

**14. WEEK**

**DRYING**

# WHY DRY FORM?

**Active and auxiliary substances ready for use;**

❖ **Stability,**

❖ **Transportation,**

❖ **Storage;**

❖ **Preparations of drug forms need to be in dry form.**

## ▶ WHY?

- ▶ Because when the material is dried, the chemical activity of the water in the material decreases. While this ensures the protection of the activities indicated by the substances, fungi and bacteria are extremely important in terms of prevention of reproduction.

# General Mechanism of Drying Process

- ▶ In the drying process, heat energy is transferred over the substance to be dried to provide evaporation latent heat necessary for evaporation of water or organic solvent.
- ▶ This heat transfer result evaporates away from the surface of the material by diffusing it into the drying air.
- ▶ Thus, the water is evaporated from the material by means of heat transfer, that is, the drying of the material is provided.

- ▶ Items that should be stored for a long time after the moisture has been removed should be packed and packed with materials that have little or no water vapor, and if necessary packed bags containing desiccant materials such as silica gel.
- ▶ Thus, the moisture is prevented from being drawn again.

# Determination of Moisture Content in the Media

- ▶ To determine the moisture absorption capacity of the material,
- ▶ To reveal the relationship between the moisture content of the material and the moisture content of the environment,

it is necessary to determine the moisture content of the existing environments of the storage, transportation and production line.

1. Mechanical Hygrometers
2. Electric Hygrometers
3. Gravimetric Method
4. Dew Point Method
5. Dry Chamber-Wet Chamber Method

- ▶ The most important factor that plays a role in the drying process is the ability of the air passing through the material to be dried to carry moisture.
- ▶ The ability of the air to transport moisture determines the drying speed and drying time.
- ▶ When the air is heated, its ability to carry moisture increases. In this context,
- ▶ Moisture GRAPHICS is used to determine the moisture concentration and moisture transport capacity of the air.