

NATIONAL UNIVERSITY OF PHARMACY DEPARTMENT OF PATHOLOGICAL PHYSIOLOGY

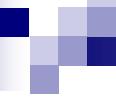
HYGIENE IN PHARMACY AND ECOLOGY

**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.



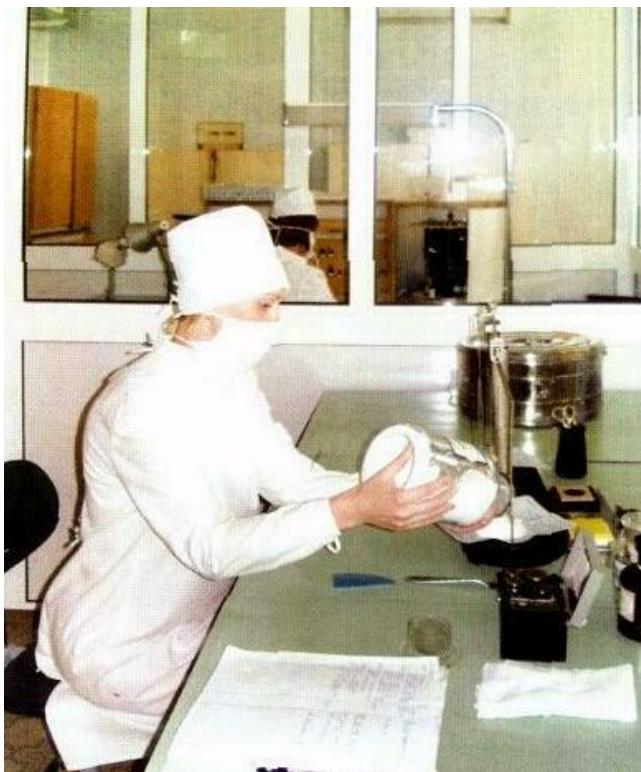
The quastions of Independent work

- 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/ Editer 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**

REQUIREMENTS 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, DISINSECTATION, DERATIZATION)



ONCE A MONTH

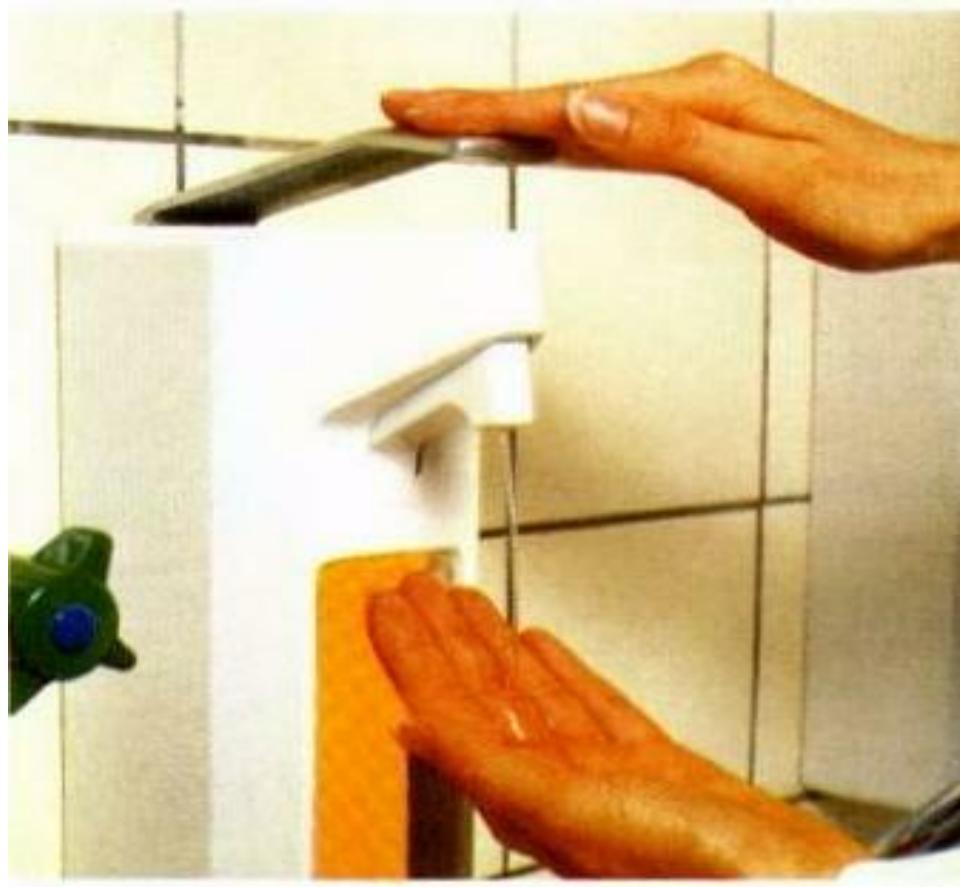


REQUIREMENTS TO PERSONAL HYGIENE



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**



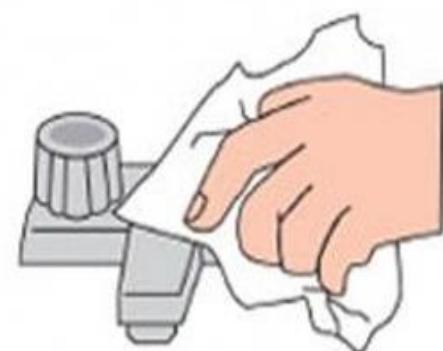
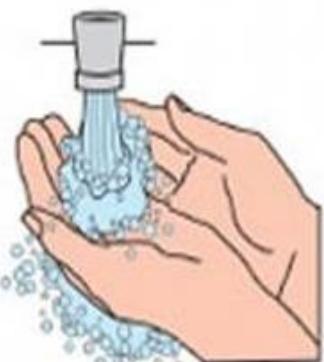
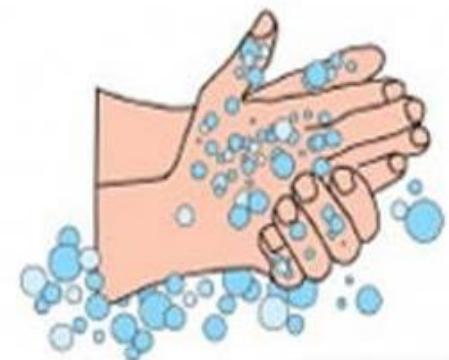
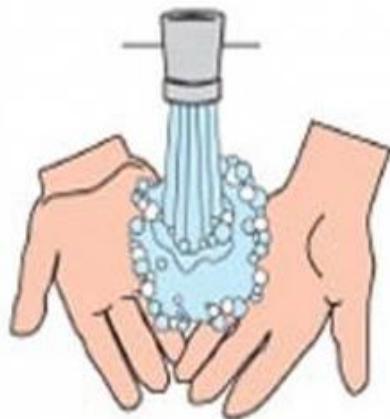
**TO CHANGE THE
OVERALL AT LEAST
TWICE A WEEK**

**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

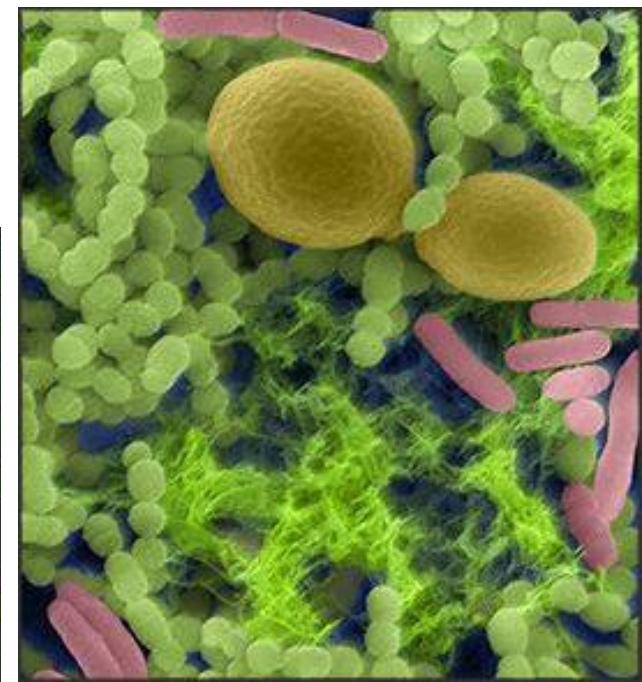
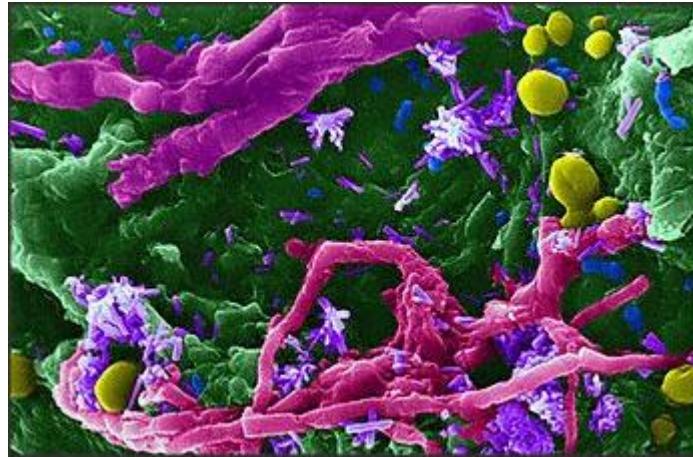
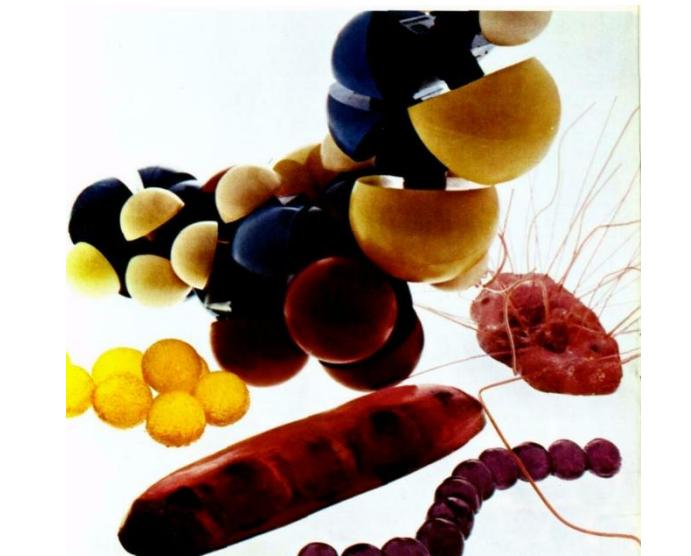
Ethyl alcohol — 70 %

Betaine

Hyperoxide - 3,0%



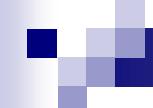
DISINFECTION



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

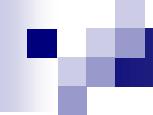




STERILIZATION IS THE PROCESS OF DESTROYS OR
ELIMINATION ALL FORMS OF MICROBIAL LIFE



DISINFECTION IS USED WHEN STERILIZATION IS
IMPOSSIBLE

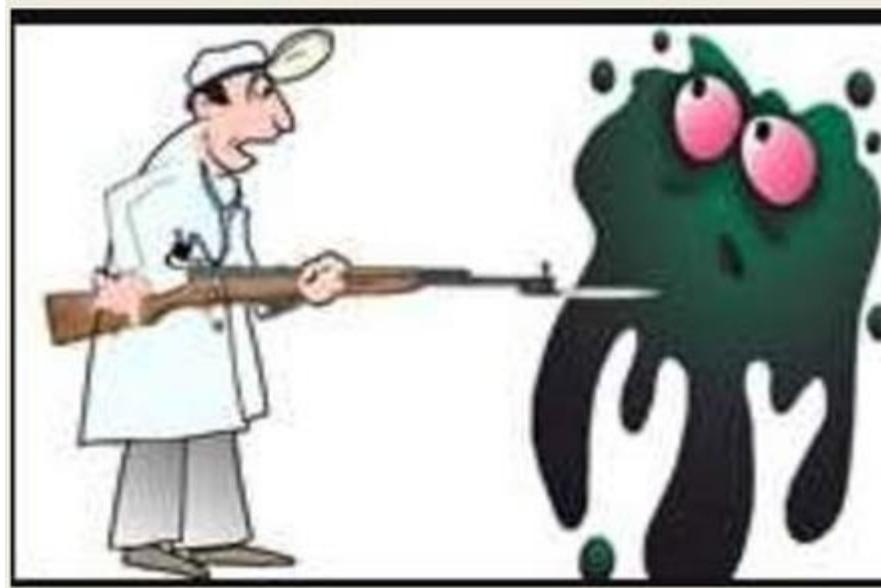


**ANTICEPTIC IS A COMPLEX OF MEASURES AIMED AT
ELIMINATING PATHOGENIC AND SAPROPHYTIC
MICROORGANISMS ON THE SKIN OF THE PERSONNE'S
HAND**



DISINFECTION TASKS

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

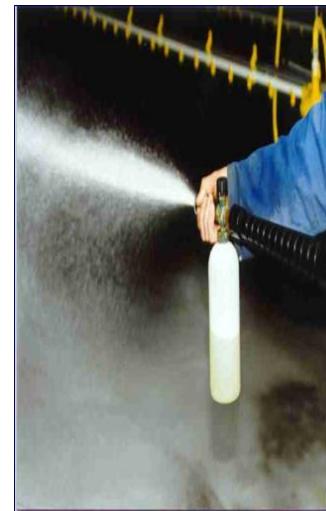


METHODS OF DISINFECTION

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



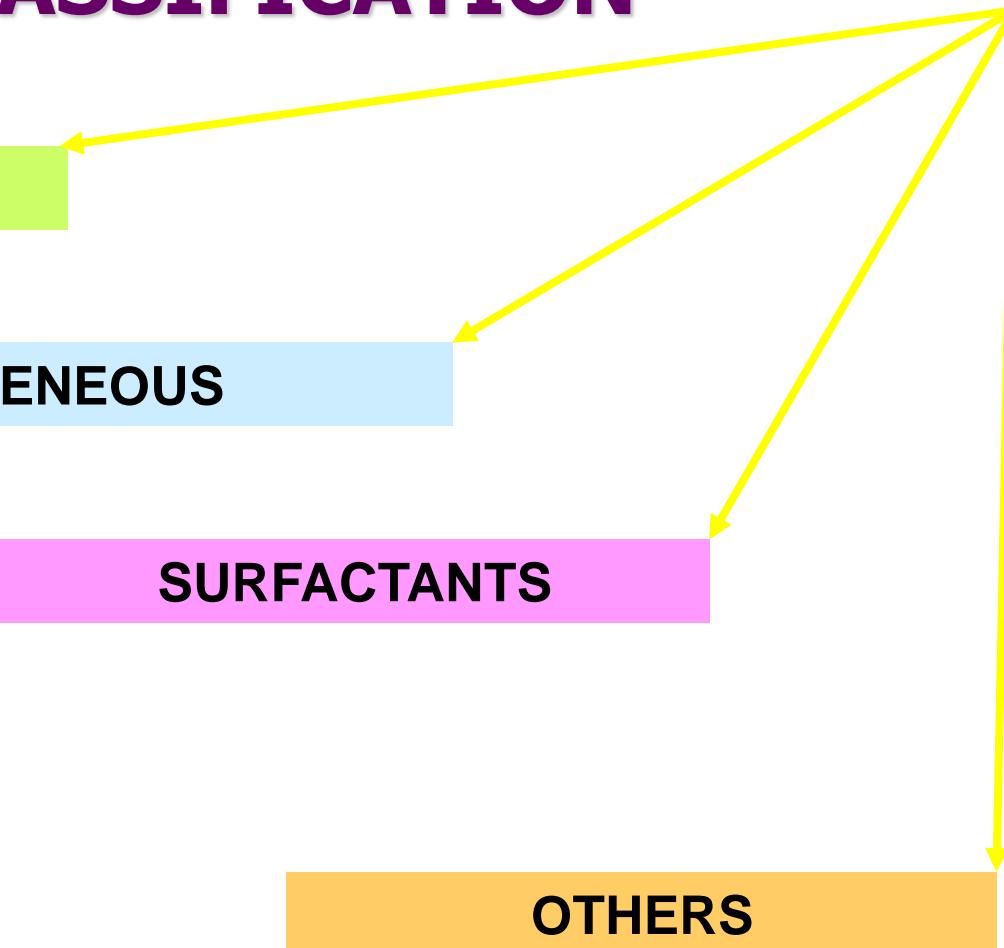
CLASSIFICATION

HALAGENOUS

OXIGENOUS

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



OXIGEHOUS 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

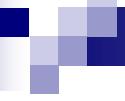
ODOXONCOH

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

DISADVANTAGE –SMELL

**ADVANTAGE – STABILISATOR (TEMPERATURE
 $t=50^{\circ}\text{C}$).**





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!

