as acceptable.

Probability						
(P5)Very High	II	II	I	I	I	
(P4)High	II	II	II	I	I	
(P3)Moderated	III	II	II	II	I	
(P2)Low	III	III	II	II	II	
(P1)Very Low	III	III	III	II	II	
	(S1)Very Low	(S2)Low	(S3)Moderated	(S4)High	(S5)Very High	Severity

Probability ranking

P1	improbable	Hardly any cases known	1-2 tests/1,000,000
P2	remote	Several cases per year	1-9 tests/100,000
P3	occasional	Several cases per months	1-9 tests/10,000
P4	probable	May occur during use of the product	1-9 tests/1000
P5	frequent	Occurs very frequently during use of the product	1-9 tests/100

Severity ranking

S1	negligible	Inconvenience or temporary discomfort
S2	minor	Results in temporary injury or impairment not requiring professional medical intervention
S3	serious	Results in injury or impairment requiring professional medical intervention
S4	critical	Results in permanent impairment or life-threatening injury
S5	catastrophic	Results in patient death

5.7 Method or methods of obtaining relevant post-production information

Methods of obtaining post-production information is part of established Biosynex quality management system procedures (see for example ISO 13485:2016[8]).

Biosynex applicable standard operation procedures (SOP) are:

- Complaint and CAPA SOP : PR-QUA-010 Procédure Réclamation NC AC AP
- Recall SOP : PR-QUA-004 Procédure de Réactovigilance
- Annual quality management review : FP-QUA-001 Processus Management-Pilotage
- PR-MAR-004 Product life-cycle PROJECT (launch-change)

Biosynex established generic procedures to collect information from various sources such as users, service personnel, training personnel, incident reports and customer feedback.

6 Risk Analysis

6.1. Intended use and identification of characteristics related to the safety of the medical device

EN ISO 14971; chapter 4.2 and Appendix C Questions that can be used to identify medical device characteristics that could impact on safety

Question Description	Applicable?
C.2.1 What is the intended use and how is the medical device to be used?	Yes
VARIANTS FOR PROFESSIONAL USERS: BIOSYNEX COVID-19 Ag BSS / BIOSYNEX® COVID-19 Ag BSX : The test is intended for *in vitro* diagnostic use in the rapid, qualitative detection of nucleocapsid (N) protein antigen of SARS-CoV-2 in nasopharyngeal or nasal swab specimens. The test is intended for use as an aid in the diagnosis of SARS-CoV-2 infections. This is clearly stated in the instructions for use. It is intended for professional use only. VARIANTS FOR LAYMAN USERS: BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag: The test is intended for *in vitro* diagnostic use in the rapid, qualitative detection of nucleocapsid (N) protein antigen of SARS-CoV-2 in nasal swab specimens. The test is intended for use as an aid in the diagnosis of SARS-CoV-2 infections. This is clearly stated in the instructions for use. It is a self-diagnosis test intended for laymen use only.	
C.2.2 Is the medical device intended to be implanted?	No
C.2.3 Is the medical device intended to be in contact with the patient or other persons?	Yes
VARIANTS FOR PROFESSIONAL USERS : The patient has no contact to the test cassette or buffer. The patient is in contact with the sterile swab supplied within the kit during sample collection in the nasopharynx or nasal zone. The user manipulates the test but is instructed in the IFU to wear protective clothing and gloves. VARIANTS FOR LAYMAN USERS: The patient will be in contact with the sterile swab supplied within the kit during sample collection in the nasal zone. The patient will also manipulate the test.	
C.2.4 What materials or components are utilized in the medical device or are used with, or are in contact with, the medical device?	Yes

Question Description	Applicable?

VARIANTS FOR PROFESSIONAL USERS:
Following we list the components of the test, and additional materials provided with the kit:
BIOSYNEX COVID-19 Ag BSS REF. SW40006:
• Instructions for use
• 25 Sterile swabs
• Extraction buffer (2 vials)
• 25 Test cassettes packed in individual pouches with a desiccant
• 25 Extraction tubes
• 25 Nozzles
• Workstation
 	
BIOSYNEX COVID-19 Ag BSX REF. SW40006_BSX:
• BIOSYNEX COVID-19 Ag BSS (REF. SW40006) containing:
  ○ 25 Sterile swabs
  ○ Extraction buffer (2 vials)
  ○ 25 test cassettes packed in individual pouches with a desiccant
  ○ 25 Extraction tubes
  ○ 25 Nozzles
  ○ Workstation
• Instructions for use
• 1 Method card "COVID-19_AG" for use with the BSX READER
 	
VARIANTS FOR LAYMAN USERS:
BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag
• Instructions for use
• 1 test cassette packed in a pouch with a desiccant
• 1 pre-filled buffer tube with its dropper nozzle and cap
• 1 sterile swab
 	
ALL VARIANTS :
Components of the cassette: 2019 nCoV antibody for labeling, Chloroauric acid, Trisodium citrate, 2019 nCoV antibody for coating, Goat anti-mouse IgG for coating, Heterophilic antibody, Blocker-1, Nitrocellulose membrane, PVC sheet
Components of the diluent: Tris, NaCl, Sodium azide, Tween, Triton
Components of the swab: pole material: PP/ABS; Head: glue + nylon fluffy	

C.2.5 Is energy delivered to or extracted from the patient?	No
The product is not used on or in the body of the patient and contains no energy-absorbing or releasing components	
C.2.6 Are substances delivered to or extracted from the patient?	Yes
Yes, the analysis is done with nasopharyngeal specimen collected from the patient with the sterile swab supplied within the kit. The test device itself and materials for sample preparation do not come into direct contact with the patient.	

Question Description	Applicable?
C.2.7 Are biological materials processed by the medical device for subsequent re-use, transfusion or transplantation?	No
The biological materials used in the test are for single use and are not reapplied to the patient or user in any way.	
C.2.8 Is the medical device supplied sterile or intended to be sterilized by the user, or are other microbiological controls applicable?	Yes
The kit is not supplied as sterile. The kit contains a sterile swab. Sterility of the swab is under the responsibility of its legal manufacturer.	
C.2.9 Is the medical device intended to be routinely cleaned and disinfected by the user?	No
No component of the kit is intended to be routinely cleaned or disinfected by the user.	
C.2.10 Is the medical device intended to modify the patient environment?	No
The device is an IvD that has no direct influence on patient's environment	
C.2.11 Are measurements taken?	No
The device only gives a qualitative result.	
C.2.12 Is the medical device interpretative?	Yes

Question Description	Applicable?
BIOSYNEX COVID-19 Ag BSS (PROFESSIONALS) and BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag (LAYMEN): **Visual reading/interpretation of the device.** A positive result means that the test line is visible. This result indicates the presence of SARS-COV-2 antigen in the sample material. If no test line appears SARS-CoV-2 antigen is not present in the sample material, or is below the detection limit of the assay. **False negative results** Due to the mechanism of the test, the test line can be of varied intensity. This means that there is a risk of interpreting results false negatively. The IFU indicates that presence of (a) colored test line(s), even if intensity is weak, is correlated with a positive result. Human inconsistencies in sample material preparation might lead to false negative results **False positive results** Human inconsistencies in sample material preparation might lead to false positive results, for example presence of blood in the swab. **BIOSYNEX COVID-19 Ag BSX (PROFESSIONALS):** The test must be read and interpreted by the BSX READER (REF. 5060029), the result is given as POSITIVE, NEGATIVE or INVALID.	
C.2.13 Is the medical device intended for use in conjunction with other medical devices, medicines or other medical technologies?	BIOSYNEX COVID-19 Ag BSS and BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag: No BIOSYNEX COVID-19 Ag BSX: Yes
BIOSYNEX COVID-19 Ag BSS and BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag: The device is not intended to be used in conjunction with other medical devices or technologies. BIOSYNEX COVID-19 Ag BSX: intended to be used in conjunction with the BSX READER REF. 5060029	
C.2.14 Are there unwanted outputs of energy or substances?	No
No unwanted outputs of energy is expected with the use of this device. An unwanted output of substances from the test cassette is minimized by the composition of the device containing an absorbent PAD, and by the small amount of chemicals / biological material present in dry form in the test. An unwanted output of substances from the diluent is minimized by the packaging of the solution in a vial with a dropper-tip.	
C.2.15 Is the medical device susceptible to environmental influences?	Yes

Question Description	Applicable?
Yes the tests can become unusable before the expiration date by: - Storage under temperatures outside of the range 2-30°C - Humidity of ambient air For details see stability testing.	
C.2.16 Does the medical device influence the environment?	No
The medical device does not influence the environment. Due to the potential infection risk, the sample material and material in contact with sample, should be treated in order to ensure the inactivation of pathogenic agents.	
C.2.17 Are there essential consumables or accessories associated with the medical device?	Yes
VARIANTS FOR PROFESSIONAL USERS: Next to the test cassette, the kit contains the following accessories/consumables: • Instructions for use • Sterile swabs • Dropper bottles with extraction buffer • Workstation • Extraction tubes • The kit BIOSYNEX COVID-19 Ag BSX also contains a method card "COVID-19_AG" for use with the BSX READER VARIANTS FOR LAYMAN USERS: • Instructions for use • Sterile swab • Pre filled dropper extraction buffer with its dropper nozzle and cap	
C.2.18 Is maintenance or calibration necessary?	No
The tests are planned for a single qualitative use. Thus, maintenance or calibration is not necessary.	
C.2.19 Does the medical device contain software?	No
The test does not contain software.	
C.2.20 Does the medical device have a restricted shelf-life?	Yes

Question Description	Applicable?
Yes, the shelf life is 24 months after production, in 2-30°C conditions	
C.2.21Are there any delayed or long-term use effects?	No
No, the device is meant for single use only. Materials as swab, tubes, test must be discarded after use. No risks concerning the question are known	
C.2.22 To what mechanical forces will the medical device be subjected?	No
If the test is carried out according to the instructions no mechanical forces should be applied to the test. Unless wilfully destroyed, the mechanical forces applied to the kit components during a normal test procedure are minimal so that no destructions of kit components is expected upon normal handling. During transport the kit is packed in cardboard boxes in a way that the test cassette and the accessories have not much space for moving. The materials are stable enough that even an accidentally dropping of the box would not lead to destruction or an impairment of the functionality of the kit components.	
C.2.23 What determines the lifetime of the medical device?	Yes
The lifetime of the tests is influenced by normal aging processes that have been determined in stability studies. High temperature influences the lifetime of the tests and accelerates aging. Outside the pouches the tests are susceptible to humidity which will also shorten the lifetime.	
C2.2.24 Is the medical device intended for single use?	Yes
The device (test cassette) is for single use only. The sterile swab, extraction tubes used for collection of specimen, and pre filled buffers are for single use too. Only the buffer vial and the workstation present in the kits for professional users are to be re-used.	
C2.25 Is safe decommissioning or disposal of the medical device necessary?	Yes
All specimens and reagents should be handled as if they contain infectious agents. When the assay procedure is complete, disposal of swabs, used extraction tubes and used test should occur according to local regulations	
C2.26 Does installation or use of the medical device require special training or special skills?	Yes

Question Description	Applicable?
For BIOSYNEX COVID-19 Ag BSS and BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag: No, as no installation of the device or of the reader are necessary. For BIOSYNEX COVID-19 Ag BSX: Installation of the device is not required. However, the device is intended to be used with the BSX Reader. This implies that the user must be aware of the functioning of the BSX Reader with the rapid test. Reference to the user manual is made in the test IFU.	
C2.27 How will information for safe use be provided?	Yes
The information will be provided in the instructions for use that is packaged together within the test kit.	
C2.28 Will new manufacturing processes need to be established or introduced?	No
At the moment there is no need to establish or introduce new manufacturing processes. The quality of the product is checked in various quality controls in process and end. If processes are introduced that might affect the performance of the test (e.g. new test components) a new evaluation of the analytical properties of the device has to be done	
C2.29 Is successful application of the medical device critically dependent on human factors such as the user interface?	Yes
The instructions for use are described and depicted in the package insert.	
C2.29.1 Can the user interface design features contribute to use error?	No
The information in the user instructions is given in clear in easy, straightforward wording and pictures. No abstract symbols are used.	
C2.29.2 Is the medical device used in an environment where distractions can cause use error?	No

Question Description	Applicable?
VARIANTS FOR PROFESSIONAL USERS: No, if the test is carried out by professional testing will take place in a laboratory where it is not to be expected that distractions are commonplace. If the test is carried out in a doctor's office it might be that the user is distracted by arriving or leaving patients. It can be assumed, however, that a professional user is aware that reading times are important and that he will use a timer to remind him when the test procedure is finished. The importance of a timer/correct reading time is outlined in the instructions. VARIANTS FOR LAYMEN USERS: the test is intended for layman users; therefore it is expectable that some distractions could occur in the environment where the user performs the test	
C2.29.3 Does the medical device have connecting parts or accessories?	No
No connecting parts and no accessories.	
C2.29.4 Does the medical device have a control interface?	No
For BIOSYNEX COVID-19 Ag BSS and BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag: The physical and chemical processes are determined by the test structure and require no control. Therefore, there is also no interface for this. For BIOSYNEX COVID-19 Ag BSX: The BSX Reader has a control interface. Refer to the risk management file of the BSX Reader.	
C2.29.5 Does the medical device display information?	No
For BIOSYNEX COVID-19 Ag BSS and BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag: results are displayed by the appearance or non-appearance of coloured lines on the white background (membrane) of the test. Appearance of the T line shows presence of the antigen in the sample; appearance of the C line acts as a procedural control. For BIOSYNEX COVID-19 Ag BSX: No information for the user are displayed on the device since the interpretation and result of the test are displayed on the BSX Reader. The device must not be interpreted visually.	
C2.29.6 Is the medical device controlled by a menu?	No
The device is not controlled by a menu.	
C2.29.7 Will the medical device be used by persons with special needs?	No

Question Description	Applicable?
VARIANTS FOR PROFESSIONAL USERS: No. The test will be used by professional users only which do not correspond to persons with special needs. VARIANTS FOR LAYMEN USERS: No. The test will be used for normal patients. These persons cannot be grouped together as persons with special needs. The tests will be used by people who want to determine if they are infected with SARS CoV 2. No special needs can be attributed to this group of users. In the self-testing study it could be shown that people of all groups and different educational levels were capable of understanding the user instruction and performing the assay. The laymen study assess this that laymen can use the self-test without special needs	
C.2.29.8 Can the user interface be used to initiate user actions?	No
The user interface cannot be used to generate user actions.	
C.2.30 Does the medical device use an alarm system?	No
No, the device does not use an alarm system.	
C2.31 In what way(s) might the medical device be deliberately misused?	Yes
VARIANTS FOR PROFESSIONAL USERS: The device is only for professional use, therefore it seems unlikely that the user will use the assay other than for the intended purpose and according to the instructions for use. For SW40006_BSX: the device might be interpreted visually whereas it is exclusively intended to be interpreted by the BSX Reader. VARIANTS FOR LAYMAN USERS: N/A	
C.2.32 Does the medical device hold data critical to patient care?	No
The test does not hold any data critical for patient care.	
C2.33 Is the medical device intended to be mobile or portable?	Yes
Yes. The tests are small and compact and can be held in the hand without problems without the aid of any tools.	

Question Description	Applicable?
C2.34 Does the use of the medical device depend on essential performance?	Yes
The test will be used in order to detect the nucleocapsid protein of SARS-CoV-2. For this it is necessary that the assay shows the required sensitivity that is routinely checked during QC. It is expected that the user keeps closely to the instruction for use in order to provide optimal conditions for the collection of samples and for the functioning of the test.	

6.2 Risk assessment and risk control for in vitro diagnostic medical devices

According to EN ISO 14971 Annex H.2.5 and EN ISO 14971; 4.3, 4.4, 5, 6, 7.

Refer to the table in ANNEX I (DOC3A) *(this annex is confidential)*

Point of discussion:

The performance data of the assay and the results of the studies show, that the BIOSYNEX COVID-19 Ag BSS / BIOSYNEX COVID-19 Ag BSX / BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag assays can be easily performed and shows good sensitivity and specificity. Nevertheless it cannot be ruled out that false negative or false positive results will be obtained by the user.

VARIANTS FOR PROFESSIONAL USERS: In the instructions for use the medical professional is advised to base the result of the diagnosis not only on the result of the rapid test but to consider all clinical and laboratory findings.

VARIANTS FOR LAYMAN USERS: In the IFU, following warnings are given:

- The accuracy of the test depends on the quality of the swab sample. False negative results may be given following poor sampling, or following poor sample storage.
- Any failure to respect the test procedure may negatively impact the performance of the test and/or invalidate the test result.
- If the result of the test is negative, yet clinical symptoms persist, it is advised that you carry out additional tests using other clinical methods. A negative result at no time rules out the presence of antigens of the SARS-CoV-2 virus in the sample, as they may be present but at a level inferior to the minimum detection level of the test, or if the sample has been collected incorrectly.
- Erroneous errors may be obtained:
    - If the test is not used in line with the instructions provided,
    - If the aluminium sachet is damaged, or if the test has not been carried out immediately after opening the aluminium sachet,
    - If the storage conditions are not respected, or if the test is carried out after the expiry date provided on the aluminium sachet.
- A positive result must be confirmed by a laboratory analysis. Consult your doctor, and do not make any medical decisions without first seeking advice from your GP.

- Invalid results

The user will notice the invalid result and will repeat the testing with a new assay.
No hazard can be seen for invalid results.

- False positive results and false negative results

VARIANTS FOR PROFESSIONAL USERS: Under PRECAUTIONS the healthcare professional is advised not to make a definitive diagnosis that is solely based on the result of the rapid test but should take all clinical and laboratory findings into account.

VARIANTS FOR LAYMEN USERS: Under PRECAUTIONS, the user is warned that the test does not replace a medical consultation or the result of a biological analysis carried out in a laboratory of medical analyses. In the IFU, the user is also warned on the possibility to obtain erroneous results.

- Hazards caused by non-homogeneous batches or inconsistencies between batches (H.2.4.3)

The result of the test is only qualitative. Minor variability between different test charges or within one charge does not hamper the interpretation of the result. As the test gives a qualitative yes/no result

slight variances in the colour intensity of the test result line between individual test cassettes would not influence the result itself as long as a test result line can be seen at the detection limit this is not crucial for the final result of the test. As long as the test fulfils its claimed sensitivity which is carefully checked in QC before the release no hazards from the slight variations seen within batches or between batches are to be expected.
During QC and batch release only random samples can be tested. Therefore we are in close contact with our customers and complaints about the tests would be listed according to our complaint management procedure.

FOR PROFESSIONAL VARIANTS: In the instructions for use, we recommend laboratories to perform their own quality controls with positive controls that are close to the detection limit and with negative controls. Control materials are not a component of the kit.

7 Risk management report

7.1 Risk information for IVD medical devices and Market Surveillance

according to EN ISO 14971 / Annex H 2.5.5

BIOSYNEX has a complaint management system according to ISO13485. In regular intervals complaints for the product will be analysed to see if the implemented measures for reducing risks are functional or if there is an accumulation of complaints for certain issue that would make an adjustment necessary.
So far it was not necessary to implement any new measures for risk reduction.

Post market information (complaint analysis) will be analysed in order to find out if there are any previously unidentified hazards or any user mistakes that can be eliminated or reduced by taking respective actions.

7.2 Final Risk/Benefit Analysis

Therefore the benefit of the BIOSYNEX COVID-19 Ag BSS / BIOSYNEX® COVID-19 Ag BSX / BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag Test is much higher than the potential risk occurring by using this device. The assay enables the user to detect nucleocapsid protein of SARS-CoV-2 in nasopharyngeal swabs or nasal swabs and can thus be used as aid in the diagnosis of SARS-CoV-2 infections. Analytical and diagnostic performance data show that the assay generates reliable results within LOT and between LOTs. Nucleocapsid protein of SARS-CoV-2 is a suitable marker to diagnose a SARS-CoV-2 infection as the pathogen is directly detected in sample material.

The detailed user instruction enables the user to avoid mistakes in the sample collection procedure, the assay procedure and the interpretation of results. The result interpretation is accompanied by pictures so that the user can easily understand the IFU (for SW40006_BSX, the result is directly given by the BSX Reader, there is no interpretation by the user). In addition the test set-up is in a way to minimize infection risk from sample material. Respective warnings are also given in the IFU.
From this it can be concluded that the benefits from the assay (fast, easy result) are higher than the risks from the assay.
Furthermore the test is considered to be only an aid in diagnosis which is clearly stated in the INTENDED USE.
According to the quality management, BIOSYNEX has an active complaint management so that malfunctions of tests or frequent customer complaints would be noticed and the tests/instructions could be corrected to meet the demands.

As an ISO-certified company BIOSYNEX also monitors the performance of the assay internally in random controls.
At the moment we do not see any necessity to find solutions to further minimize or reduce risks or to improve the performance of the assay. The product seems to be safe and can be sold in markets within and outside Europe after registration on that market.

7.3 Conclusion

Risk management team has reviewed the risk management process to check the pilot production and risk management documents:

- The risk management plan has appropriately been performed.
- The overall residual risks are acceptable.
- There is an appropriate method for collecting information of Production and Post-Production Monitoring.

– the Overall Residual Risks of the project are at an acceptable level. The distribution of Risk levels is also in acceptable range of risk acceptability rules and the Risk / Benefit analysis demonstrates that the medical benefit outweighs the residual risk.

8 History (changes)

Revision	Date	Part	Reason/Changes
01	2020/09/29	NA	Creation of the document
02	2020/11/03	All	Addition of the new variant BIOSYNEX COVID-19 Ag BSX REF. SW40006_BSX
03	2021/02/15	5.3; 5.4; 6.1	Modification of the intended use: the test can be used with nasopharyngeal **or nasal swab** specimens.
04	2021/02/24	All	General revision corresponding to the launch of new variants for self-test use by layman users: BIOSYNEX AUTOTEST ANTIGENIQUE COVID-19 Ag