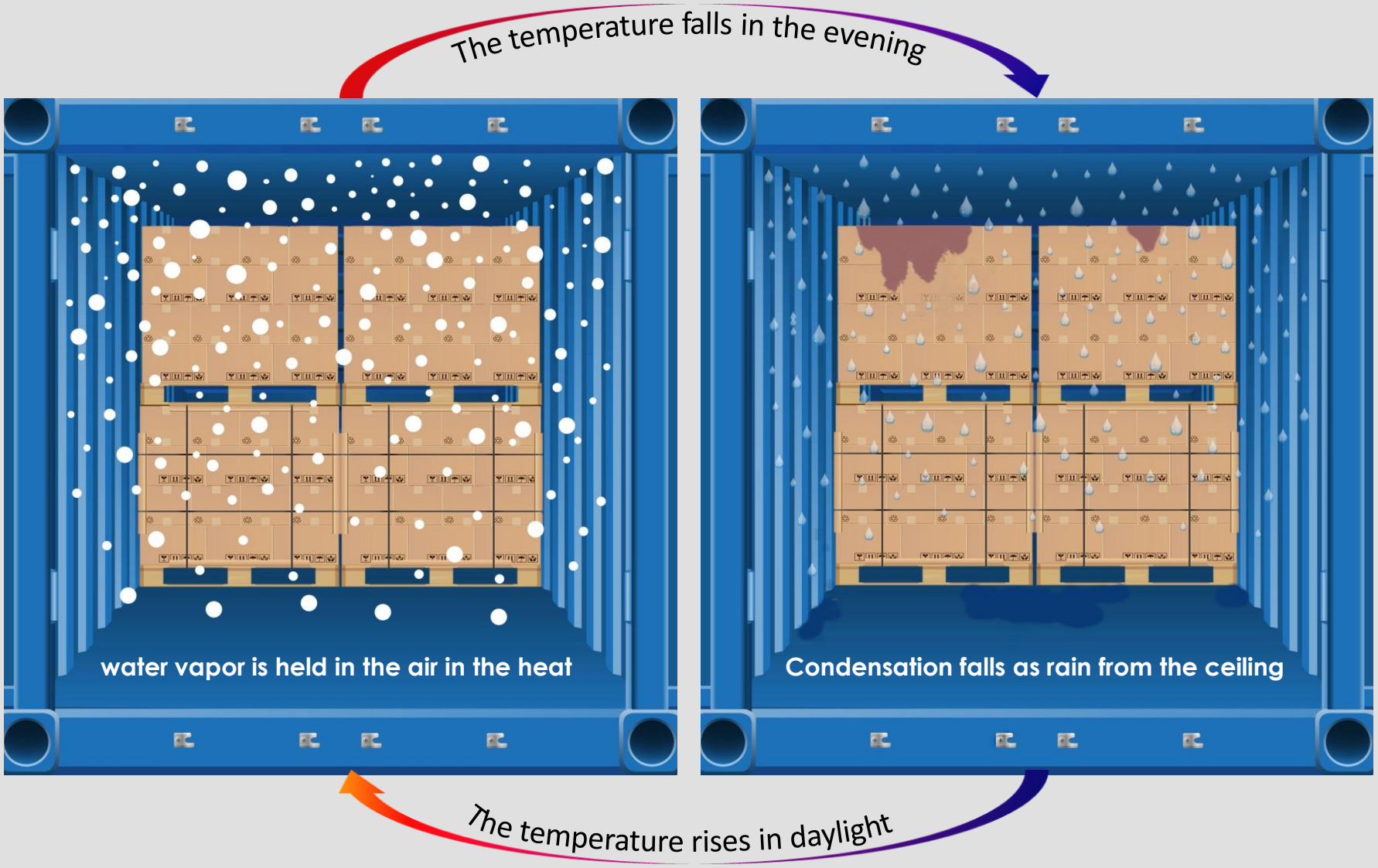
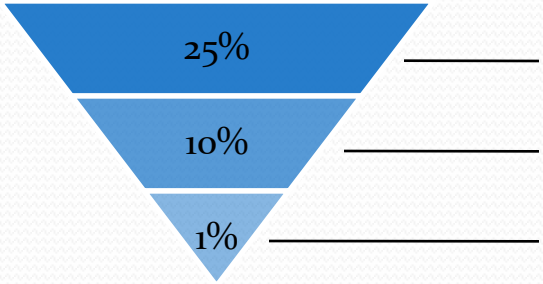
What is container rain

Container rain, also known as container sweat, is the term used to describe the condensation that accumulates on the walls and ceiling of the container and then they fall as precipitation — like rain on the goods resulting in moisture damage.



The costs of moisture damage

There were 207 Millions of containers were shipped throughout the world in 2021, insurers estimate that approximately 12% of all container shipment damage is moisture-related. If the cost value of goods in one container is USD 28,000, the following percentages of moisture damage can result in a monetary loss of:



* 25% cargo damage, unlucky there maybe no profit you can get from this shipment

If moisture damage rate of 10%, you'll loss USD 2800

Even at a minor moisture damage rate of 1% you may have to scrap products worth USD 280

* Multiply the amount scrapped by the number of containers you are shipping yearly, and that could mean goods worth millions of dollars are lost every single year.

Where's moisture from?

Water vapor from Loading Location

When goods are loaded in a tropical location the increased moisture in the air is held within the container and released as condensation as the freight moves through colder climates。

Temperature Changes En Route

Condensation is the process where water vapor becomes liquid. It is the reverse of evaporation, where liquid water becomes a vapor.
Condensation happens one of two ways: Either the air is cooled to its dew point or it becomes so saturated with water vapor that it cannot hold any more water.

Dew Point

Dew point is the temperature at which condensation happens. (Dew is simply condensed water in the atmosphere.) Air temperatures can reach or fall below the dew point naturally, as they often do at night. That's why lawns, cars, and houses are often coated with water droplets in the morning.

Condensation can also produce water droplets on the outside of soda cans or glasses of cold water. When warm air hits the cold surface, it reaches its dew point and condenses. This leaves droplets of water on the glass or can.

When a pocket of air becomes full of water vapor, clouds form. The point at which condensation starts can be easily viewed in cumulus clouds, which have flat bottoms. Those flat bottoms are where vapor begins to condense into water droplets.

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We call it container rain if water condense on walls or ceiling of container, from there it may drip down onto the cargo and cause damage, such as mould, rust, powder caking, collapsed packaging, labels peeling off, damaged packaging, corrosion, bad or changed smell, etc.

You can't control the weather and avoid water vapor absolutely. But you can eliminate the threat of moisture damage. Topdry Moisture Control has been specifically designed to prevent all risks of moisture damage to cargo within containers.