

**NATIONAL UNIVERSITY OF PHARMACY
DEPARTMENT OF PATHOLOGICAL PHYSIOLOGY**

HYGIENE IN PHARMACY AND ECOLOGY

**TOPIC: «SANITARY AND ANTIEPIDEMIC
REGIME IN PHARMACIES»**

Kharkiv, 2017/18



Plan of lecture

- 1. The concept of sanitary-anti-epidemic regime.
- 2. Hygienic requirements for cleaning the pharmacy premises.
- 3. Personal hygiene staff.
- 4. Disinfection, methods, means.
- 5. Disinsection, methods, means.
- 6. Deratization, methods, means.



The questions of Independent work

- Healthy lifestyle and personal hygiene.
- Physical culture and principles of hardening.

Suggested Reading

■ Basic

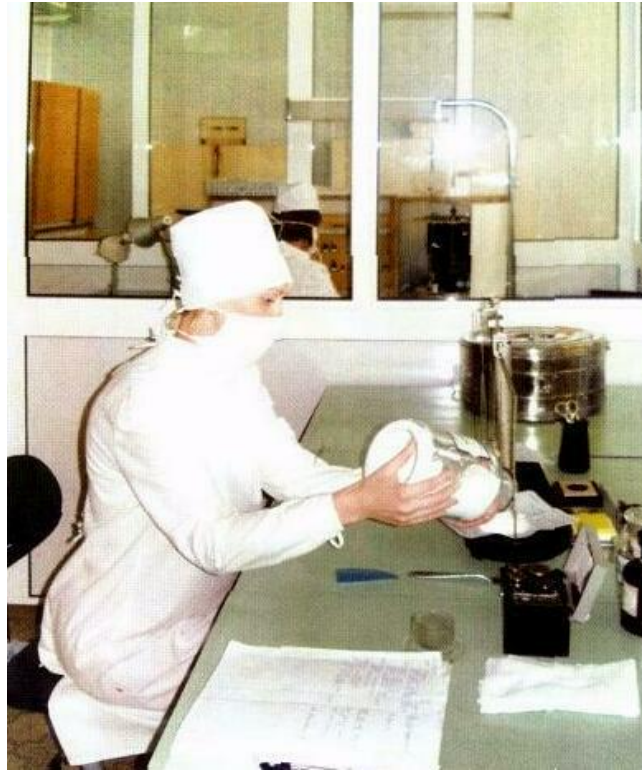
- Hygiene in Pharmacy. Manual for foreign students of higher schools / O. S. Kalyuzhnaya, O. P. Strilets, L. S. Strelnikov et al. – 2nd Edition, supplemented and revised. – Kharkiv: NUPh, 2013. – 224 p.
- Bardov V. G. Hygiene and Ecology/ Editor by V. G. Bardov. – Vinnytsya : Nova Knyha Publishers, 2009. – 687 p.

■ Auxiliary

- Kjellstrom Y. Basic environmental health / Y. Kjellstrom, K. Guidotti. – Oxford. – 2001. – 546 p.
- General Hygiene and environmental health / Zaporozhan V. M., Bazhora Yu. I., Vitenko I. S. et al. – Odessa, 2005. – 300 p.

■ Information resources, including the Internet

- 1. Library of NPhaU: <http://lib.nuph.edu.ua>
- 2. Specialized medical and biological portals of the Internet.



**SANITARY AND ANTIEPIDEMIC
REGIME IN PHARMACIES**

IS

**A COMPLEX OF PRESCRIPTIVE
AND OBLIGATORY RULES AND
REQUIREMENTS**

THE REQUIREMENTS ARE USED TO:

- premises of Pharmacies
- personal hygiene of employees
- receiving, transportation, storage of product water and water for injections
- preparation of drugs in aseptic conditions and preparation of non-sterile products
- regimes of disinfection, antiseptics
- ware working-up

REQUIRMENTS TO PREMISES



ONLY WET CLEANING with used disinfectant
must be in Pharmacies



**DRY CLEANING IS EXPRESSLY
PROHIBITED!**



THE FLOORS ARE WASHED NOT LESS THAN ONCE PER SHIFT,

WALLS AND DOORS ARE WASHED NOT LESS THAN ONCE A WEEK

CEILING - ONCE A MONTH

WINDOW-PANES ARE CLEANED NOT LESS THAN ONCE A MONTH (FROM THE OUTDOOR SIDE –IN WARM SEASONS).



BOXES AND EQUIPMENT ARE CLEANED WITH A WATER-WET CLOTH EVERY DAY

IN THE END OF SHIFT THEY ARE CLEANED WITH THE HELP OF DETERGENT.

THE EQUIPMENT FROM OUTSIDE MUST BE CLEANED EVERY DAY. THE BOXES FOR DRUG STORAGE ARE CLEANED AS AND WHEN NECESSARY, BUT NOT LESS THAN ONCE A WEEK.



SINKS AND SANITARY ROOMS ARE DISINFECTED EVERY DAY



GENERAL CLEANING IS PROVIDED ONCE A WEEK.

**IT MUST INCLUDE THE FOLLOWING
PROCEDURES.**

**FIRST THE CLEANING IS PERFORMED IN THE
ASSISTANT ROOM : CEILING, WALLS, DOORS,
FIXED INSTALLATIONS, FLOOR.**



**CLEANING OF ASEPTIC BLOCK
IS DONE NOT LESS THAN ONCE PER SHIFT
IN THE END OF WORK**



CLEANING DAY IS ONCE A MONTH **(CLEANING, DISINFECTION, DISINSECTION,** **DERATIZATION)**



ONCE A MONTH



REQUIRMENTS TO PERSONAL HYGIENE



PHARMACISTS MUST FOLLOW THE RULES:

TO DISINFECT HANDS BEFORE WORK AND IN THE PROCESS OF IT.



**TO KEEP OUTDOOR CLOTHES AND SHOES
SEPARATELY FROM OVERALLS AND
SECOND PAIR OF SHOES**



**BEFORE TO GO TO THE TOILET OVERALLS
MUST BE OFF, AFTER THAT THE HANDS
MUST BE CAREFULLY WASHED.**



**TO LEAVE THE PHARMACY IN THE
OVERALLS IS FORBIDDEN**



**TO CHANGE THE
OVERALL AT LEAST
TWICE A WEEK**

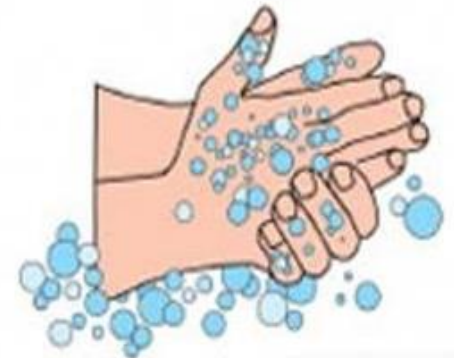


WHEN PHARMACEUTISTS APPLY FOR A JOB, THEY UNDERGO MEDICAL EXAMINATION, THEN MEDICAL CHECK-UP. THE RESULTS ARE REGISTERED IN THEIR HEALTH BOOK.



Handwashing rules

AT FIRST THE HANDS ARE WASHED WITH SOAP, THEN ARE TREATED WITH ANTISEPTIC



REQUIREMENTS TO ANTISEPTICS

- 1. ABSENCE OF GENERAL TOXICAL, ALLERGENIC, IRRITATING ACTIONS;**
- 2. HIGH ANTIMICROBIAL ACTIVITY;**
- 3. WIDE SPECTRUM OF ACTIVITY;**
- 4. ORGANOLEPTICAL PROPERTIES.**

**ANTISEPTICS CONTAIN ALCOHOL, IODINE COMPOUND,
HYPEROXIDE**

Sterillium

Septoderm

Hospiceptum

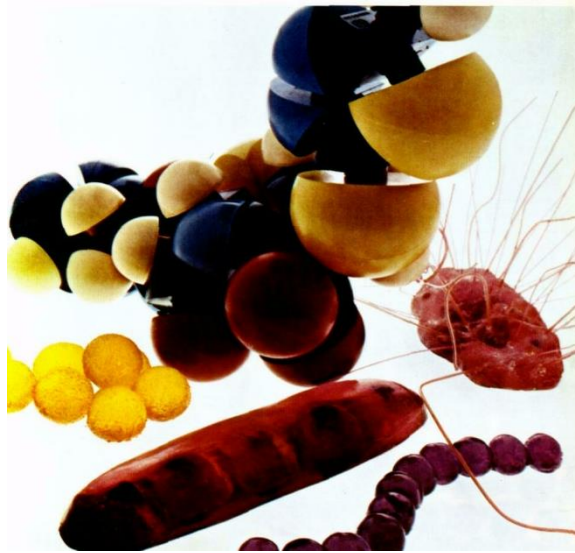
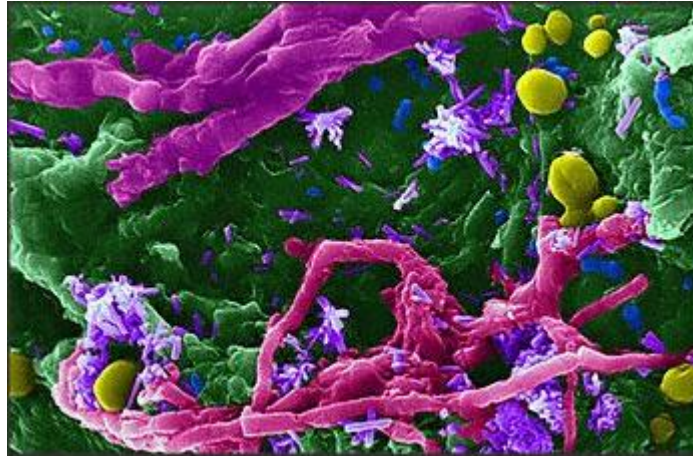
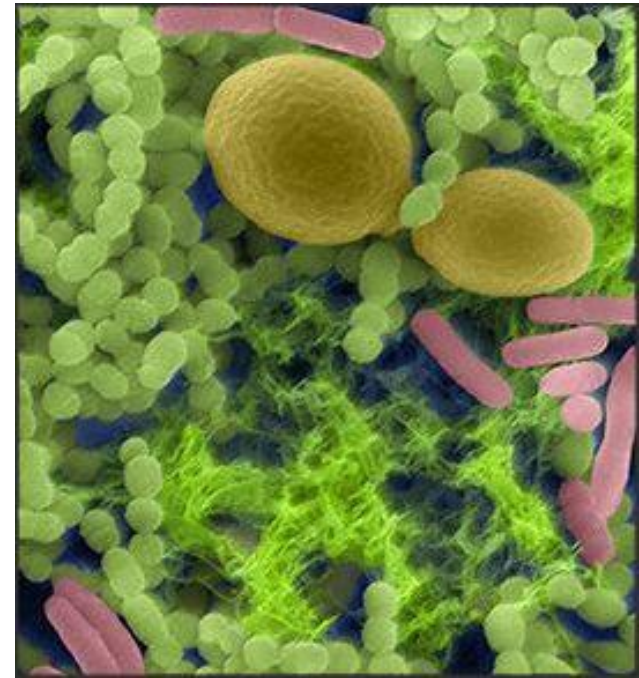
Ethyl alcohol — 70 %

Betaine

Hyperoxide - 3,0%



DISINFECTION



DISINFECTION

THESE ARE METHODS OF COMPLETE, PARTIAL OR SELECTIVE LIQUIDATION OF PATHOGENIC AND SAPROPHYTIC MICROORGANISMS ON THE EXTERNAL OBJECTS POTENTIALLY HARMFULL FOR A HUMAN AND MANUFACTURED PRODUCTS



STERILIZATION IS THE PROCESS OF DESTROYS OR ELIMINATION ALL FORMS OF MICROBIAL LIFE



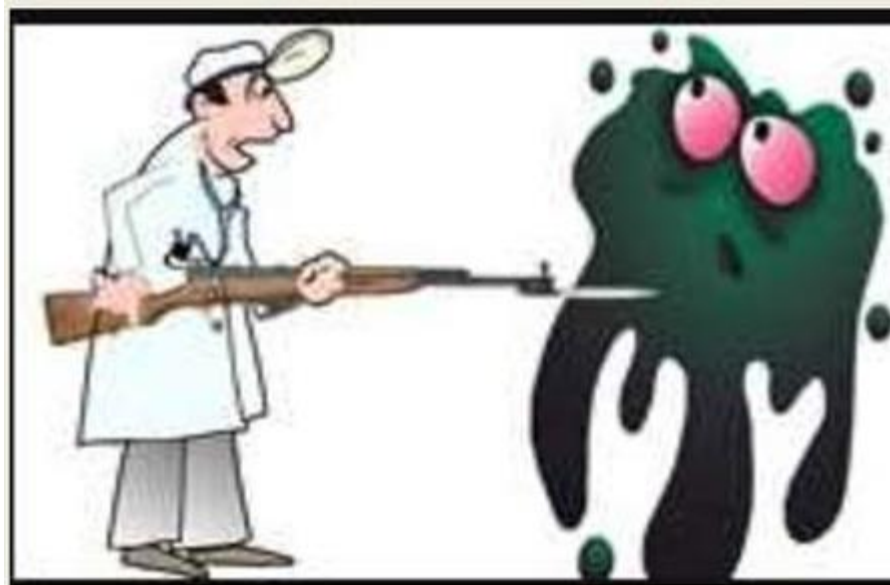
DISINFECTION IS USED WHEN STERILIZATION IS IMPOSSIBLE

ANTICEPTIC IS A COMPLEX OF MEASURES AIMED AT ELIMINATING PATHOGENIC AND SAPROPHYTIC MICROORGANISMS ON THE SKIN OF THE PERSONNE'S HAND



DISINFECTION TASKS

- BREAKAGE OF EXCITANT TRANSMISSION MECHANISMS FROM SOURCES TO STAFF
- MICROBIAL CONTAMINATION PREVENTION

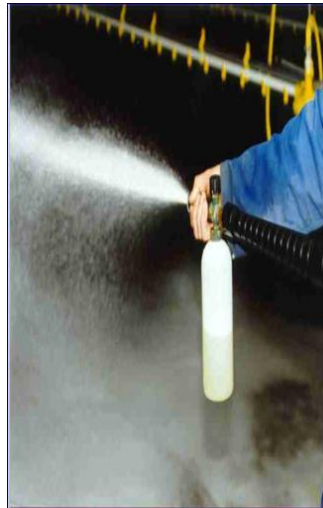


METHODS OF DISINFECTION

1. CLEANING OF SURFACES WITH DISINFECTION SOLUTION



2. SURFACE IRRIGATION WITH DISINFECTION SOLUTION WITH AIR-FREE REMOVAL OF LIQUID



3. AEROSOL SPRAYING (AIR, INACCESSIBLE PLACES)



METHODS OF DISINFECTION

1. PHYSICAL

- mechanical means (cleaning, washing, wiping)
- calcination in the flame
- ultrasound
- hot air
- boiling in water
- uv



2. CHEMICAL

CHEMICAL SOLUTIONS
OF **DISINFECTANTS**

REQUIREMENTS TO DISINFECTANTS

- ✓ **ANTIBACTERIAL FACTOR**
- ✓ **NONTOXICITY**
- ✓ **SOLUBILITY**
- ✓ **BACTERICIDAL ACTION**
- ✓ **SAFETY**
- ✓ **SIMPLICITY**



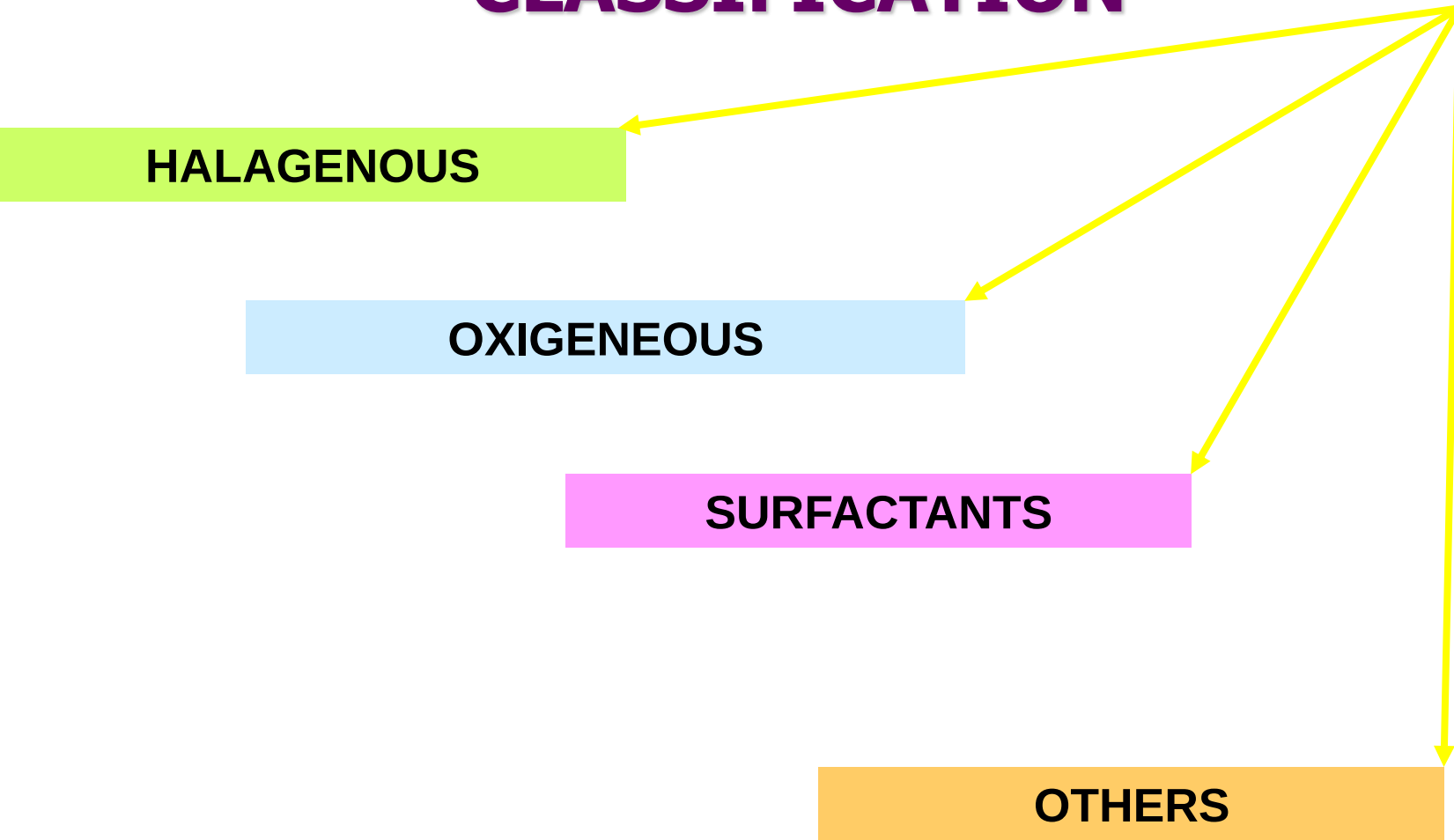
CLASSIFICATION

HALAGENOUS

OXIGENEOUS

SURFACTANTS

OTHERS



HALAGENOUS DISINFECTANTS

CHLORIDE ACTIVE DISINFECTANTS

ADVANTAGES

1. BACTERICIDAL ACTION
2. CHEAPNESS

DISADVANTAGES

1. STRONG SMELL
2. CORROSIVE ACTION
3. LOW SOLUBILITY



THEY ARE USED

CI INORGANIC
COMPOUND:

DOMESTOS

NEO CI

CI ORGANIC COMPOUNDS:

CHLORATOINE

CLORINE, COMET

THREE CI,

CI AMINE B, CHLORSEPT



OXIGENEOUS DISINFECTANS

HYDROGEN PEROXIDE – 3%, 4%, 6%, 9%.

HYDROGEN PEROXIDE+ QUATERNARY AMMONIUM COMPOUNDS (Q.A.C.): GRILLEN, PERAMINE, PEMOS-1

HYDROGEN PEROXIDE ADVANTAGES

1. ABSENCE OF SMELL
2. ABSENCE OF ALLERGIC ACTION
3. QUICK DECOMPOUNDING ON NONTOXIC PRODUCTS IN THE ENVIRONMENT

HYDROGEN PEROXIDE DISADVANTAGES

1. LOW STABILITY
2. SIGNIFICANT TOPICAL-PRODUCT-INDUCED IRRITATION
3. LOW BACTERICIDAL ACTIVITY COMPARING TO OTHER DISINFECTANTS



SURFACTANTS

**CATIONIC,
ANIONIC,
AMPHOLYTIC
NONIONIC.**

INDEPENDENT: CATIONIC, AMPHOLYTIC



CATIONIC SURFACTANTS

QUATERNARY AMMONIUM COMPOUNDS

- **DECAMETOXINE, SEPTODOR.**

GUANIDINE DERIVATIVES - **BI-
GLUCONATE, POLICEPT,
GEMBAR, LIZOPHORMINE.**

AMINE SALTS - **DISEFFECT,
CORZOLEX.**



SURFACTANT ADVANTAGES

- ❑ SOLUBILITY
- ❑ RUST PREVENTION,
- ❑ ANTISTATIC PROPERTIES
- ❑ STABILITY



SURFACTANT DISADVANTAGE

CONTAMINATION



OTHER DISINFECTANTS

- PERACIDS
- ALDEHYDES
- ALCOHOLS



PERACIDS

DESOXONE

DELAXONE

ODOXONCOH



**ACTIVE AGENT – 5 – 6% ACETIC
HYDROPEROXIDE**

DISADVANTAGE –SMELL

**ADVANTAGE – STABILISATOR (TEMPERATURE
t=50°C).**



GLUTARIC ALDEHYDE PRODUCTS

DESOPHORM

GLUTARAL

LIZOPHORMINE 3000

DESCOTON





ALCOHOLS

ETHANOL

PROPYL

ISOPROPYL

DISINFECTANTS



HOSPIDERMINE

MICROCYDE

DECOSEPT

BACILLOL



DISINSECTION

**IS THE SYSTEM OF MEASURES ON
ELIMINATION OF ARTHROPOD, WHICH ARE
THE CARRIERS OF INFECTIOUS AND
INVASION DISEASES**



METHODS OF DISINSECTION

NATURAL METHODS

STEAM, HOT WATER, FIRE

MECHANICAL METHOD

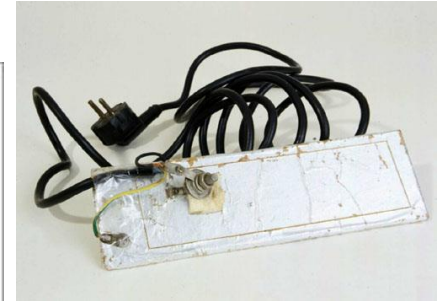
TRAPS

CHEMICAL METHOD

INSECTICIDES

BIOLOGICAL METHOD

NATURAL ENEMIES



INSECTICIDES

REQUIREMENTS

- ❖ INFLUENCE ON EVERY STAGE OF DEVELOPMENT OF INSECT
- ❖ LOW TOXICITY AND SAFETY FOR A PERSON
- ❖ STABILITY
- ❖ ABSENCE FIRE SAFETY



DICLORVOS
KARBOFOS
RIOPAN
RAID MAX
RAPTOR



DERATIZATION

**IS A COMPLEX OF MEASURES DIRECTED TO
ELIMINATION OF TINY RODENTS (mice, rats)
BEING THE SOURCE OR CARRIERS OF
INFECTIOUS DISEASES (plague,
leishmaniosis, leptospirosis)**



PREVENTIVE DERATIZATION– CONDITIONS THAT COMPLICATE OR ELIMINATE THE POSSIBILITY FOR GNAWING ANIMAL APPEARANCE OR REPRODUCTION :

- SOLID WASTE REMOVAL;
- EQUIPMENT, BUILDING, ROOM, ITEM INVENTORY, MECHANISM PROTECTION



DESTROY DERATIZATION IS ACCOMPLISHED BY HEALTH INFECTION SERVICES.



MECHANICAL

CATCHING BY SPECIAL DEVICES.



**CHEMICAL
POISONING OF RATS BY
PRODENTICIDE.**



RODENTICIDE



Lanirat- is a bait for mice and rats

Active agent— bromodialon – 2-d generation anticoagulant (causes bleeding, death; 4-8 days).

THANK YOU FOR ATTENTION!

