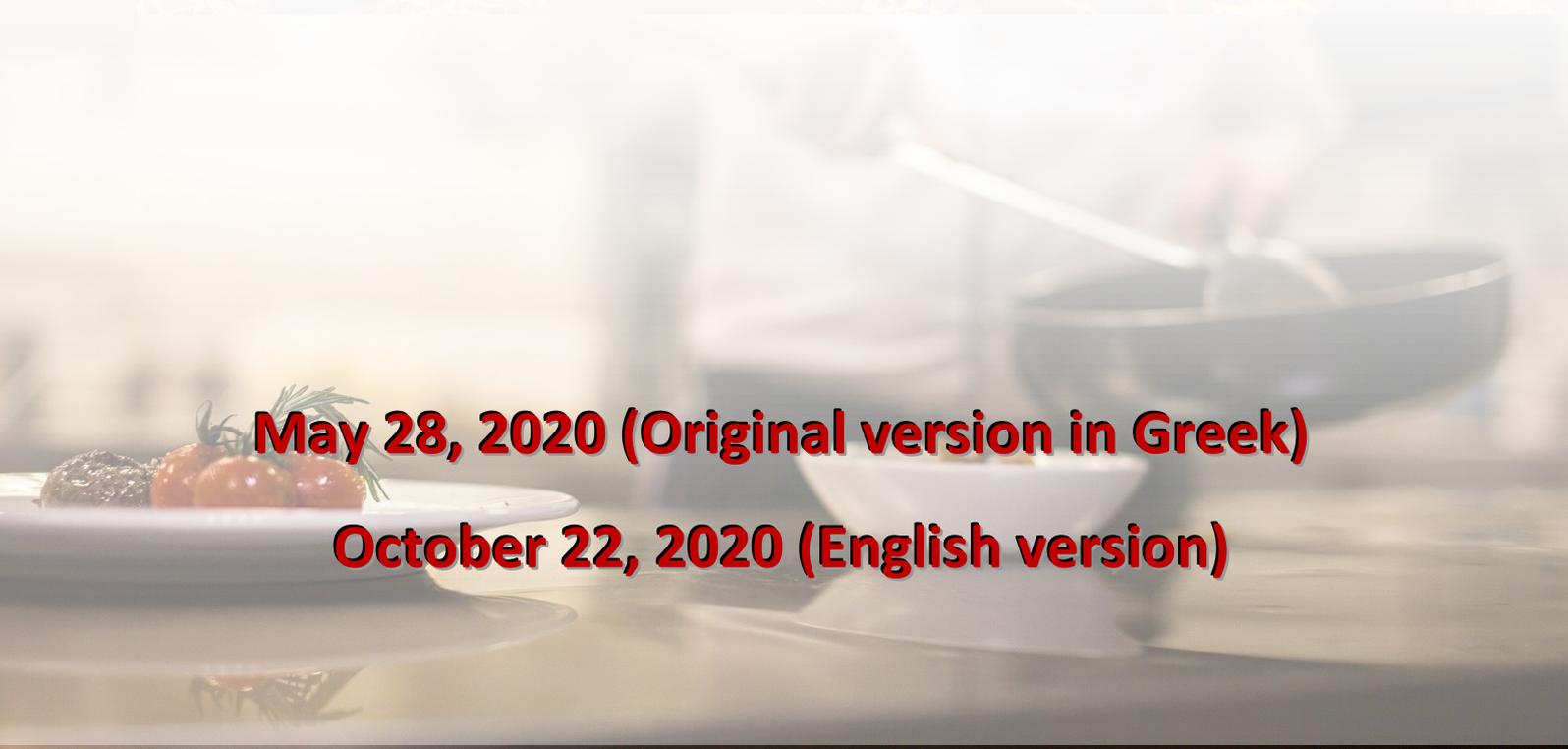


**Risk profile of the SARS Coronavirus 2
(SARS-CoV-2) in Food Businesses**

The background of the title section is a blurred image of a food processing factory. Overlaid on this is a large, glowing yellow and orange 3D model of a SARS-CoV-2 virus particle, showing its characteristic crown-like surface with numerous spike proteins. Several other smaller, fainter virus models are scattered around the main one.

May 28, 2020 (Original version in Greek)

The background of the bottom section is a blurred image of a kitchen. A chef is visible in the background, wearing a white uniform and a hat, stirring a large metal pot on a stove. In the foreground, a white plate is partially visible, containing a small portion of food, including what looks like a tomato and some dark, possibly charred, ingredients.

October 22, 2020 (English version)

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1. INTRODUCTION

Scientists and authorities around the world are monitoring the spread of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), which causes the coronavirus disease (COVID-19) and point out that, according to current data, the virus cannot be transmitted through food consumption.

According to the European Food Safety Authority (EFSA), there is no evidence that food poses a risk to public health in relation to the COVID-19 disease. The European Authority further indicates that according to data concerning previous outbreaks of similar coronavirus infections (SARS-CoV, MERS-CoV) transmission through food consumption has not been reported and there is no evidence that the new coronavirus (SARS-CoV-2) is different from its predecessors in terms of transmission through food intake. The European Centre for Disease Control and Prevention (ECDC) has also stated that the virus can be transmitted from human to human mainly through the respiratory tract. According to the German Agency for Risk Assessment (BfR), there are no known reports concerning infections by other coronaviruses due to food consumption or contact with dry surfaces. Virus transmission via recently contaminated surfaces, is possible by touch, as pathogens found in human hands can enter the body via the mucous membranes of the nose, mouth or eyes and lead to infection. However, this is possible only shortly after the surface has been contaminated due to the relatively low stability of the coronaviruses in the environment. The French National Food and Safety Authority (ANSES) stated that, based on current knowledge, the immediate transmission of the SARS-CoV-2 virus through the digestive tract is not possible.

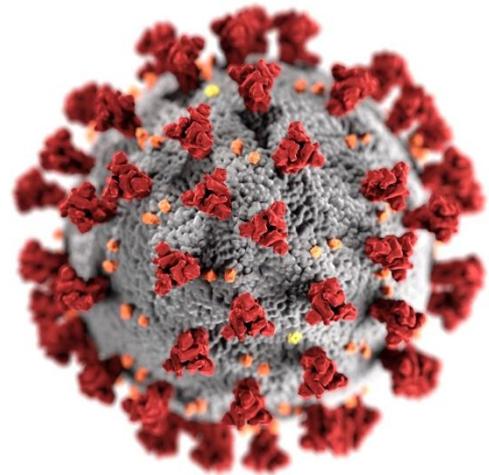
Since there are no indications that the virus can be transmitted through food consumption, this Scientific Opinion aims at the analysis of the SARS-CoV-2 risk profile in a food business environment and concerns the direct (from person to person) or indirect (after contact with contaminated surfaces) transmission. The Opinion provides a detailed mapping of stages and processes of the food supply, processing & disposal chain, as well as food business premises with a clear distinction between the food industry and mass catering services. It further presents in detail the available control measures of transmission and concludes by assessing the possibility of exposure to the virus per stage or process operation and proposes measures and interventions to control possible transmission per stage or process. It should however be noted that the choice and intensity of measures' implementation may vary between companies or units within the same company and may be based on criteria of the company's functional characteristics and risk of virus transmission.

2. DESCRIPTION OF THE SARS-CoV-2 VIRUS

2.1 Virus structure

The SARS-CoV-2 is an enveloped positive-sense single-stranded RNA virus. It is classified under the Beta-coronaviruses family infecting humans and mammals. The diameter of the viral particle is about 65–125 nm surrounded by a lipid bilayer on the outside, on which the glycoprotein spike (S) is bounded, and it resembles to crown protrusions. Inside the envelope is the nucleocapsid. Coronaviruses have helical symmetrical nucleocapsids, which is not uncommon for positive-sense RNA viruses, but is even more unusual for negative-sense RNA- viruses.

Viruses encode four main structural proteins including the spike protein (S), the membrane (membrane, M), the envelope protein, and the nucleocapsid protein (N), which are encoded from the 3'-end of the viral genome. Proteins (S) and (E), in their glycosylated form, are located in the lipid bilayer with S being exposed to the outside part of the virus which interacts with the host receptor target cells. The N protein interacts with the viral RNA.



2.2 Infection and Multiplication of the virus

The SARS-CoV-2 virus enters the target cells after attaching Angiotensin-converting enzyme 2 (ACE2) receptors that are expressed in different organs such as the heart, lungs, kidneys and gastrointestinal tract. The introduction of the virus into the cell begins through the interaction of S glycoprotein with the receptor, ACE2 in host cells (e.g. in type II lung cells in the lungs). This interaction occurs through the RBD (receptor binding domain) region of the S protein spanning amino acids 331 to 524 that interacts strongly with ACE2 receptors in humans and bats. The entry process is completed with the fusion of the virus and the host cell membranes. After the virus is introduced into the cell, its genetic material is released into the cytoplasm followed by the translation of the viral proteins.



The genetic material in the cytoplasm is in the form of mRNA and is translated into proteins. The virus genome includes approximately 14 open reading frames (ORF), each encoding structural and non-structural proteins involved in the replication cycle and virulence of the virus. Non-structural polyproteins encoded by the ORF1a and ORF1b genes are translated first, after being processed by proteases, they participate in multiple virus and host interaction processes. Non-structural proteins interact with the RNA-dependent polymerase and helix subunit complex responsible for transcribing viral RNA.

The next step is the translation of the structural and accessory proteins such as M, S and E that are isolated in the endoplasmic reticulum and subsequently transported to the endoplasmic reticulum-Golgi (ERGIC) segment. Then the N protein that forms the nucleocapsid is transferred to the endoplasmic reticulum-Golgi compartment (ERGIC) where together with other structural proteins form small vesicles and exit the cell through exocytosis.

2.3 Epidemiological data

In late December 2019, clusters of patients with pneumonia of unknown etiology were reported in Wuhan, Hubei Province, China. The causative agent of the disease was identified to be a new coronavirus named SARS-CoV-2. The SARS-CoV-2 has the highest genetic similarity (about 96% along the genome), with the strain RaTG13 isolated from a bat in China.

For the SARS-CoV and MERS-CoV coronaviruses which caused epidemics in the recent past, the basic reproduction number (R_0) value was around 3 and 0.3-0.8, respectively. According to initial estimates of the World Health Organization (WHO) the SARS-CoV-2 related R_0 was between 1.4-2.5, but a review of 12 studies published later reported a mean value of R_0 equal to 3.28 (with a median value of 2.79). The basic reproduction number R_0 is defined as the average number of transmissions generated by each infected person. The R_0 is an important measure whether or not a disease is likely to cause an increasing transmission rate (epidemic) in a population. Specifically, if R_0 is greater than 1 then the disease can cause an epidemic, while if the R_0 is less than 1 the chance of an epidemic is extremely low.

As of May 26, 2020, WHO had announced that 5,370,375 individuals worldwide had been diagnosed with the COVID-19 disease and 344,454 had died from the disease. The virus has global spread and has affected 216 countries or regions^{1,2}.

In Greece, the first cases were diagnosed after February 26, 2020, and the majority were individuals who had travelled to Italy, Israel or Egypt, as well as their contacts.

Up until 26/05/2020, 2,889 cases had been diagnosed and 173 people have died. Of the total 2,889 cases, 628 (21.7%) were related to travel abroad, 1,644 (56.9%) were contacts of documented cases and the rest were not related to travel or another case or were under investigation⁵.

3. DESCRIPTION OF THE COVID-19 DISEASE

3.1. Routes of transmission

Based on existing data, the SARS-CoV-2 virus is thought to be transmitted from person to person mainly through large droplets (diameter >5µm). Therefore, a healthy person can be infected either by inhaling directly the droplets of the virus expelled from an infected person, by coughing, sneezing or talking, at close range (less than two meters) or by direct contact with him (e.g. hug, kiss). A person can also be indirectly exposed to the virus by touching droplet-contaminated surfaces and objects and then touching their mouth, nose or eyes. According to WHO, the airborne transmission of the SARS-CoV-2 virus (droplets smaller than <5µm in diameter, through aerosol) is also possible in specific cases of medical processes (i.e., bronchoscopy, open suction, tracheostomy) in health care units. However, the transmission routes of the virus are being investigated and airborne transmission (i.e. through small droplets) along with other routes cannot be entirely ruled out. In some studies, the virus has also been isolated in patients' faeces, although there is no evidence of transmission through the faecal-oral route.

3.2 Symptoms

Individuals suffering of COVID-19 can demonstrate a wide range of symptoms, from mild to severe, most common being fever, cough (usually dry maybe with expectoration), difficulty in breathing and fatigue. Less common symptoms include muscle ache, headache, sore throat, nasal congestion, sudden smell or taste loss and diarrhea. Symptoms' manifestation starts 2-14 days after being exposed to the virus (usually 3-7 days). It's also possible that some individuals remain asymptomatic.

3.3. High-risk groups

The COVID-19 infection can affect people of all ages. However, the risk of developing the disease gradually increases after the age of 40 years. Based on current evidence, there are two population groups at high-risk of developing severe COVID-19 disease. Specifically: a) people older than 60 years (living in nursing homes or related institutions) and b) people of all ages with underlying medical conditions, particularly if not well controlled, such as chronic lung disease (moderate or severe asthma), severe cardiovascular disease, malignancies, diabetes, chronic renal disease (under

hemodialysis), chronic liver disease, congenital or acquired immunodeficiency and severe cases of obesity (BMI ≥ 40 kg/m²).

4. EXPOSURE TO THE SARS-CoV-2 VIRUS IN FOOD PREMISES

4.1 Stages / Procedures of the supply and processing chain / Workplaces

Food industry

- Raw & packaging materials supply and receipt
- Storage and transfer to the processing area
- Processing
- Packaging
- Storage
- Dispatch & Delivery
- Sales
- Staff arrival and departure from work
- Visit of external collaborators / visitors
- Offices (use of shareable tools/materials, dealing with visitors)
- Toilets
- Canteen / Break areas

Food service/ Restaurants

- Raw & packaging materials supply and receipt
- Storage
- Food transport from processing area
- Food processing and meal preparation / Kitchen (back of the store)
- Takeaway / delivery services
- Sales / service
- Staff arrival and departure from work
- Visit and stay of external collaborators / visitors
- Offices (use of shareable utensils, dealing with visitors)
- Toilets
- Canteen / Breakareas

Employees involved in the above mentioned procedures can potentially be exposed to the virus.

It is particularly indicated that companies may apply different levels of automation throughout food processing, ranging from none, to partially or fully automated (and closed circuit) processes and this can affect the number of employees being exposed to the risk. Automation significantly reduces

employee exposure to the virus compared to manual labor and gathering of staff at certain areas (e.g. around conveyor belts).

4.2 Points of virus entry and transmission by stage / procedure and worksite of the previous section

Food industry

Raw and packaging materials supply and receipt

- Vehicle entrance
- Drivers' approach
- Load control
- Unloading
- Exchange of accompanying documents
- Transfer to the warehouse
- Transfer connection to Silo / Tank
- Placement to storage
- Filing of accompanying documents (printed or electronic)

Storage and transfer to processing area

- Material transport
- Transportation of materials / means of transport (forklift)
- Possible use of elevator

Processing (broader meaning)

- De-packaging & supply of materials
- Equipment handling by one operator per shift (control panel)
- Equipment handling by more than one operator per shift
- Manual processing (e.g. sorting products/classification) by individual worker
- Manual processing (e.g. sorting products/ classification) by a group of employees
- Waste management

Packaging

- Transport of materials/products
- Equipment handling by one operator per shift (control panel)
- Equipment handling by more than one operator per shift
- Selection line / boxing from a group of employees
- Palletization

Storage

- Transfer palette to storage warehouse
- Placement in storage

Shipping for distribution

- Preparation of cargo/transfer by workers or vehicles (forklift)
- Preparation of accompanying documents
- Vehicle approach
- Drivers' approach
- Vehicle inspections
- Loading
- Exchange of accompanying documents

Sales (see offices)

- Transport to customer's place by the company's vehicle
- Transport to customer's place by public transport
- Travel abroad
- Contact with customers

Staff arrival and departure from work

- Crowding upon arrival
- Investigation of health status
- Use of locker rooms
- Punching attendance card

Suspected / Confirmed case among the staff

- Preventive measures to limit spread
- Corrective measures after detection

Visit and stay of external collaborators / visitors

- Non-critical for the operation
- Critical for the operation
- In the offices
- In production/storage premises

Offices (use of shareable tools, dealing with visitors)

- Individually
- With more employees

- With external visitors
- Internal services only

Toilets

- Use of toilets
- Use of hand-washing facilities in workplaces

Canteens/Break areas

- Use by a group of individuals during a specified break time
- Use for individual break by one person
- With food serving facilities
- Use as eating space

Food service/ Restaurants

Raw and packaging materials supply and receipt

- Vehicle entrance
- Drivers' approach
- Load control
- Unloading
- Exchange of accompanying documents
- Transfer to the warehouse
- Filing of accompanying documents (PC / classer)

Storage and transfer to the processing area

- Storage of materials on shelves, cabinets of raw materials (cooling / freezing)
- Transfer of materials to the processing area (super market cart or shareable equipment)
- Use of an elevator or freight machine using external keyboards

Food processing and meal preparation/ Kitchen (back of the store)

- De-packaging & supply of materials
- Handling of working objects (e.g. cutting surfaces, utensils, tools, dishes, equipment, handles, taps) by one employee
- Handling of working objects by more than one worker
- Ice machine and ice handling equipment using tools and cleaning of shareable items
- Product/meal packaging
- Areas and utensils for washing dishes/ Storage and protection of utensils
- Waste management

Takeaway / delivery services

- Preparation of cargo
- Preparation of means of transportation
- Preparation of distributor equipment (e.g. helmet, isothermal box / distribution bags, POS card machines)

Sales / Service

- Customer communication (order, transaction, receipt)
- Transaction at the cash (ordering screens, banknotes, cards, POS)
- Shareable items in buffet - salad bar (vending machines, dispenser push, salt and pepper, tweezers, spatulas)
- Shareable items in a coffee station (e.g. sweets, stirrers, straws)
- Other possible items (food trays, plates, glasses, cutlery, water coolers, sous-plats)
- Tables / seats
- Tablecloths and utensils permanently placed on the table (e.g. salt, pepper, oil, vinegar, napkins, toothpicks)
- Use of customer elevator
- Customer self-service refrigerators (soft drinks, juice juices, etc.) open or closed type Coca Cola shareable knobs, doors, windows

Staff arrival and departure from work

- Doors- Keys that open stores
- Crowding upon arrival
- Staff health status
- Use of locker rooms

Suspected / Confirmed case among the staff

- Preventive measures to limit spread
- Corrective measures after detection

Visit and stay of external collaborators / visitors

- Non-critical for operation
- Critical for operation (including remittances)
- In the offices

Offices (use of shareable utensils, dealing with visitors)

- Individually
- With more employees

- With external visitors
- Only internal services

Toilets

- Use of toilets
- Use of hand-washing facilities in workplaces

Canteens/Lunch-coffee break premises

- Use by a group during a specified break time
- Use for individual break by an individual employee

5. CONTROL MEASURES / INTERVENTIONS FOR THE RISKREDUCTION

5.1 Criteria for the selection of control measures against the SARS-CoV-2 virus in food business

Dealing with SARS-CoV-2 in food businesses requires the development and implementation of new control measures and / or the modification of already existing ones.

The choice and intensity of such measures may vary among companies or different units of a business and should be based on operational characteristics and the risk of viral transmission.

Criteria for the selection of SARS-CoV-2 control measures in food business
<ul style="list-style-type: none"> • <u>Number of employees/customers</u>: Companies with a large number of employees / customers are recommended to select more measures of the highest possible intensity. • <u>Spread of the virus to the local community</u>: Companies operating in areas where the virus is highly spread in the community are recommended to implement more intense control measures. • <u>Employee / customer characteristics</u>: Businesses related to vulnerable groups (e.g. hospital / nursing meals) are advised to apply more measures of a higher intensity. • <u>The importance of employees in the production process</u>: In units / premises where highly specialized/trained personnel is involved, particularly if these are production units, a higher level measures are recommended. • <u>Business infrastructure</u>: Business’s infrastructure should allow the implementation of the selected measures.

The control measures described below can be applied in parallel with existing quality assurance systems implemented in food businesses either as new Prerequisite Programs [PRPs] or as Operational Prerequisite Programs [oPRPs] or as a modification of existing programs.

5.2 Description of SARS-CoV-2 control measures in food businesses

5.2.1. Sanitation (Disinfection-Cleaning)

a) Sanitation of equipment and surfaces that are in contact with food

According to current evidence, the pre-requisite sanitation programs implemented in food businesses within the framework of a HACCP system are effective against SARS-CoV-2 (Australian Institute of Food Safety, 2020). However, food businesses should take into consideration the fact that, in areas where frequent human contact takes place, there is a higher need to increase the frequency of sanitation programs. In addition, data generated in relation to the effectiveness of disinfectants against the virus should be closely monitored. There are clear indications that similar viruses are inactivated by commonly used disinfectants that are used in the food industry, such as products based on quaternary ammonium compounds, chlorine and hydrogen peroxide. A recent study (Kampf et al., 2020) demonstrated that chlorine (1000 ppm) and hydrogen peroxide (0.5%) are very effective in killing coronaviruses. Food businesses should use this opportunity to recheck and verify the effectiveness of their cleanup/sanitation programs in relation to the:

- concentration of the active disinfectant compound
- temperature applied
- duration of application

b) Sanitation of shareable areas

The sanitation programs of shareable (common) areas in food businesses need to be adjusted in order to address the SARS-CoV-2. The frequency of application of such programs should be based on the infrastructure of the various spaces/points in relation to their use/contact. In places such as toilets, restaurants, canteens, locker rooms, and certain spots like switches, door handles, keyboards, handrails on stairs and corridors, cupboards, with high usage and regular contact, the frequency of cleaning programs should be particularly high, always based on risk factors.

Several antimicrobial agents have been tested against various coronaviruses (Table 1). Some of the active ingredients, e.g. Sodium hypochlorite (contained in household bleach) and ethanol are widely used in non-health and non-laboratory units. Although there are no data on the effectiveness of the above-mentioned antimicrobial agents against the SARS-CoV-2 virus, the use of 0.1% hypochlorite sodium (dilution 1:50 if 5% for household chlorine with initial concentration 5%) is recommended after cleaning with neutral detergent. For surfaces that are likely to be damaged by the use of sodium hypochlorite, the use of ethanol, at a concentration of 70%, is needed after cleaning with a neutral detergent.

Table 1. Antimicrobial factors with efficiency against various coronaviruses (National Public Health Organization, 2020)

<i>Antimicrobial Factor</i>	<i>Concentration</i>	<i>Tested Coronavirus</i>
<i>Ethanol</i>	70%	HCoV-229E, MHV-2, MHV-N, CCV, TGEV
<i>Sodium hypochlorite</i>	0.1-0.5%, 0.05-0.1%	HCoV-229E SARS-CoV
<i>Povidone iodine</i>	10% (1%)	HCoV-229E
<i>Glutaraldehyde</i>	2%	HCoV-229E
<i>Isopropanol</i>	50%	MHV-2, MHV-N, CCV
<i>Benzalkonium chloride</i>	0.05%	MHV-2, MHV-N, CCV
<i>Sodium chlorite</i>	0.23%	MHV-2, MHV-N, CCV
<i>Formaldehyde</i>	0.7%	MHV-2, MHV-N, CCV

The selection of disinfectant should be made in relation to the surface material to be disinfected. On sensitive materials (e.g. telephones, keyboards, and electronic devices) alcoholic disinfectants should mainly be applied (containing ethanol, propanol-2, propanol-1) that have been shown to reduce significantly the infectivity of viruses with viral envelope (such as SARS-CoV-2) at concentrations of 70-80%. In high-risk areas (e.g. toilets) the application of spraying and electrostatic charging devices droplets is recommended, so that all surfaces are fully covered with the liquid spray even in the most distant areas and for the largest range of possible sources of infection. The disinfectant should be approved by the Greek National Organization of Medicines (EOF) and should also be non-toxic, with no residual action, environmentally friendly and should also not stain, or cause damage to the surfaces applied.

c) Sanitation of contaminated spaces

Food businesses should develop a special sub-program for the sanitation of contaminated spaces (e.g. because of contact with a SARS-CoV-2 positive employee/customer/supplier). In the event of a confirmed case of SARS-CoV-2 in the business premises (employee or customer), sanitation of the surfaces and objects is necessary. The person in charge of the operation should be informed so that stricter measures are applied and an integrated cleaning-disinfection program is implemented, according to the instructions of National Public Health Organization (NPHO) (NPHO, 2020). The process of disinfection must be the responsibility of an expert, as provided by professional rights (e.g. Public Health Supervisors). The staff who applies these procedures must have received appropriate training (vocational or on job training), have all the required personal protective equipment and should meticulously apply all the prescribed measures and rules of hygiene and safety at work. The choice of the application method (e.g. spraying) and the respective use of the appropriate equipment must always aim to minimizing effectively and safely the viral load of contaminated areas, surfaces and spots, without causing further pollution, damage or destruction

of other materials and objects.

5.2.2. Health monitoring of employees

The development of a staff health monitoring program is an additional control measure. Such a program should be implemented mainly at the company's entry points and may include:

a) The employees' oral statement in relation to:

- Symptoms' indications (if employees have had fever, chills, cough or difficulty breathing for the last 24 hours)
- Indications for contact with people found positive to the virus
- Traveled to areas with a high virus prevalence in the community

b) The control of body temperature at the beginning of every shift, aiming at locating individuals with fever.

Apart from the entry points, similar actions (e.g. symptoms monitoring) can be applied to all workspaces. The employees' health monitoring program should be implemented by trained personnel wearing the necessary personal protection measures. The body temperature should be measured remotely with special devices, the accuracy of which should be frequently assessed.

Tele-thermographic Systems can alternatively be used particularly in spaces with large number of individuals and where measurement on an individual basis is not possible.

The US Food and Drug Administration (FDA) recently released a report on the use of Tele-thermographic Systems for real-time monitoring of body temperature in a large number of individuals. These systems measure skin temperature, which is then used to calculate body temperature.

Based on the above, in the event of symptoms in employees/suppliers/customers, the virus management program should be implemented.

5.2.3. Virus positive case management

Food businesses need to develop a special virus management program that includes the following:

- Employees with symptoms (e.g. fever, cough or shortness of breath) upon arrival at work or during the day should be immediately isolated in a specific area and then go home preferably by private means of transport.
- Informing the employees about the instructions of NPHO (home self-restraint for 14 days and tracking of people who were in close contact with the patient).
- Informing immediately the person in charge of the company and communicating with a NPHO MD.
- Immediate notification to all employees and visitors and their oral statement as to whether they have recently been in contact with an infected person.

- To inform the employee about policies and procedures for returning to work.
- Informing the human resource management about staff replacement.
- To manage the employees' health issues with discretion and confidentiality, while protecting personal data.
- To implement the special sanitation program, in case of viral infection.

5.2.4. Maximize physical distance between people

Physical distance is one of the most important factors influencing the transmission of the virus. Increasing the physical distance between individuals, as well as complying with the number of individuals per unit area based on current legislation, the instructions of NPHO and other competent bodies are highly recommended. A list of organizational and operational measures that can ensure the maximum possible social distancing include:

- To schedule for:
 - a) gradual arrival and departure of employees in groups to avoid crowding and respect social distancing.
 - b) controlled access to common areas (spaces for breaks, rest, locker rooms, toilets, etc.).
 - c) the arrival of third parties (e.g. customers, external partners, distributors, visitors) where possible, to avoid crowding.
- Rearrange the workplace to maintain appropriate distance and in reverse order (where applicable).
- Rearrange the business work operation with the aim of minimizing the movement of people.
- Formation of one-way corridors and traffic control by keeping physical distance.
- Avoid using elevators.
- Encourage employees to avoid transporting at and from work by public transport, if possible.
- When using vehicles, limit the number of people per vehicle as much as possible.
- Distance working where possible and hosting events and conferences using IT and communication technologies (e.g. teleconferencing).

5.2.5. Personal Hygiene and Personal Protection Measures

Personal Hygiene and Protection Measures have been proven to be very important tools for controlling the transmission of all viruses, including SARS-CoV-2. The intensity, frequency and extent of these measures in food businesses should be updated during the pandemic.

a) Personal Hygiene

Food companies are advised to develop a special hand wash / disinfection program for employees, which will be characterized by high frequency and ability to differentiate depending on the risk factors of their jobs. This program should be accompanied by the necessary changes / adaptations to the company's infrastructure in order to facilitate its implementation.

b) Personal Protection Measures (PPM)

i) Masks and face shields

According to WHO guidelines, the use of masks can help reduce the transmission of the virus, but only if used properly and under the appropriate circumstances. Moreover, under no circumstances the use of personal protection measures should replace the measures of personal hygiene and physical distancing.

Face masks / shields are an alternative means of personal protection. To be completely effective, a face shield should extend below the chin, cover the ears and there should be no exposed gap between the forehead and the upper part of the shield. Compared to the mask, the face shield has the advantage that: (a) it can be reused only after cleaning with soap and water or disinfectant and (b) it is more comfortable than the mask. Finally, the shield forms a barrier that prevents people from constantly touching their face.

Categories of masks on the market (EODY,2020)⁶

Surgical mask

The surgical mask is used daily in healthcare facilities by healthcare staff. It covers the mouth, nose and chin of staff so that it is not exposed to droplets from patients. It is made of three layers of special materials. The outer layer of the mask (the coloured part) is liquid repellent, so that in case of expulsion of biological fluids (saliva, blood, etc.) they do not enter the upper respiratory tract. If this side is placed inwards, the water vapor produced by the exhalation remains on it and creates a feeling of drowning. The inner layer is white and aims at absorbing the water vapor of exhalation. Filtration of microorganisms is done by the middle layer which is not visible.

Non-surgical mask (community mask)

The non-surgical mask is usually made of fabric and is not intended for use in health structures or by health professionals. It is used by the general public to cover the face (nose and mouth). It is available on the market, but it can also be made at home from a variety of materials (usually cotton fabric).

High respiratory protection mask

The high respiratory mask with and/or without valve is intended for use by health professionals and is not recommended for use by the general public. It is designed to protect the person who wears it and it belongs to the personal protective equipment of the health personnel, as it prevents its exposure to aerobic transmitted microorganisms. The mask with a valve does not prevent the emission of droplets from the person wearing it.

Instructions on how to apply a simple surgical mask (EODY, 2020)⁶

- Choose the right size
- Wash hands before putting the mask
- Apply the mask on the face in a way that completely covers the nose, mouth and chin (firmly, without gaps)
- Press the metal element on the nasal spine
- Lock the cords in the middle of the back of the head and neck. If it is a mask with elastic loops, they are applied around the ears
- Avoid contact of the mask after placement; otherwise sanitize hands before and after contact
- Remove the mask by holding only the laces first from below and then from above. If it is a mask with elastic loops, it is removed by holding the loops at the same time with attention.
- Discard in special bin for contaminants
- Wash hands
- Avoid reusing the mask (if disposable)
- Remove, discard and change in case it is dirty or damaged

ii) Gloves

Gloves can be used by food workers but they must be changed frequently and hands must be washed between changing and after discarding gloves (WHO, 2020). Gloves should be changed after handling shared items or non-food-related tasks, such as opening or closing the door by hand and emptying bins. Food workers need to be aware of the fact that wearing gloves can increase the concentration of bacteria on the surface of the hands, so washing your hands is very important to prevent food contamination.

Food workers should avoid touching their mouths and eyes when wearing gloves. Disposable gloves should not be used as a substitute for hand washing in the workplace (food industry/premises). The SARS-CoV-2 virus can infect disposable gloves in the same way as it contaminates the hands of workers. Glove disposal can lead to hand contamination. Wearing disposable gloves can give a false sense of security and can lead staff into not washing the hands as often as required. Food businesses should evaluate the risk-benefit relation in order to be able to evaluate, case-by-case, the need to use personal protection measures against potential negative impacts as a result of their inappropriate implementation and taking into account, among other things, the additional requirement of staff training.

5.2.6. Staff training

Prerequisite staff training programs in food businesses which are currently applied within their quality / safety management systems should be updated with additional training and information

on SARS-CoV-2 and COVID-19 disease. Additional training aims at implementing properly the measures to prevent and control the transmission of the virus to the workplace and should include the following:

- Identification of disease symptoms
- Actions taken after the onset of symptoms
- Vulnerable population groups
- Training in order to maintain distances
- Appropriate hand washing / disinfection and personal hygiene practices
- Proper use of personal protective measures
- Management of virus case
- Instructions of NPHO

5.2.7. Ventilation / Air Conditioning Control

Based on the available data, it has not been documented that the air conditioners act as sources of growth and multiplication of the virus (therefore there is no risk of infection at home / office where the employees are all healthy). However, air conditioning units may, under certain conditions, facilitate airborne transmission, in a mechanical way, by people who are already carriers. Depending on the type of unit, the proposed measures may differ. The proposed protection measures aim at limiting the mechanical spread of the virus through the air currents that develop during the operation of the air conditioning units.

Proposed protection measures aimed at reducing the mechanical spread of the virus through the air currents that are developed during the operation of the air conditioning units (Ministry of Health, 2020)⁷

- Increasing the supply of fresh air to all central air conditioning units (CACUs)
- Complete avoidance of air recirculation
- Continuous operation of central air conditioning units (24/7) even if department is not working (to avoid multiplication of microorganisms)
- The rotation of CACUs with rotary air exchangers should be turned-off and if possible, the air should be discarded without passing through the exchangers. The CACUs with plate exchangers should be switched off if possible (although their degree of danger is not sufficiently documented)
- For CACUs with air recirculation, the mixing flow regulators (damper) should be closed and the return air should be discharged directly to the external environment.
- Rejection air pipes should be kept as far away as possible from fresh air suction points.
- Fan coil units (FCUs) should be switched off where possible or when this is not possible to be operated continuously 24/7 (for reasons of avoiding virus recurrence in the event of cessation and reopening of the units)
- Split units where possible, should also be switched off or when this is not possible should be operated continuously 24/7 with parallel operation of natural ventilation
- Adjust the ventilation to the speed indicated by the manufacturer at least 2 hours before the

time of use of the building and change to a lower speed 2 hours after the time of use of the building

- It is not recommended to turn off the ventilation at nights, weekends and holidays, but to keep the ventilation systems running but at a lower speed
- Avoid changing the specified levels of heating, cooling and possible humidity
- Avoid planning for cleaning pipes during this period. Cleaning of air pipes should be encouraged if it is done by mechanical means (robots)
- For CACUs and household units, filter replacement shall be done according to the normal procedure and scheduled maintenance. Regular filter replacement and maintenance work shall be taken place by taking all protective measures (personal protection, space ventilation, safe collection of replaced filters) including respiratory protection.
- Ensuring adequate ventilation of all outdoor areas

5.2.8. Infrastructure

The implementation of control measures to prevent SARS-CoV-2 virus in food businesses may require adjustments or changes in existing business infrastructure. These adjustments / changes may include the following:

- Establishment of the necessary means (e.g. sinks, soap, running hot water, disposable hand towels, antiseptic solutions) at each entrance/exit to/from food production areas, and installation of appropriate mechanisms for hand sanitization at the entrances /exits and in the shared areas of the industry
- Rearrangement of the production lines with the aim of maximizing physical distance between staff
- Development of dividers between jobs and / or customer positions
- Using appropriate signs to maintain physical distance between staff / customers
- Adjustment in ventilation / air conditioning systems
- Design of special areas for the management of virus outbreak
- Rearranging entrances to better monitor employee health
- Purchase of new equipment (special devices for body temperature control)

5.2.9. Personnel Management in relation to immunity and susceptibility to the virus

The development of high-precision (sensitivity and specialty) immunity tests, which are expected in the near future, is likely to give the opportunity to develop a staff management strategy in relation to immunity and susceptibility to the virus. The body responds to a viral infection immediately with a non-specific innate response in which macrophages, neutrophils and dendritic cells slow down the virus's progression and may even prevent it from causing symptoms. This non-specific response is followed by an adaptive response where the body produces antibodies that are specifically linked to the virus. These antibodies are proteins called immunoglobulins. The body also produces T-cells that recognize and eliminate other cells that have been infected by the virus. This is called cellular immunity. This combined adaptive response can clear the virus from the body and if the response is

strong enough, it can prevent the progression to a serious illness or recurrence of the same virus. This procedure is often measured by the presence of antibodies in blood.

WHO (WHO, 2020) states that laboratory tests detecting antibodies against SARS-CoV-2 in individuals, including rapid immunoassay tests, need further validation in order to determine their accuracy and reliability. Inaccurate immunoassays can wrongly categorize people in two ways. Firstly, they can point out people who have been infected as negative (false negatives) and secondly, people who have not been infected are labelled as positive (false positives). Both errors have serious consequences and will affect control efforts. These tests must also accurately distinguish between previous SARS-CoV-2 infections and those caused by the known set of six human coronaviruses. People infected with any of these viruses may produce cross-reactive antibodies with antibodies produced in response to SARS-CoV-2 infection.

Possibly, the availability of high-precision immune tests in the future could be used by some food businesses (especially those with a large number of employees) as a control measure to prevent the SARS-CoV-2 virus. Indeed, knowledge of the level of immunity for all staff combined with information about its vulnerability could lead to proper management with the ultimate goal of reducing the likelihood of transmission and the severity of the disease.

6. ASSESSMENT OF POSSIBLE EXPOSURE TO SARS-CoV-2 PER STAGE OR PROCESSING OF THE BUSINESS AND PROPOSALS OF MEASURES AND INTERVENTIONS FOR RISK REDUCTION

This section presents two tables of risk assessment for the food industry and food services. These tables can be used by any business as tools for:

- Assessing the severity and probability of each stage or process that acts as potential entrance point or means of virus transmission.
- Further specialization of control measures according to the food business needs
- Control of measure compliance (check list)

For the proper use of the tables, food business of both sectors must take into consideration that the assessment of the possibility of exposure is indicative and at each establishment depends on:

- The number of employees per region / workplaces and conditions that favor crowding
- The environmental conditions in the various workplaces (humidity, temperature, dust, etc.)
- Infrastructure level (automation, equipment, staff areas)

Since SARS-CoV-2 virus infection can affect the health of employees in any business, the final evaluation should be also reflected in the Occupational Risk Assessment Study (MEEC). The

Occupational Doctor and the Safety Technician can draw more information and details from this scientific opinion on the risk profile of virus in food businesses. It is noted that the drafting of the following tables was based on the data that were valid until the date of publication of this scientific opinion.

I. RiskAssessmentTable (FoodIndustry)

Entrance point or means of transmission of the virus - Stages / Processes of the supply chain	Rationale for exposure to risk	Probability of exposure	MEASURES AND PRACTICE SOF RISK MANAGEMENT		Business control measures	Audit from business	
			Document type or specific hazard control practice of SARS-Cov2	Proposed specific measures		YES	NO
Raw and packaging materials supply and receipt					Control measures	YES	NO
○ Vehicle entrance	Exposure to surface contact	Low	Operating instructions	Preventive check at the entrance / Guard room Vehicle condition that allows loading management without many contacts			
○ Driver approach	Crowding	High	Restrictive measures when approaching	Prohibition of approach, obligation to use PPM (mask, etc.) Special driver waiting area			
○ Load control	Common contact of objects - Use of vehicle handles	Medium	Vehicle handling instructions / means	Visual inspection Use gloves for sampling			
○ Unloading	Common contact of objects (Use of vehicle handles and vehicle surfaces) during the activity	Medium	Vehicle handling instructions / means	Electronic recording via EN 128 / scanner			
○ Exchange of accompanying documents	Contact of materials by successive individuals	High	Safe operating instructions	Electronic transmission of documents Use a special container to avoid hand-to-hand exchange			
○ Transfer to the warehouse	Contact with shareable equipment and materials from successive individuals	Low	Rules for using equipment / disinfection instructions	Use of equipment by one operator Use WMS / Scanner			
○ Transfer connection to Silo / Tank	Contact with shareable equipment and materials from successive individuals	Low	Rules for using equipment / disinfection instructions	Disinfect connection point Use of gloves			

Storage and transfer to the processing area					Control measures	YES	NO
○ Material transport	Exposure to surface contact	Low	Survival in very recently stored materials	Use of equipment by one operator			
○ Transportation of materials / means of transport (fork lift/ pallet trucker)	Contact with shareable equipment and materials from successive individuals	Medium	Rules of equipment use	Use of equipment by one operator			
○ Use of elevator (possible)	Contact with shareable equipment and Materials from successive people / Crowding	Medium	ONLY the operator & the palette	Disinfection of elevator Exclusive use			
Processing					Control measures	YES	NO
○ De-packaging&supplyofmaterials	Controlled contact with materials left inactive for sufficient time	Low	Safe operation instructions	Pay special attention to materials used immediately after receipt Use of Personal Protective Measures (PPM) (Gloves / Mask)			
○ Equipment handling by one operator per shift (control panel)	Contact with shareable equipment and materials from successive individuals	Medium	Rules for using equipment / disinfection instructions	Disinfection of handles in any change of operator or if there is contact with another employee			
○ Equipment handling by more than one operator per shift	Contact with shareable equipment and Materials from successive people / Crowding	High	Rules for using equipment / disinfection instructions	Separation of workstations Frequent disinfection Strict adherence to rules for PPM			
○ Manual processing (e.g. sorting products) by individual worker	Controlled contact with materials	Medium	Personal Protective Measures (PPM)	Automatic handling Use of PPM			
○ Manual processing (e.g. sorting products) by a group of employees	Contact with shareable equipment and Materials from successive people /	High	Rules /PPM	Automatic handling Distance of workplaces/ physical separation			

	Crowding			Use of PPM			
○ Waste management	Contact and management of materials with potentially high viral load and other sources of infection	High	Strict and detailed rules / education / PPM	Dedicated bins and transport carts Strict intermediate disinfection Separate waste collection route with used PPM etc. Accidental waste protection (inside closed containers)			
Packaging					Control measures	YES	NO
○ Transport of materials / products	Controlled contact with materials left inactive for sufficient time	Low	Safe operation instructions	Use of equipment by one operator			
○ Equipment handling by one operator per shift (control panel)	Contact with shareable equipment and materials from successive individuals	Medium	Rules for using equipment / disinfection instructions	Disinfection of handles in any change of operator or if there is contact with another employee			
○ Equipment handling by more than one operator per shift	Equipment sharing / crowding	High	Rules for using equipment / disinfection instructions	Separation of workstations Frequent disinfection Strict adherence to PPM rules			
○ Selection line / boxing from a group of employees	Contact with shareable equipment and materials from successive individuals / Crowding	High	Hygiene instructions/PPM	Automatic handling Distance of workplaces/ physical separation Use of PPM			
○ Palletization	Contact with materials from successive individuals	Low	Operating instructions / PPM in manual palletization	Automatic handling Distance of workplaces/ physical separation Use of PPM			
Storage					Control measures	YES	NO

○ Transfer palette to storage warehouse	Contact with shareable equipment and materials from successive individuals	Low	Rules of equipment use / disinfection instructions	Use of equipment by one operator			
○ Placement in storage	Contact with shareable equipment and materials from successive individuals	Low	Rules of equipment use / disinfection instructions	Use of equipment by one operator Use WMS/Scanner			
Shipping for distribution					Control measures	YES	NO
○ Preparation of cargo / transport by workers or vehicles (forklift)	Contact with shareable equipment and materials from successive individuals	Low	Rules of equipment use	Use of equipment by one operator			
○ Preparation of accompanying documents	Contact with materials from successive individuals	Medium	Operating instructions	Electronic transmission of documents Use of gloves			
○ Vehicle approach	Exposure to surface contact	Low	Operating instructions	Preventive check at the entrance / Guard room Vehicle condition that allows loading management without many contacts			
○ Drivers' approach	Crowding	High	Restrictive measures when approaching	Prohibition of approach, obligation to use PPM (mask etc.) Special driver waiting area			
○ Vehicle inspection	Exposure to surface contact	Medium	Vehicle handling instructions	Visual inspection For any other function, use gloves			
○ Loading	Contact with shareable equipment and materials from successive individuals	Medium	Vehicle handling instructions Rules of equipment use / disinfection instructions	Use of equipment by one operator Cleaning of the vehicle by the driver			
○ Exchange of accompanying documents	Contact with materials from successive individuals	High	Safe operation instructions	Electronic transmission of documents Use a special receiver to avoid hand-to-hand			

				exchange			
Sales (see offices)					Control measures	YES	NO
○ Transport to customer's place (by vehicle)	Transfer	Low	PPM	Alternative communication			
○ Transport to customer's place by public transport	Possible crowding / "Social distancing" measures	High	NPHO instructions/PPM	Alternative communication Use of vehicle			
○ Travel abroad	Possible crowding / "Social distancing" measures	High	NPHO instructions/PPM	Alternative communication Χρήση ΙΧΕ			
○ Contact with customer	Contact with shareable equipment and materials from successive individuals	Medium	NPHO instructions/PPM	Alternative communication/ use PPM			
Staff arrival and departure from work					Control measures	YES	NO
○ Crowding upon arrival	Possible crowding / "Social distancing" measures	High	Instructions /PPM	Small groups / Partial arrival Alternative gateways Keeping distances			
○ Investigation of health status	Prevention to prevent the occurrence of a suspected case at work	High	Rules and information from business	Staff awareness Flexible sick leave policy Thermometry			
○ Use of locker rooms	Possible crowding / Contact with surfaces used by other people	High	Instructions / PPM / Individual hygiene	Individual cloth closets Partial use of locker rooms. Personal hygiene facilities automated and adequate			
○ Punching attendance card	Contact with shareable equipment and materials from successive individuals Possible crowding	High	Instructions / Disinfection measures	Contactless recording Disinfect appropriate			
Suspected / Confirmed case among					Control	YES	NO

the staff					measures		
○ Preventive measures to limit spread	Early detection of a suspected case / spread restriction	High	Communication from business / epidemiological rules	Staff awareness with updates and posters Fixed shifts			
○ Corrective measures after detection	Suspected isolation measures / spread restriction	High	Business infrastructure / NPHO Rules	Infrastructure preparation (isolation room) Immediate disinfection intervention Existence of mechanism for the coordination of the event			
Visit and stay of external collaborators / visitors					Control measures	YES	NO
○ Non-critical for operation	Non-critical for operation	Medium	Exclusion of an uncontrolled source of transmission	Prohibition			
○ Critical for operation (including remittances)	Possible crowding / "Social distancing" measures	High	Instructions / PPM / Personal hygiene	Keep strictly the rules of the staff Intervention in hours out of operation or crowding			
○ In the offices	Possible crowding / "Social distancing" measures Controlled exposure	Medium	Instructions / PPM / Distance	Protective measures on both sides			
○ In production / storage premises	Restriction of unnecessary crowding / Possible exposure to uncontrolled source of spread	High	Instructions / PPM / Personal hygiene	Keep strictly to the rules of the staff			
Offices (use of shareable utensils, service)					Control measures	YES	NO
○ Individually	Restrict spread	Low	Instructions / PPM	Surface cleaning Special meeting room for guests			
○ With more employees	Possible crowding / "Social distancing" measures Controlled exposure	Medium	Instructions / Rules/PPM	Distance measures Use of PPM Avoid sharing			

				equipment and materials (pens, staples, etc.)			
○ With external visitors	Possible crowding / “Social distancing” measures Risk of uncontrolled exposure	High	Instructions / Rules/PPM	Use of protective panels Mandatory use of PPM (Mask, gloves)			
○ Only internal services	Possible crowding / “Social distancing” measures Controlled exposure	Medium	Instructions / Rules/PPM	Limit of contacts Use of PPM			
Toilets					Control measures	YES	NO
○ Use of toilets	Contact with surfaces in use by successive individuals	Medium	Instructions / Hygiene rules	Use of disposable materials lose the basin cover before pulling the cistern			
○ Use of hand washing in workplaces	Cleaning surfaces / Strict hand hygiene	High	Instructions / Suitable equipment	Scholastic hand washing Automatic taps / Foot operated faucets			
Canteen / Break areas					Control measures	YES	NO
○ Use by a group during the specified break	Possible crowding / “Social distancing” measures Controlled exposure	High	Instructions / Rules / MAP / Personal hygiene	Avoid regular use of elevators Break in small groups			
○ Use for individual break by one person	Contact with surfaces in use by successive individuals	High	Instructions / Rules / MAP / Personal hygiene	Avoid regular use of elevators Cleaning surfaces before use Personal hygiene			
○ With food serving facilities	Possible crowding / “Social distancing” measures exposure to sharing surfaces	High	Instructions / Rules / MAP / Personal hygiene	Floor markings for keeping distance Avoid buffet operation			
○ Use a seating space	Contact with surfaces in use by successive individuals	High	Instructions / Rules / MAP / Personal hygiene	Break in small groups Cleaning surfaces before the break			

II. Risk Assessment Table (Food Service)

Entrance point or means of transmission of the virus - Stages / Processes of the supply chain	Rationale for exposure to risk	Probability of exposure	MEASURES AND PRACTICES OF RISK MANAGEMENT		Business control measures	Audit from business	
			Document type or specific hazard control practice of SARS-Cov2	Proposed specific measures		YES	NO
Raw and packaging materials supply and receipt					Control measures	YES	NO
○ Vehicle entrance	Exposure through contact with surfaces this concerns large mass catering units	Low	Operating instructions	Vehicle condition that allows loading management without many contacts. Keeping distances Avoid crowding			
○ Drivers' approach	Crowding	High	Restrictive measures when approaching	Mandatory use of PPM Special cargo storage area. Keeping distances			
○ Load control	Common contact of objects - Use of vehicle handles	Medium	Vehicle handling instructions / means	Visual inspection Use gloves for sampling			
○ Unloading	Common contact of objects (Use of vehicle handles and vehicle surfaces) during the activity	Medium	Vehicle handling instructions / means	Mandatory use of PPM Special area for unloading Keeping distances			
○ Exchange of accompanying documents	Contact of materials by successive individuals	High	Safe operating instructions	Electronic transmission of documents Use a special receiver to avoid hand-to-hand exchange			
○ Transfer to the warehouse	Contact with shareable equipment and materials	Medium	Rules for using equipment	Use of MMP. Frequent hand washing			

	from successive individuals						
○ Placement in storage	Contact of materials by successive individuals	Low	Rules for using equipment	Use of MMP. Frequent hand washing			
○ Filing of accompanying documents (PC / classer)	Contact of materials by successive individuals	Medium	Safe operating instructions	Electronic transmission of documents Use of gloves			
Storage and transfer to the processing area					Control measures	YES	NO
○ Storage of materials on shelves, cabinets of raw materials (cooling / freezing)	Contact of materials by successive individuals	Low	Rules of Good Personal Hygiene Practice	Use of MMP. Frequent hand washing			
○ Transfer of materials to the processing area (super market cart or shareable equipment)	Contact with shareable equipment and materials from successive individuals	Medium	Rules of Good Personal Hygiene Practice	Use of MMP. Frequent hand washing			
○ Use of an elevator or freight machine using external keyboards	Contact with shareable equipment and materials from successive individuals/ Crowding	Medium	Instructions for use of the elevator	Elevator control disinfection Exclusive use by staff Mandatory and maximum completeness 40% (current legislation)			
Food processing and meal preparation/ Kitchen (back of the store)					Control measures	YES	NO
○ De-packaging & supply of materials	Controlled contact with materials left inactive for sufficient time	Low	Safe operation instructions	Pay special attention to materials used immediately after receipt Use of PPM			
○ Handling of working objects (e.g. cutting surfaces, utensils, tools, dishes, equipment, handles, taps) by one employee	Contact with individual equipment	Medium	Rules of Good Hygiene Practice of staff and equipment/ Staff training	Frequent cleaning of surfaces and equipment. Selection of detergents and disinfectants and use according to the current instructions for effective action and			

				avoidance of residual. Use of PPM. Frequent hand washing / disinfection			
<ul style="list-style-type: none"> ○ Handling of working objects (e.g. cutting surfaces, utensils, tools, dishes, equipment, handles, taps) by more than one worker 	Contact with shareable equipment and materials from successive individuals	High	Rules of Good Hygiene Practice of staff and equipment/ Staff training	Frequent cleaning of equipment. Use of PPM. Frequent hand washing / disinfection. Adaptation of workflow to avoid switching working areas as much as possible. Automations			
<ul style="list-style-type: none"> ○ Ice machine and ice handling equipment using tools and cleaning of shareable items 	Contact with shareable equipment and materials from successive individuals	High	Rules of Good Hygiene Practice of staff and equipment/ Prerequisites Programs measures / Staff training	Frequent cleaning of equipment. Use of PPM. Frequent hand washing / disinfection. Adaptation of workflow to avoid switching working areas as much as possible. Automations			
<ul style="list-style-type: none"> ○ Product / meal packaging 	Exposure through contact with surfaces	Medium	Rules of Good Hygiene Practice of staff	Use of PPM. Frequent hand washing.			
<ul style="list-style-type: none"> ○ Areas and utensils for washing dishes/ Storage and protection of utensils 	Contact of materials by successive individuals	Low	Rules of Good Hygiene Practice of staff / Prerequisites Programs (clean & disinfection Program)	Keeping distance. Use of PPM when storing dishes, utensils and equipment			
<ul style="list-style-type: none"> ○ Waste management 	Contact and management of materials with potentially high viral load and other sources of infection	High	Strict and detailed rules / education / PPM	Dedicated bins and transport carts Strict intermediate disinfection Separate waste collection route with used PPM etc. (if it is possible). Timely			

				separation of tasks is recommended Accidental waste protection (inside closed containers)			
Takeaway / delivery services					Control measures	YES	NO
○ Preparation of cargo	Exposure through contact with surfaces - Crowding	Medium	Rules of Good Hygiene Practice of staff and equipment	Use of PPM. Frequent hand washing. Washing and disinfection ISO BOX and isothermal box on each route. Placing products in a bag for delivery. The distributor prepares the order in an isolated space, without contacting other staff. Adequacy in isothermal boxes.			
○ Preparation of means of transportation	Exposure through contact with surfaces - Crowding	Medium	Rules of Good Hygiene Practice of staff and equipment	Frequent disinfection and cleaning of distribution vehicle (with emphasis on common points of contact, e.g. steering wheel handles)			
○ Preparation of distributor equipment (e.g. helmet, isothermal box / distribution bags, POS card machines)	Exposure through contact with surfaces	Medium	Rules of Good Hygiene Practice of staff and equipment	Disinfection and cleaning of equipment after each delivery. Distance delivery. Use of PPM by distributor upon delivery. Distributor supply with disinfectant for hand disinfection after			

					delivery.		
Sales / Service					Control measures	YES	NO
○ Customer communication (order, transaction, receipt)	Crowding	High	Rules of Good Hygiene Practice of staff and equipment	Reinforce of new ordering methods (e.g. e-ordering). Use of disposable menus. Use of MAP by waiters Specific self-service, take-away point different from the cash. Waiting for customers off-site. Customers are invited to pick up			
○ Transaction at the cash (ordering screens, banknotes, cards, POS)	Crowding	High	Rules of Good Hygiene Practice of staff and equipment	Contactless transactions			
○ Shareable items in buffet - salad bar (vending machines, dispenser push, salt and pepper, tweezers, spatulas)	Exposure through contact with surfaces	High	Rules of Good Hygiene Practice of staff and equipment	Avoid crowding and use service tools from customers			
○ Shareable items in a coffee station (e.g. sweets, stirrers, straws)	Exposure through contact with surfaces	High	Rules of Good Hygiene Practice of staff and equipment	Avoid crowding and use service tools from customers. Offer packaging for individual use on the table. Straws in casing. Recommendation to avoid disposing of plastic items (e.g. glasses, caps) to customers			
○ Other possible items (food trays, plates, glasses, cutlery, water coolers, sous-plats)	Exposure through contact with surfaces	High	Rules of Good Hygiene Practice of staff and equipment	Frequent hand washing			
○ Tables / seats	Exposure through contact	Low	Layout provisions. Rules of	Frequent cleaning and			

	with surfaces		Good Hygiene Practice	disinfection after customers departure			
○ Tablecloths and utensils permanently placed on the table (e.g. salt, pepper, oil, vinegar, napkins, toothpicks)	Exposure through contact with surfaces	Low	Rules of Good Hygiene Practice	Frequent cleaning. Absolutely necessary items. If possible use of individual packages.			
○ Use of customer elevator	Exposure through contact with surfaces/Crowding	High	EODY instructions for use of elevator	Elevator control disinfection Exclusive use by staff Mandatory and maximum completeness 40% (current legislation)			
○ Customer self-service refrigerators (soft drinks, juice juices, etc.) open or closed type Coca Cola shareable knobs, doors, windows	Exposure through contact with surfaces, contact with shareable objects / Crowding	Medium	Rules of Good Hygiene Practice of staff and equipment/Operational measures / Staff training	Frequent cleaning and disinfection Where possible, staff service is recommended.			
Staff arrival and departure from work					Control measures	YES	NO
○ Doors and keys that open stores	Exposure through contact with surfaces	Low	Rules of Good Hygiene Practice of staff and equipment	Frequent cleaning and disinfection			
○ Crowding upon arrival	Possible crowding / “Social distancing” measures	High	Instructions/PPM	Small groups / Partial arrival Alternative gateways Keeping distances			
○ Staff health status	Prevention to prevent the occurrence of a suspected case at work	High	Rules and communication from business	Staff awareness Flexible sick leave policy Recommendation for thermometer. Informing the business responsible in case of symptoms to staff members			
○ Use of locker rooms	Possible crowding / Contact	High	Instructions / PPM /	Individual cloth closets			

	with surfaces used by other people		Individual hygiene	Partial use of locker rooms. Personal hygiene facilities automated and adequate			
Suspected/ Confirmed case among the staff					Control measures	YES	NO
○ Preventive measures to limit spread	Early detection of a suspected case / spread restriction	High	Communication from business / epidemiological rules	Staff awareness with updates and posters Fixed shifts			
○ Corrective measures after detection	Suspected isolation measures / spread restriction	High	Business infrastructure / NPHO Rules	Infrastructure preparation (isolation room) Immediate disinfection intervention Existence of mechanism for the coordination of the event			
Visit and stay of external collaborators / visitors					Control measures	YES	NO
○ Non-critical for operation	Restriction of unnecessary crowding / restriction of spread	Medium	Exclusion of an uncontrolled source of transmission	Prohibition			
○ Critical for operation (including remittances)	Possible crowding / “Social distancing” measures Controlled exposure	High	Instructions / PPM / Personal hygiene	Keep strictly the rules of the staff Intervention in hours out of operation or crowding			
○ In the offices	Possible crowding / “Social distancing” measures Controlled exposure	Medium	Instructions / PPM / Distance	Protective measures on both sides			
Offices (use of shareable utensils, dealing with visitors)					Control measures	YES	NO
○ Individually	Restrict spread	Low	Instructions / PPM	Surface cleaning Special meeting room			

				for guests			
○ With more employees	Possible crowding / “Social distancing” measures Controlled exposure	Medium	Instructions / Rules/PPM	Distance measures Use of PPM Avoid sharing equipment and materials (pens, staples, etc.)			
○ With external visitors	Possible crowding / “Social distancing” measures Risk of uncontrolled exposure	High	Instructions / Rules/PPM	Use of protective panels Mandatory use of PPM (Mask, gloves)			
○ Only internal services	Possible crowding / “Social distancing” measures Controlled exposure	Medium	Instructions / Rules/PPM	Limit of contacts Use of PPM			
Toilets					Control measures	YES	NO
○ Use of toilets	Contact with surfaces in use by successive individuals	Medium	Instructions / Hygiene rules	Use of disposable materials lose the basin cover before pulling the cistern			
○ Use of hand-washing facilities in workplaces	Cleaning surfaces / Strict hand hygiene	High	Instructions / Suitable equipment	Scholastic hand washing Automatic taps / Foot operated faucets			

Canteen / Break areas					Control measures	YES	NO
<ul style="list-style-type: none"> ○ Use by a group during a specified break time 	Possible crowding / “Social distancing” measures Controlled exposure	High	Instructions / Rules / MAP / Personal hygiene	Avoid regular use of elevators Break in small groups			
<ul style="list-style-type: none"> ○ Use for individual break by an individual employee 	Contact with surfaces in use by successive individuals	High	Instructions / Rules / MAP / Personal hygiene	Avoid regular use of elevators Cleaning surfaces before use Personal hygiene			

Other items and infrastructure				Control measures	YES	NO
<ul style="list-style-type: none"> ○ Switches, handrails 	Contact with surfaces in use by successive individuals	High	Rules of Good Hygiene Practice of staff and equipment	Frequent cleaning and disinfection		
<ul style="list-style-type: none"> ○ Ventilation / Air Conditioning (special reference to ventilation / air conditioning in the processing area) 	Enhancement transmission due to direct currents	High	Instructions and current provisions	Change filters, adjust flaps and speed to avoid air stream to people. Regular maintenance by specialized personnel and compliance with the instructions provided in the relevant provisions.		

7. USEFUL LINKS AND BIBLIOGRAPHY

1. Official Coronavirus Updates: https://www.who.int/emergencies/diseases/novel-coronavirus-2019?gclid=EAlaIQobChMIq9yrtr_P6QIVBbDtCh2THgX4EAAYASAAEgIcwvD_BwE;
2. COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins <https://coronavirus.jhu.edu/map.html>
3. CDC: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html>
4. WHO: <https://www.who.int/westernpacific/emergencies/covid-19/information/high-risk-groups> και https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57_10#:~:text=The%20virus%20that%20causes%20COVID,provisions%20and%20social%20care.
5. <https://eody.gov.gr/neos-koronaivos-covid-19/>
6. <https://eody.gov.gr/covid-19-odigies-gia-ti-chrisi-maskas-apo-to-koino/>
7. <https://www.moh.gov.gr/articles/health/dieythynsh-dhmosias-ygieinhs/metra-prolhpshe-enanti-koronoioy-sars-cov-2/7108-lhpsh-metrwn-diasfalishs-ths-dhmosias-ygeias-apo-iogeneis-kai-alles-loimwkseis-s-kata-th-xrhsh-klimatistikwn-monadwn>



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