

Minneapolis Health Department

505 4th Avenue South, Room 520
Minneapolis, MN 55415
612-673-2301

**ABC Restaurant**

**123 Main Street**

**Minneapolis, MN 55401**

HACCP plan

for

Smoking or Curing
Beef, Chicken, Pork and Turkey Sausages

[date]

[Minneapolismn.gov/HACCP](https://www.minneapolismn.gov/business-services/business-assistance/run/food-safety/haccp/)

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Para ayuda, llame al 311. Rau kev pab 311. Hadii aad Caawimaad u baahantahay wac 311

**Smoking & curing sausage HACCP plan**

**Products:** Smoked/Cured Beef, Chicken, Pork and Turkey Sausages

**Ingredients:** Raw meats and poultry, 6.25% sodium nitrite, various spices and seasonings

**Intended Use:** Served in the restaurant products to diners

**Time/Shelf-Life:** 7 Days under cold storage ($\leq $41°F)

**EQUIPMENT LIST (Include make, model and specification sheet)**

* Walk-In Cooler: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Display Cooler: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Grinder: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Mixer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Thermometers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Vacuum Packager: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Scale: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Smokehouse: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Assorted Food Grade Measuring Containers, Utensils, Lugs, Totes and Labels

**HACCP TEAM MEMBERS**

NAME TITLE/ROLE

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**Recipes
Fully cooked, sodium nitrite added sausage products**

**Insert**

**Flow diagram: fully cooked, sodium nitrite added sausage products**

2. Receiving Dry Goods

4. Dry Storage

**6. Weigh Cure**

**CCP #1**

1. Receiving Meat

3. Cold storage

5. Prepare ingredients – Cut and weigh meat and weigh spices.

11. Date Mark

8. Prepare Casing and Stuff

**10. Cooling**

**CCP #3**

7. Mix - meats, spices, cure and water

**9. Smoke/Cook**

**CCP #2**

12a. (optional) Freeze and Thaw

12b. Cold Storage

14. Service

13. Product prepped with other ingredients

**Verified by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Procedures**

**Fully cooked, sodium nitrite added sausage products**

1. **Receiving Meat:** Inspect meat products upon receipt. Verify meat products are at or below 41oF and do not show signs of distress. Reject meat products with temperatures higher than 41oF or those that have signs of damage must be rejected.
2. **Receiving Dry Goods:** Inspect the condition dry goods and packaging materials upon receipt. Verify products are in good condition. Reject product not in good condition.
3. **Cold Storage:** Store meat under refrigeration in cooler at 41oF or less or in freezer set to maintain products frozen.
4. **Dry Storage:** Store dry goods in clean location that is separated from any potential sources of contamination.
5. **Prepare Ingredients:** Review the recipe to confirm that all required ingredients are on hand. Assemble spices, binders/extenders, cure agents, casing, containers, etc. in the work area. Grind and weigh meat according to recipe. Weigh out seasonings according to recipe.
6. **Weigh out curing agents (CCP #1):** Weigh out specific curing agent identified in recipe using digital scale with verified accuracy.
	* **Critical Limit:** . 0.06431 lbs or less of nitrite cure with 6.25% nitrite per 20 lbs of meat for 200ppm ingoing cure.
	* **Monitoring:** Use digital scale to weigh amount of cure added to each batch.
	* **Corrective Action:** Add or remove cure to scale to get correct weight.
	* **Records:**  Document on Batch Record.
	* **Verification:** Manager on Duty will verify that designated employees have taken the required temperatures by visually monitoring employees during their shift and sign off on Batch Records weekly.
7. **Mix:** Use gloves to hand mix cure with seasonings and at least 1 pint of water. Addmeat and cure/seasoning/water mix to mixer.
8. **Prepare Casings and Stuff:** Put casings in NSF container and rinse until salt taste is minimal. Find ends of casing and put over container edges. Put casing on sausage horns of stuffer. Put meat in stuffer. Turn on and appropriate speed and stuff.
9. **Smoke/Cook (CCP #2):** Place sausage on smokehouse racks at 180°F. Place probe thermometer in any sausage. Set thermometer alarm to 160°F. When alarm sounds, turn racks 180 degrees. Re-probe any sausage. Set to 170°F. When alarm sounds, turn off smokehouse.
	* **Critical Limit:** Beef: 155°F for 15 seconds

Chicken: 165°F for 15 seconds

 Pork: 155°F for 15 seconds

 Turkey: 165°F for 15 seconds

* + **Monitoring:** Use digital thermometer to check the internal temperature of one product per batch from the coldest part of the smoker.
	+ **Corrective Action:** Continue cooking until critical limit is reached. Adjust smoker temperature if necessary. Contact repair if necessary.
	+ **Records:**  Document on Batch Record.
	+ **Verification:** Manager on Duty will verify that designated employees have taken the required temperatures by visually monitoring employees during their shift and reviewing the temperature logs on weekly basis.
1. **Cooling (CCP #3):** Remove sausages from smokehouse and place on cooling racks in sausage prep area.Rinse with cold water in for five minutes.Move to walk in cooler rack in cooler maintained at 41o F or less. Position product so that it is protected from raw meat products to prevent cross-contamination.
	* **Critical Limit:** Smoked/cooked product must be cooled to 70°F within 2 hours of reaching 140°F and must be cooled to 41°F within 4 hours of reaching 70°F.
	* **Monitoring:** Use digital thermometer to check the internal temperature of one product per batch from the warmest part of the walk in cooler within 2 hours of reaching 140°F and again within 4 hours of reaching 70°F.
	* **Corrective Action:** If temperature is not cooled to 70°F within 2 hours of reaching 140°F, reheat to 165°F and try another method to rapidly cool product as required or discard product. If product is not cooled to 41°F within 4 hours of reaching 70°F, discard. Adjust processes as necessary.
	* **Records:**  Document on Batch Record. Update HACCP Plan as necessary.
	* **Verification:** Manager on Duty will verify that designated employees have taken the required temperatures by visually monitoring employees during their shift and reviewing the Batch Log on a weekly basis.
2. **Date Mark:** Place cook date on product containers.
	* **12a (optional) Freeze:** Cover container and store in freezer. Thaw under running water or in walk in cooler when ready to use.
	* **12b Cold Storage:** Store meat under refrigeration in cooler at 41oF or less.
3. **Product Prepped:** Product is prepared for various dishes.
4. **Service:** Final product is served in restaurant.

**Hazard analysis: fully cooked, sodium nitrite added sausage products**

(Fully Cooked – Not Shelf Stable)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Process Step | Potential Hazards(B) Biological(C) Chemical(P) Physical | **Is this hazard significant?** | **Justification of Decision**  | **Preventative Measures**(if significant hazard) | **Critical Control Point (CCP)?**  |
| 1. Receiving – Meat | B- Pathogens*E-coli spp.**Salmonella spp.**Listeria monocytogenes*C - NoneP - None | Yes | Raw meat/poultry is a known source of pathogens | Kill step will eliminate pathogens. Visual inspection and verify products are received at 41oF or less and/or frozen products received frozen. | No |
| 2. Receiving – Dry Goods | B – NoneC – NoneP – None | No | Approved vendors used. | - | No |
| 3. Cold Storage | B-Bacteria- Pathogens*E-coli spp.**Salmonella spp.**Listeria monocytogenes*C - NoneP – None | Yes | Raw meat/poultry is a known source of pathogens. | Kill step will eliminate pathogens Perishable products are refrigerated at 41oF or less and frozen products are maintained frozen | No |
| 4. Dry Storage | B – None C – NoneP – None | No | SOPs | - | No |
| 5. Prepare Ingredients | Bacteria- Pathogens*E-coli spp.**Salmonella spp.**Listeria monocytogenes*C - NoneP- Metal | YesNo | Raw meat/poultry is a known source of pathogens.In house inspection of processing equipment will help safeguard against metal contamination. | Kill step will eliminate pathogens. | No |
| 6. Weigh Cure | B – NoneC - NitritesP- None | Yes | If too much nitrite is added, it would violate additive requirements. | Nitrites <156 is necessary to safely prevent the chemical hazard associated with curing foods. (9 CFR 318.7) | **Yes: CCP #1** |
| 7. Mix | B – NoneC – NoneP – Metal | No | In house inspection of processing equipment will help safeguard against metal contamination. | - | No |
| 8. Prepare Casings and Stuff | B - Pathogens | Yes | Pathogens can grow if not properly handled. | Product will be out of temperature control for limited time. | No |
| 9. Smoke/Cook | B- Pathogens*Listeria monocytogenes**Salmonella spp**E. coli* | Yes | Raw meat/poultry is a known source of pathogens. | Cook to proper internal temperature to eliminate pathogens (Minimum of 155o F / 15 sec for beef and pork or 165 F / 15 sec for poultry as per MN Food Code)  | **Yes: CCP #2** |
| 10. Cooling | B – Pathogens*C. perfringens spores* | Yes | Raw meat is a known source of *C. perfringens* spores | Cooling from 140oFto 70oF in 2 hours and from 70oF to 41oF in 4 additional hours as per MN Food Code will control pathogen spore growth. | **Yes: CCP #3** |
| 11. Date Mark | B – Pathogens*C. perfringens spores* | Yes | Pathogens can grow if not properly handled. | SOPs | No |
| 12a. (optional) Freeze & Thaw | B – None | Yes | Pathogens can grow if not properly handled. | SOPs | No |
| 12b. Cold Storage | B – Pathogens | Yes | Pathogens can grow if not properly handled. | SOPs | No |
| 13. Product Prepped | B – Pathogens | Yes | Pathogens can grow if not properly handled. | SOPs | No |
| 14. Service | None | No | - | - | No |

**HACCP plan form: fully cooked, sodium nitrite added sausage products**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **(1)Critical Control Points** | **(2)Significant Hazards** | **(3)Critical Limits for each preventative measure** | **Monitoring** | **(8)Corrective Actions** | **(9)Verification** | **(10)Records** |
| **(4)What** | **(5)How** | **(6)Frequency** | **(7)Who** |
| CCP #1 Weigh Out Cure  | C - Nitrites | 0.06431 lbs or less of nitrite cure with 6.25% nitrite per 20 lbs of meat for 200ppm ingoing cure. | Weight of cure added to mixture |  Weigh cure out using digital scale | Each batch  | Trained Staff  | Adjust cure weight until at 0.06431 lbs or less/20lbs of meat. | Batch records will be reviewed for meeting CL, signed and dated by manager prior to product being offered for sale. | Batch Record: Fully cooked, Sodium Nitrite added SAUSAGE PRODUCTSDigital scale will be certified annually and have stamp of certification.Food Scale Accuracy Log |
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| CCP #2 Cook/Smoke | Bacteria – Pathogens Salmonella spp, E. coli, Listeria monocytogenes | Beef/Pork:155oF/15 secPoultry:165oF/15 sec | Internal temperature of largest portion of meat or poultry | Calibrated digital thermometer | Every batch | Meat Operator | If CL is not reached after completion of the smokehouse cycle, continue to cook until CL is reached. Check smokehouse operations. | Batch records will be reviewed for meeting CL, signed and dated by manager prior to product being offered for sale.Digital thermometer will be calibrated and recorded weekly – record will be reviewed, signed and dated by manager monthly. | Batch Record: Fully cooked, Sodium Nitrite added SAUSAGE PRODUCTSThermometer Calibration Log |
| CCP#3 Cooling  | Bacteria – pathogens C. perfringens | Step 1140oF – 70oF within 2 hours, Step 270oF – 41oF within 4 hours of reaching 70 oF | Internal temperature of largest piece of meat | Calibrated digital thermometer | Every batch  | Meat operator | If temperature is not cooled to 70°F within 2 hours of reaching 140°F, reheat to 165°F and try another method to rapidly cool product as required or discard product. If product is not cooled to 41°F within 4 hours of reaching 70°F, discard.  | Batch records will be reviewed for meeting CL, signed and dated by manager prior to product being offered for sale.Digital thermometer will be calibrated and recorded weekly – record will be reviewed, signed and dated by manager monthly. | Batch Record: Fully cooked, Sodium Nitrite added SAUSAGE PRODUCTSThermometer Calibration Log |

Batch record: fully cooked, sodium nitrite added sausage products

BATCH:

|  |  |
| --- | --- |
| Date: |  |
| Recipe: |  |

CURING:

|  |  |
| --- | --- |
| Type: | Sodium Nitrite |
| Weight: |  |
| Cure Lot Number: |  |
| CCP Met? | Yes | No |
| Corrective Action: |  |
| Staff Initials: |  |

SMOKE/COOK:

|  |  |
| --- | --- |
| Final Internal Temp: | °F |
| CCP Met? | Yes | No |
| Corrective Action: |  |
| Staff Initials: |  |

COOLING:

|  |  |  |  |
| --- | --- | --- | --- |
| Start Time: |  | Temp: |  °F |
| Staff Initials: |  |
| First Check Time (< 2 hours): |  | Temp: | °F |
| Staff Initials: |  |
| Second Check Time (<4 hours of reaching 70): |  | Temp: | °F |
| Corrective Action: |  |
| Staff Initials: |  |

VERIFICATION:

|  |  |  |
| --- | --- | --- |
| All CCPs Met? | Yes | No |
| Corrective Actions: |  |
| Verified by: |  | Date: |  |

|  |
| --- |
| **Food scale accuracy log****Instructions**: Scales used to weigh cure will be checked for accuracy each time a product is made. The scale will be checked for accuracy using a standard weight according to manufactures recommendation and recorded on the Scale Accuracy Log. The designated supervisor must verify and initial that foodservice employees are verifying accuracy of scales by reviewing and signing this log. This log should be maintained for a minimum of 6 months. |
| **Date/ Time** | **Food Scale****Identification** | **Standard****Weight** | **Scale** **Reading** | **Accurate****Y/N** | **Corrections** | **Staff Initial** | **Manager Signature** |
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| **Thermometer calibration log****Instructions**: The designated foodservice employee(s) must record the calibration temperature and corrective action taken each time a thermometer is calibrated. Thermometers intended for measuring hot temperature items must be calibrated in hot water, while those used for cold temperatures must be calibrated in ice water. The designated supervisor must verify and initial that foodservice employees are using and calibrating thermometers properly by making visual observations of employee activities during hours of operation. This log should be maintained for a minimum of 6 months. |
| **Date** | **Time** | **Thermometer****ID#** | **Method Used****(Ice Slurry/ Boiling Point)** | **Thermometer****Reading** | **Accurate****(Yes /No)** | **Corrective Action** | **Initials** | **Verified By** |
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**HACCP training for employees**

**Understanding the potential hazards associated with curing**

Sodium nitrite cure has several functions. It provides protection against the growth of clostridium botulinum—the bacterium that causes the foodborne illness called botulinum. It also helps to stabilize the flavor of the cured meat. Sodium nitrite curing is also used to achieve the characteristic flavor and color of the product.

**CONCEPTS REQUIRED FOR A SAFE OPERATION**

A thorough understanding of this HACCP plan, the use of sodium nitrite as a curing agent, and the Sanitation Standard Operating Procedures is necessary for safe curing. Areas of focus include: critical limits for sodium nitrite in cured meats, scaling of raw and ready to eat items, prevention of cross contamination, and personal hygiene of food handlers.

**Critical limits for sodium nitrite in cured meats**

Too much sodium nitrite in a cured meat can be toxic to humans.

**Temperature Control**

Temperature control is a very important factor in keeping all potentially hazardous foods safe. To reduce the potential for growth of these pathogens, time products are in the temperature danger zone (41oF ‐ 140oF) during the prep step must be minimized and products returned to coolers with temperatures of 41o F or less as soon the prepping is completed.

**Preventing Cross Contamination**

Raw foods should be handled separately from cooked and ready to eat foods to avoid cross contamination. Utensils, equipment and work surfaces used for raw foods should be thoroughly cleaned and sanitized prior to using for cooked or ready‐to‐eat foods. In addition, ensure that ready‐to‐eat foods are stored so that blood or juices from raw products cannot drip or otherwise come into contact with them. Food handlers can also be a source of cross contamination through improper handwashing, or soiled clothing or aprons.

**Employee Health and Hygiene**

The health and personal hygiene of food handlers can also play a critical role in producing a safe ROP food. It is vital that employees working in this operation follow the Employee Hygiene and Practices guidelines in the Sanitation Standard Operating Procedures (SSOPs).

**Employee Training Program**

After reading the HACCP Plan and following procedures under direction of Chef, employees will discuss with Chef. Chef will determine if employee is trained and employee will not conduct ROP process without supervision prior to that determination.

**Sanitation Standard Operating Procedures (SSOPs)**

**Cleaning and Sanitizing Procedure**

Properly cleaned and sanitized food contact surfaces are critical to ensuring a safe, sanitary operation. Use of approved cleaners and sanitizers will reduce levels of pathogenic organisms to prevent cross contamination of the product. Detergent cleaners suspend and help remove various food soils. Chemical sanitizers reduce the numbers of pathogens and other microorganisms.

The cleanup process must be completed in accordance with the following procedure:

* Pre-cleaning – equipment and utensils shall be pre-flushed, presoaked, or scraped as necessary to eliminate excessive food debris.
* Washing – equipment and utensils shall be effectively washed to remove or completely loosen soils using a manual or mechanical means. Only approved chemicals are to be used in this process. Mix concentration according to manufacturer’s recommendations.
* Rinsing – washed utensils and equipment shall be rinsed to remove abrasives and to remove or dilute cleaning chemicals with water.
* Sanitizing – after being washed and rinsed, equipment and utensils must be sanitized with an approved chemical by immersion, manual swabbing, brushing or pressure spraying methods. Concentration and exposure times are important to ensure effectiveness of the chemical. Refer to the manufacturers label for concentrations and times.
* Ensure that an appropriate chemical test kit such as chlorine, quaternary ammonia, iodine, etc. test strips are available and routinely used to ensure that accurate concentrations of the sanitizing solutions are being used.

**Frequency of Cleaning**

Equipment, food contact surfaces and utensils shall be cleaned in a time frame as follows:

1. Before each use with a different type of raw animal food, including beef, fish, lamb, pork or poultry;
2. Each time there is a change from working with raw foods to working with ready to eat foods;
3. Between uses with raw fruits or vegetables and with potentially hazardous foods;
4. At any time during the operation when contamination may have occurred;
5. If used with potentially hazardous foods, throughout the day at least once every four hours;
6. Utensils and equipment that are used to prepare food in must be cleaned at least once every four hours when in use.
7. Before using or storing a food temperature measuring device;
8. Equipment used for storage of packaged or un-packaged food, including coolers, and the equipment is cleaned at a frequency necessary to eliminate soil residue.
9. For ice bins, at a frequency necessary to preclude accumulation of soil or mold.
10. Cooking equipment shall be cleaned at a frequency to prevent the accumulation of food residues.

Non-food-contact surfaces of equipment shall be cleaned at a frequency necessary to prevent accumulation of soil residues.

**Employee Practices**

1. Hand are to be thoroughly washed for 20 second in a detergent hand sink with soap and water, paying particular attention to the areas underneath the fingernails and between the fingers by scrubbing thoroughly with a fingernail brush. Dry with single use towels. Hand washing is to be done at the following times:
	* After using the toilet, in the toilet room
	* After coughing, sneezing, using a tissue, using tobacco, eating or drinking
	* After handling soiled equipment or utensils
	* Immediately before engaging in food preparation activities
	* During food preparation activities necessary to remove soil and prevent cross contamination
	* When switching between raw and ready-to-eat foods
	* Other times as needed to maintain good sanitation
2. Fingernails must be kept trimmed, filed, free of nail polish, and maintained so the edges are cleanable and not rough. Artificial nails are prohibited.
3. Eating and drinking is prohibited in areas where contamination of exposed food, clean equipment, utensils, unwrapped single service and single use articles could occur. A food employee may drink from a closed beverage container as long as it is handled to prevent contamination.
4. Effective hair restraints must be worn in processing areas.
5. Smoking and other uses of tobacco are prohibited.
6. Clean outer clothing must be worn each day and changed as often as necessary throughout the day (when moving from a raw food operation to a ready-to-eat food operation.
7. Frocks and aprons used by employees are to be hung in a designated area when not in use. They are not to be worn in the toilet area, eating areas and locker rooms.
8. Footwear is to be kept clean.
9. No jewelry (except a wedding band or other plain ring) is allowed during handling of food.
10. Food employees shall report to the person in charge when they have a symptom caused by illness, infection, or other source that is:
* Associated with diarrhea, vomiting or other acute gastrointestinal illness
* Jaundice
* A boil, infected wound, or other lesion containing pus that is open or draining unless: if on the hands and wrist, unless a finger cot or other impermeable cover protects the lesion and a single use glove is worn if on exposed portions of the arms, the lesion is protected by an impermeable cover.
* The person in charge shall impose the proper restrictions and exclusions according to the rule and record on Employee Illness Log.