

(Unofficial translation on 13<sup>th</sup> Nov. 2020)

## **Notice on the Issuance of Technical Guidelines for the Prevention and Control of COVID-19 in the Production and Operation of Cold Chain Foods, and Technical Guidelines for Prevention and Sterilization Process Control of COVID-19 of Production and Operation of Cold Chain Foods**

Zongfa (2020) No. 245 Note of joint prevention and control mechanism launched by  
National Health Commission of the People's Republic of China

All provinces, autonomous regions, municipalities directly under the Central Government and the Xinjiang Production and Construction Corps respond to the COVID-19 epidemic joint prevention and control mechanism (leading group, headquarters):

In order to implement the epidemic prevention and control strategy of "externally defence import, internally prevent rebound", scientifically guide food production and operation related units and individuals to regulate and implement the main responsibilities of prevention and control, and effectively strengthen the work of "personal defence" and "material defence " according the covid-19 epidemic in response to the normalization of prevention and control, the organization has formulated the "Technical Guidelines for the Prevention and Control of Covid-19 in the Production and Operation of Cold Chain Foods, and Technical Guidelines for Prevention and Sterilization Process Control of Covid-19 of Production and Operation of Cold Chain Foods". Now it is issued to you for using in work in various places.

Annex:

1. "Technical Guidelines for the Prevention and Control of Covid-19 in the Production and Operation of Cold Chain Foods;
2. "Technical Guidelines for Prevention and Sterilization Process Control of Covid-19 of Production and Operation of Cold Chain Foods";

Comprehensive Team of the State Council's Joint Prevention and Control  
Mechanism in Response to COVID-19 Outbreak

16<sup>th</sup> October 2020

## Annex 1.

### **Technical Guidelines for the Prevention and Control of Covid-19 in the Production and Operation of Cold Chain Foods**

#### I. Basis and scope of application:

In order to standardize and guide the normal operation of cold chain food related units and employees during the normalization of the prevention and control of the COVID-19 epidemic, the main responsibility of production and operation prevention and control shall be implemented in accordance with the "Guidance on Epidemic Prevention and Control of COVID-19 in meat processing enterprises" issued by the State Council in response to the joint prevention and control mechanism of COVID-19 epidemic (Zongfa [2020] No.216 of Joint Prevention and Control Mechanism), Technical Guide for Prevention and Control of COVID-19 Epidemics in Agricultural Trade (Market Trade) Market (Zongfa [2020] No. 223 of Joint Prevention and Control Mechanism ), New Coronavirus Pneumonia Prevention and Control Plan (the Seventh Edition)" (Zongfa [2020] No. 229 of Joint Prevention and Control Mechanism ), as well as relevant "National Food Safety Standard", "COVID-19 and Food Safety: Guidance for Food Businesses" (April 2020) by the Food and Agriculture Organization of the United Nations/World Health Organization Safety, and other documents. This new guidance is formulated for cold chain food producers and operators and key links in production and operation.

This guide is applicable to the prevention and control of COVID-19 contamination in the production, loading and unloading, transportation, storage, and sales of cold chain foods that are processed by freezing, refrigeration, and other processing methods.

National standards require that the implementation of local authorities' regulations on the prevention and control of COVID-19 epidemic is a prerequisite for the application of this guidance.

II. Health management of COVID-19 prevention and control for employees.

The health of employees is fundamental to prevent cold chain food from being contaminated by COVID-19. Producers and operators involved in the production, loading and unloading, transportation, storage, sales and catering services of cold-chain food should adjust and update the health management system of employees in accordance with the requirements for the prevention and control of COVID-19 epidemic, and increase management measures for the prevention and control of COVID-19.

(I). Establish a health registration system for employees

Cold chain food producers and operators must strictly manage registering the itinerary and health status of their employees (including new recruits and temporary workers) of the latest 14 days, establish health cards for employees on duty, and grasp the flow and health condition of employees. Encourage new employees to voluntarily undergo nucleic acid test before starting their jobs.

(II). Daily health monitoring of employees

Cold chain food producers and operators should strengthen personnel entry and exit management and health monitoring, establish a health record and risk exposure information reporting system for all employees, set up temperature measurement points at the entrance of food production and operation areas, and implement registration, temperature measurement, disinfection, and health kit and other prevention and control measures, implement the "Green health code" working system.

(III). Registration and management of visitors

Minimize the entry of visitors into the production and operation area. If it is really necessary to enter, it must be inquired about their units, health status, contact persons in the epidemic area, etc. and be taken measures such as registration, temperature measurement, and

perform personal protection as required (such as wearing masks, etc.) before entering. When the vehicle enters and exits, the security guard on duty, staff and driver should avoid unnecessary contact.

#### (IV). Practitioners' hygiene requirements

- A. Be healthy. Before starting the job, make sure that practitioners are in good physical condition, report their health status information to the producers and operators, and take the initiative to accept the temperature of the producers and operators. If practitioners experience symptoms such as fever, dry cough, fatigue, etc., report them immediately and seek medical treatment in time.
- B. Take personal protection. Practitioners should wear masks, gloves and overalls when they work. Work clothes are kept clean and tidy, washed regularly, and disinfected when necessary. In addition to work clothes, employees in special positions (fresh slaughter, cutting workshop, etc.) wear waterproof aprons and rubber gloves according to protective requirements. It is recommended that food workers wear disposable gloves, but they must be replaced frequently, and they should wash their hands between changes and when they are not wearing gloves. To avoid secondary contamination of protective equipment, gloves must be replaced after non-food related activities (such as opening/closing the door by hand and emptying the trash can).
- C. Pay attention to personal hygiene. When sneezing or coughing, cover mouth and nose with a tissue or cover it with elbow arm. Do not spit, and pay attention to hygiene when blowing nose. Try to avoid touching mouth, eyes, and nose with your hands.
- D. Strengthen hand hygiene. When handling goods, or when hands touch shelves, handrails and other public objects, wash hands with hand sanitizer or soap under running water, or rub hands with quick-drying hand disinfectant.

(V). Establish procedures for reporting health abnormalities

Once a practitioner finds that he or his co-living person has fever, dry cough, fatigue and other suspected symptoms, he should promptly report to the top management of the producer and operator, and report it level by level or directly depending on the situation. Once the production and business operators discover that their employees have the above-mentioned abnormal health symptoms, no matter what their health status is, they should take effective measures to quickly exclude them and their close contacts from the food working environment. In areas with a high risk of transmission of COVID-19, it is recommended to require healthy employees to make a live report even with record of "Zero" in accordance with the prevention and control regulations of the local competent authority.

(VI). Procedures for returning practitioners to work

According to the registration and health files of the practitioners in the production and operation area, timely track the treatment and rehabilitation status of practitioners with abnormal health, physical discomfort, suspected or infected with COVID-19 (patients or asymptomatic infections), and scientifically evaluate whether they are eligible for return after recovery. If the symptoms of a confirmed case of COVID-19 subside, and two PCR nucleic acid tests at least 24 hours apart are negative, the isolation can be lifted; for the case where the test cannot be performed, the patient can be lifted from isolation and return to work 14 days after the symptoms have subsided. Practitioners who are close contacts of patients with COVID-19 should also meet the above control requirements before returning to work.

(VII). Strengthen the promotion of prevention and control knowledge

Carry out various forms of health education, guide practitioners to master the knowledge and skills related to the prevention and treatment of COVID-19 and other respiratory infectious diseases,

develop good hygiene habits, and strengthen self-protection awareness.

### III. Prevention and control requirements during loading, unloading, storage and transportation

#### (I). Sanitary requirements for stevedores

In addition to the general personal hygiene requirements, practitioners should wear work clothes and hats, disposable medical masks or disposable medical surgical masks, gloves, etc., and wear goggles and facial screens when necessary, to avoid their body surface frequent contacting the surface of the cargo.

Especially when loading and unloading imported cold-chain foods from areas where epidemics occur, port handlers must wear masks throughout the process of carrying goods, avoiding the goods from sticking to the face and touching the mouth and nose with their hands to prevent contact with COVID-19 contaminated frozen aquatic products, etc., If the mask is damaged during transportation, it should be replaced immediately.

#### (II). Hygienic requirements for transport drivers

In addition to fulfilling the hygiene requirements of the practitioners, the personnel (drivers and attendants) transporting cold chain food shall not open the box without authorization during the transportation process, and shall not open the cold chain food packaging at will to directly contact the cold chain food. When vehicles enter and exit, drivers and attendants should avoid unnecessary contact with security guards on duty and other practitioners.

#### (III). Goods source sanitation management

For imported cold chain food, the importer or consignor should cooperate with relevant departments to sample and test the food

and its packaging. For food from other cities, distributors should take the initiative to obtain relevant food safety and anti-epidemic inspection information from suppliers. For local meat slaughter, processing, and business enterprises, the relevant quality management and operation specifications of cold chain food should be strictly implemented, and environmental sanitation management should be strengthened. Importers or cargo owners who entrust a third-party logistics company to provide transportation, warehousing and other services, when the goods are delivered to the third-party logistics company, they should actively provide the third-party logistics company with relevant food safety and epidemic prevention inspection information.

In the cold chain logistics process, if supports or pads need to be added to the logistics packaging, it should meet the relevant food safety and sanitation requirements. The logistics packaging should indicate the temperature conditions for cold chain food storage and transportation. Strengthen the operation and management of cargo handling, etc., so that the cargo cannot directly touch the ground, and the cold chain food packaging cannot be opened at will. It should be ensured that the temperature of cold chain food is always within the allowable fluctuation range during transportation, storage, and sorting. Record and keep the time, temperature and other information of each delivery link.

#### (IV). Sanitation management of vehicles

It should be ensured that the interior of the vehicle compartment is clean, non-toxic, harmless, non-odor, and non-polluting, and regular preventive disinfection should be carried out. For specific disinfection measures, please refer to the "Technical Guidelines for the Prevention and Control of COVID-19 in the Production and Operation Process of Low-Temperature Cold Chain Food".

#### (V). Sanitary management of storage facilities

The loading and unloading area of the warehouse should be equipped with a closed platform and a sealing device for docking with refrigerated transport vehicles. In addition to the inspection of the

appearance and quantity of cold chain foods, the centre temperature of cold chain foods should also be checked. In order to strengthen storage management in the warehouse, cold chain food stacking should be placed on pallets or shelves according to regulations. Cold chain foods should be placed in storage according to their characteristics or locations since cold chain foods have large differences in temperature and humidity requirements and are prone to cross-contamination should not be mixed. The temperature and humidity in the warehouse should be checked regularly, and the temperature and humidity in the warehouse should meet the storage requirements of cold chain food and remain stable. Regularly clean and disinfect the internal environment, shelves, and work tools of the warehouse. For specific cleaning and disinfection measures, please refer to the "Technical Guidelines for the Prevention, Control and Disinfection of COVID-19 in the Production and Operation of Cold Chain Food".

#### IV. Prevention and control requirements for production and processing

##### (I). Personnel hygiene requirements

Follow requirements of II (IV).

##### (II). Keep a safe distance

Keep a distance of at least 1 meter between employees. Feasible measures to maintain distance in the food processing environment include: setting up workbenches on only one side of the production line, interval production, or installing baffles in the middle of the production line to prevent employees from working face-to-face situations; strictly limiting the number of employees in the food preparation area, eliminate all non-essential personnel; divide employees into working groups or teams, while reducing communication and mutual influence between working groups.

##### (III). Purchasing protection and inspection

A. Loading and unloading protection. Loading and unloading workers who need to directly contact cold-chain food goods should wear



work clothes, disposable medical masks or disposable medical surgical masks, gloves, etc. before moving the goods, and wear goggles and facial screens when necessary, to avoid frequent contact with the surface of the goods.

- B. Source management. Cold chain food companies should be strictly in supplier compliance inspection and evaluation, carefully manage in the inspection of each batch of food, and truthfully record and keep food and raw material purchase inspection, out of factory inspection, food sales and other information in accordance with law and regulations to ensure food traceability. The retention period of records and vouchers shall not be less than 6 months after the expiration of the product warranty period. If the warranty period is not specified, the retention period shall not be less than 2 years.
- C. Inspection certificate. For imported cold chain food, the importer or consignor should cooperate with relevant departments to sample and test the food and its packaging. For food from other cities, distributors should take the initiative to obtain relevant food safety and anti-epidemic inspection information from suppliers.

#### (IV). Cleaning and disinfection

Please refer to the "Technical Guidelines for the Prevention, Control and Disinfection of COVID-19 in the Production and Operation of Cold Chain Food".

#### (V). Other protective measures

- A. Ventilation requirements. Natural ventilation is preferred for ordinary factories, and mechanical ventilation can be supplemented if conditions are not available. The closed plant area shall maintain indoor air circulation and air-conditioning system safety. The air conditioning and ventilation system shall be inspected, cleaned and disinfected regularly to ensure clean and safe operation.

B. Water supply and drainage facilities. There should be perfect sewers and kept unblocked. It should be equipped with ground flushing taps and disinfection facilities for the flushing and disinfection of sewage. Sewage discharge shall comply with relevant regulations.

V. Requirements for prevention and control of sales operations

Cold chain food centralized trading markets (agricultural product wholesale markets, farm markets, community vegetable markets), supermarkets, convenience stores, catering, self-operated e-commerce and other food operators shall have corresponding cold storage and freezing facilities.

(I). Personnel hygiene requirements

Follow requirements of II (IV). For food operators at special stalls such as fresh slaughter must wear work clothes, waterproof aprons and rubber gloves.

(II). Keep a safe distance

Reasonably control the number of customers entering the cold chain food sales area, avoid gathering and crowding, keep the distance between people at least 1 meter, and the enclosed space should be increased appropriately. Ground signs can be used to guide and manage customers' orderly queuing and other measures to facilitate customers to keep their distance, especially in crowded areas, such as service counters and checkout counters.

(III). Cleaning and disinfection

Please refer to the "Technical Guidelines for the Prevention, Control and Disinfection of COVID-19 in the Production and Operation of Cold Chain Food".

(IV). Warning notice

A. Set up signs at the entrance, requiring customers not to enter the store when they have abnormal health, physical discomfort, or suspected symptoms of COVID-19.

B. Regularly broadcast or post notices in cold chain food retail areas (stores, markets, supermarkets) to remind customers to keep social distance and clean their hands in time. If consumers bring their own shopping bags, it is recommended that they should pay attention to washing after using for cold chain food.

(V). Other protective measures

Set up glass barriers at checkout counters and sales counters to encourage the use of contactless payments to reduce contact. It should be considered not to publicly display or sell unpackaged cold chain food at self-service counters.

VI. Requirements for prevention and control of catering processing

In order to prevent and control COVID-19 pollution involving cold chain food and catering services, operators should pay attention to the following prevention and control points

(I) Personnel hygiene requirements.

Follow requirements of II (IV).

(II) Keep a safe distance

- A. Use appropriate measures to prevent overcrowding and keep a distance of at least 1 meter between food workers.
- B. Dining seating arrangements should achieve a safe social distance.
- C. The use of floor markers in the store allows customers to keep their distance, especially in crowded areas such as service counters and checkout counters.

(III) Cleaning and disinfection

Please refer to the "Technical Guidelines for the Prevention, Control and Disinfection of COVID-19 in the Production and Operation of Cold Chain Food".

(IV) Other protective measures

A. Provide cleaning and disinfectant. Provide hand sanitizer or no-clean disinfectant for employees and consumers who enter and exit the catering area.

B. Prevent cross contamination. Raw and cooked foods are processed and stored separately, and the tools and utensils for handling immature foods shall be fully disinfected before they can be used to hold or process cooked foods.

C. Avoid unnecessary physical contact. Encourage mobile contactless payment, contactless delivery, etc.

D. Keep air circulation, and open windows frequently for ventilation indoors.

E. Try to provide cooked food. During the epidemic, the food should be fully heated.

F. Catering services should promote the use of meal sharing methods, and public spoons and chopsticks should be provided if meals cannot be split.

## VII. Emergency response measures in relevant areas

Cold chain food producers and operators should formulate emergency response plans for COVID-19 epidemic, use timely handling and reporting of the epidemic situation, and effectively prevent the spread of COVID-19 virus.

(I). Emergency measures for persons with abnormal health conditions  
Once a case or an abnormal situation suspected of COVID-19 is found in the relevant area of cold chain food production and operation, the prevention and control measures of internal non-proliferation and external prevention of export must be implemented, and relevant departments must carry out epidemiological investigations, close contact tracking management, and epidemic points disinfection and other work, and conduct sampling and nucleic acid testing of the personnel's stuff and the areas where COVID-19 virus appear and the cold chain foods processed. If there is an air-conditioning ventilation system, it shall be cleaned and disinfected at the same time, and it can be reactivated after passing the evaluation. According to the

severity of the epidemic, the work area will be temporarily closed and production will be resumed after the epidemic is controlled.

In accordance with the requirements for the prevention and control of COVID-19 epidemic, measures such as cutting off the route of transmission and isolating close contacts, and disposing of pollutants in accordance with regulations.

(II). Emergency measures for samples found to be positive in nucleic acid testing

Once notified that there is a positive sample of COVID-19 nucleic acid test, cold chain food producers and operators should promptly activate their own emergency response plan, and take emergency response to related items and the environment in a timely manner under the guidance of professionals in accordance with local requirements. Temporary storage and harmless treatment of related items, disinfection of work areas, and timely implementation of nucleic acid test and health screening for persons who may be exposed. Before the items are processed, refrigerators, freezers, cold storage and other refrigeration equipment should be kept in normal operation to prevent the items from spoiling and deterioration and the spread of possible pollutants. Avoid spills or leaks during transportation when handling related items. The personnel involved in the clearance and transportation of related articles shall take personal protection.

For nucleic acid-positive products, they should be disposed of in accordance with the requirements of the local competent authority.

## Annex 2.

### **Technical Guidelines for Prevention and Sterilization Process Control of Covid-19 of Production and Operation of Cold Chain Foods**

#### I. Basis and scope of application

In order to standardize and guide the prevention, control and disinfection of the new crown virus in the cold chain food production and operation process, and to prevent food and food packaging materials from being contaminated by the new crown virus, refer to the "Guidelines for the Prevention and Control of COVID-19 in Meat Processing Enterprises Issued by the State Council's Joint Prevention and Control Mechanism for COVID-19 Epidemic" "(Joint Prevention and Control Mechanism Zongfa [2020] No. 216), "Emergency Notice on Strengthening the Nucleic Acid Testing of COVID-19 in Cold Chain Foods" (Joint Defense and Joint Control Mechanism Zongfa [2020] No. 220), "Agricultural Trade (Market Trade) ) Market COVID-19 Epidemic Prevention and Control Technical Guide (Joint Prevention and Control Mechanism Zongfa [2020] No. 223), "COVID-19 Prevention and Control Plan (Seventh Edition)" (Joint Prevention and Joint Control Mechanism Zongfa [2020] No. 229) ), as well as relevant National Food Safety Standards and "COVID-19 and Food Safety: Guidance for Food Enterprises" (April 2020) issued by the Food and Agriculture Organization of the United Nations/World Health Organization and other documents to formulate this guide.

This guide is applicable to cold chain foods that are processed by freezing and refrigeration methods, and the products are always in a low temperature state from the factory to the sale. It is used to guide the normal operation of food production and operation units and individuals during the normalization of the prevention and control of COVID-19 epidemic. Disinfection of cold chain foods from high-risk areas of COVID-19 epidemic domestic and abroad in the process of loading and unloading, transportation, storage and sales.

Relevant units and individuals in food production and operation strictly abide by laws and regulations and relevant national food

safety standards, and implement the local authorities' regulations on the prevention and control of COVID-19 epidemic are the prerequisites for the application of this guide.

## II. Cleaning and disinfection during production and processing

In the process of cold chain food production and processing, an effective cleaning and disinfection system should be formulated for processing personnel, production environment and related equipment and facilities according to the characteristics of food raw materials and product characteristics, production and processing technology, and the implementation and effects of disinfection measures should be regularly reviewed and valued.

### (I). Food production and processing personnel

Food production and processing personnel entering the work area should confirm that they are healthy and personal protection meets relevant requirements, and regularly use alcohol-containing no-clean disinfectants for hand disinfection.

### (II). Outer packaging of raw materials and semi-finished products

- A. The outer packaging of cold-chain food raw materials and semi-finished products from areas (countries) at high risk of COVID-19 epidemic should be strictly and effectively disinfected before entering the enterprise or warehouse.
- B. Tools and utensils used to transport cold chain food raw materials or semi-finished products (such as transfer boxes, spoons, pliers, etc.) should be cleaned and disinfected in time after each use.
- C. For food raw materials and semi-finished products from foreign epidemic areas that have been tested and contaminated by COVID-19 virus, they should follow the instructions in the "Emergency Notice on Strengthening the Detection of New Coronavirus Nucleic Acid in Cold Chain Foods" (Joint Prevention and Control Mechanism Zongfa [2020] No. 220) Guidelines for handling COVID-19 nucleic acid positive foods.

(III). Production and processing equipment and environment

- A. Equipment and appliances. Utensils used before and after processing should be placed separately and kept properly to avoid cross contamination. All equipment and utensils after production and processing (or when necessary during production and processing) should be effectively cleaned and disinfected, and the selected cleaning and disinfection procedures and disinfectants should be able to effectively kill COVID-19 virus.
- B. Environment. Increase the frequency of disinfection in high-risk areas such as the production workshop environment of each stage of cold chain food raw material processing, the workshop environment of each production stage of ready-to-eat and cooked food, and the storage cold storage. The environment must be thoroughly cleaned and disinfected during the production process and after production. In particular, the frequency of cleaning and disinfection of various operating surfaces, contact surfaces/points (such as door handles, switches, appliance handles, telephones, toilets, etc.) that people touch during production and processing, and crowded environments should be strengthened.
- C. For all kinds of meat, aquatic products, egg products and other foods rich in protein and fat, it is difficult to remove dirt due to the easy formation of dirt on the surface of the contact object, and the production and processing environment is usually in low temperature and in high humidity. In order to improve the disinfection effect, the maximum reduce the amount of disinfectant used and shorten the action time of the disinfectant on the surface of the object. All meat, aquatic products, egg products and other protein- and fat-rich foods in contact with containers, equipment or environmental objects must be thoroughly cleaned before they can be disinfected.
- (a). Choice of cleaning material  
Commonly used food processing equipment and environmental cleaning agents include alkaline solutions, salt solutions (such as phosphate, carbonate, silicate), acid (such as citric acid,



phosphoric acid) solutions and synthetic detergents (such as anions, cations, non-ionic alkaline detergent) and so on. Among them, alkaline solution is the most commonly used cleaning solution in the processing environment of meat, aquatic products and egg products. At present, the most commonly used cleaning agent for meat processing enterprises is 1.5% sodium hydroxide solution, which can saponify fat and hydrolyze protein deposits. In addition, various synthetic detergents can also effectively remove meat deposits, fats and dirt. They should be in full contact with the surface to be cleaned at an appropriate temperature and kept for a certain period of time before being rinsed with water. Another way to saponify fat and facilitate cleaning is to prepare a protease solution with a low-concentration alkaline solution that can decompose protein. Since the enzyme is inactivated at high pH and high temperature, the temperature and pH of the enzyme solution are moderate, which can greatly reduce the corrosion of the surface to be cleaned.

(b). Cleaning procedure

- (1) In order to save detergent and water, first use physical methods to remove the dirt on the surface.
- (2) Use water to further rinse off the dirt. In order to reduce the generation of aerosols, high-pressure water is not used as much as possible.
- (3) Apply an alkaline solution or synthetic detergent/enzyme solution at a temperature of 50-55°C to the surface to be cleaned, and after contacting for 6-12 minutes, clean and wipe the surface to be cleaned. In order to make the cleaning agent fully contact the surface to be cleaned, it is best to use foaming detergent to clean the vertical surface.
- (4) Rinse the alkaline solution or detergent with clean water.

(5) Alkaline solution cannot remove scale or rust spots. Acid (such as phosphoric acid, hydrochloric acid or organic acids such as citric acid, gluconic acid) can be used to remove scale or rust spots.

(c). Disinfect

(1) In order to improve the disinfection effect and prevent insufficient contact of the disinfectant with the surface of the object and reduce its activity, all equipment or environmental surfaces to be disinfected must be thoroughly cleaned according to the above procedures before they can be disinfected.

Commonly used disinfectants include chlorine, iodine-containing disinfectants or quaternary ammonium salt solutions.

(2) Whether the disinfected surface needs to be cleaned depends on the disinfectant used. Quaternary ammonium salt disinfectants can remain on the equipment for a long time, so both quaternary ammonium salt and iodine-containing disinfectants need to be thoroughly rinsed with water after use.

(3) If the surface of the equipment is corroded after disinfection, oiling can be used to protect the corroded area. If the application oil is a food-grade product, it does not need to be removed. If it is a non-food-grade oil, the oil should be removed before the next processing shift begins.

(4) Use the in-situ cleaning method to continuously clean the moving conveyor belt and other parts of the production and processing equipment.

(D). Cleaning and disinfection during transportation and distribution

III. Cleaning and disinfection during transportation and distribution

(I). Staff

In the process of cold chain food delivery, drivers and transport attendants should maintain personal hand hygiene, and alcohol-based hand sanitizers, disinfectants and paper towels should be equipped in the car to ensure that hands are disinfected regularly without clean water.

#### (II). Object surface

Drivers should wash or disinfect their hands before transferring or submitting delivery documents to employees. To avoid washing the returned items, the documents are best placed in disposable containers and packaging materials. For reusable containers, regular and appropriate sanitation and disinfection should be carried out.

Surfaces that are most likely to be contaminated by viruses, such as steering wheels, door handles, and mobile devices that are frequently touched by human hands, should be disinfected regularly.

#### (III) Transportation

In order to avoid contamination of cold-chain food, drivers need to ensure that transport vehicles, handling tools and containers are clean and regularly disinfected. When cargo is mixed, when loading the vehicle, separate food from other cargo that may cause pollution as much as possible. Before and after the vehicle carries a batch of goods, the parts in the vehicle that may be touched by hands, especially the inside and outside of the vehicle compartment, must be thoroughly disinfected.

### IV. Cleaning and disinfection during sales operation

(I). Personnel in the cold chain food sales and operation area shall maintain good hygiene practices and frequently use hand sanitizer to wash and disinfect their hands to keep their hands clean and hygienic.

(II). Clean and disinfect all kinds of surfaces, handles (such as door handles, refrigeration equipment handles, container handles, cart handles, etc.), buttons (such as calculators, electronic weighing device buttons, etc.) frequently touched by human hands in time. After the operation is completed every day, the operation area shall be fully disinfected.

(III). It is convenient for customers to wash their hands and disinfect. It should be ensured that the hand washing facilities in the store are operating normally and equipped with quick-drying hand disinfectants; when possible, induction hand disinfection facilities can be equipped.

V. Cleaning and disinfection of catering processing

(I). The catering industry should regularly clean and disinfect all cold-chain food contact surfaces, outer packaging and utensils, and strengthen the cleaning and disinfection of tableware (drinking) utensils and condiment containers.

(II). Strictly manage disinfecting the surface of high-frequency contact objects, and perform various equipment, areas, contact surfaces/high-frequency contact points (such as countertops/clips/service appliances/open self-service display stands/doorknobs), trash cans, sanitary ware, etc. More frequent cleaning and disinfection. At the same time, increase the frequency of cleaning and disinfecting the work clothes of the staff.

(III). Ensure that the hand washing facilities in the store are operating normally and are equipped with quick-drying hand disinfectants; when possible, they can be equipped with induction hand disinfection facilities.

VI. Commonly used disinfectants in production and operation and methods of use

The disinfectants commonly used in the production, transportation, and sales of cold chain food and their use methods are shown in the attached table.

Annex

Common disinfectants and methods of use in cold chain food production and operation

Types of disinfectants	Effective ingredients	Scope of application	Instructions	Precautions
Alcohol disinfectant	The ethanol content is 70% to 80% (v/v), and the alcohol-containing hand disinfectant is > 60% (v/v). The compound product can be based on the product specification.	Mainly used for hand and skin disinfection, disinfection of the surface of smaller objects.	Hygienic hand disinfection: spray evenly on the hands or rub the hands 1 to 2 times for 1 min. Wipe the surface of the object twice for 3 minutes.	<ol style="list-style-type: none"> <li>1. Flammable, keep away from fire source.</li> <li>2. It is not suitable for the disinfection of large-area surfaces.</li> </ol>
Chlorine disinfectant	In terms of available chlorine, the content is expressed in mg/L or %, bleaching powder ≥ 20%, sodium dichloroisocyanurate ≥ 55%, 84 disinfectant according to product instructions, usually 2% to 5%.	Suitable for disinfection of surfaces, fruits and vegetables, and food and drink utensils. Hypochlorous acid disinfectant can also be used to disinfect the air, hands, skin and mucous membranes.	<ol style="list-style-type: none"> <li>1. When disinfecting the surface of an object: use a concentration of 500mg/L; when disinfecting a foci, use a concentration of 1000 mg/L on the surface of the object; when there are obvious pollutants, use a concentration of 10000mg/L; when disinfecting air and other other things, follow the product instructions.</li> <li>2. Surface disinfection of low-temperature refrigerated objects: the use concentration is 1000mg/L; when disinfecting the foci, the use concentration of the surface is 2000 mg/L, and when there are obvious pollutants, the use concentration is 20000mg/L.</li> </ol>	<ol style="list-style-type: none"> <li>1. It is corrosive to metals, bleaching and fading to fabrics, so metals and colored fabrics should be used with caution.</li> <li>2. Strong oxidizer, should not come into contact with combustibles, and keep away from fire sources.</li> </ol>

			<p>3. Surface disinfection of frozen objects: The method of lowering the freezing point should be adopted to ensure that the disinfectant does not freeze, and the disinfection effect must be confirmed.</p>	
<p>Peroxide disinfectant</p>	<p>Hydrogen peroxide disinfectant: The mass fraction of hydrogen peroxide (calculated as H<sub>2</sub>O<sub>2</sub>) is 3% to 6%. Peracetic acid disinfectant: The mass fraction of peracetic acid (calculated as C<sub>2</sub>H<sub>4</sub>O<sub>3</sub>) is 15% to 21%.</p>	<p>Suitable for disinfection of surface and air.</p>	<p>1. Object surface: 0.1%~0.2% peroxyacetic acid or 3% hydrogen peroxide, spray or soak for 30 minutes for disinfection, and then rinse with water to remove residual disinfectant.</p> <p>2. Air disinfection: 0.2% peroxyacetic acid or 3% hydrogen peroxide, using aerosol spray method, the amount is calculated at 10mL/m<sup>3</sup>~20mL/m<sup>3</sup>, ventilation after 60min of disinfection; 15% peroxyacetic acid can also be used Heating fumigation, the dosage is calculated as 7mL/m<sup>3</sup>, and the fumigation effect is 1h-2h after ventilation.</p> <p>3. Surface disinfection of low-temperature refrigerated objects: 0.2% to 0.4% peroxyacetic acid or 6% hydrogen peroxide, spray or soak for 30 minutes, and then rinse with clean water to remove residual disinfectant.</p>	<p>1. Flammable and explosive products, which will cause combustion and explosion when exposed to open flames and high heat.</p> <p>2. There is a risk of combustion and explosion if it comes in contact with reducing agent or metal powder.</p>

			<p>4. Surface disinfection of frozen objects: The method of lowering the freezing point should be adopted to ensure that the disinfectant does not freeze, and the disinfection effect must be confirmed.</p>	
<p>Quaternary ammonium disinfectant</p>	<p>According to the product specification.</p>	<p>Suitable for disinfection of the surface of objects.</p>	<p>1. Surface disinfection: when there are no obvious pollutants, use a concentration of 1000mg/L; when there are obvious pollutants, use a concentration of 2000mg/L.</p> <p>2. Surface disinfection of low-temperature refrigerated objects: when there are no obvious pollutants, the use concentration is 2000mg/L; when there are obvious pollutants, the use concentration is 4000mg/L.</p> <p>3. Surface disinfection of frozen objects: The method of lowering the freezing point should be adopted to ensure that the disinfectant does not freeze, and the disinfection effect must be confirmed.</p>	<p>Can not be used with soap or other anionic detergents, nor with iodine or peroxides (such as potassium permanganate, hydrogen peroxide, sulfa powder, etc.).</p>