

# Cobalt-free Humidity Indicator Cards Application and Storage Instructions



Made in the United States of America

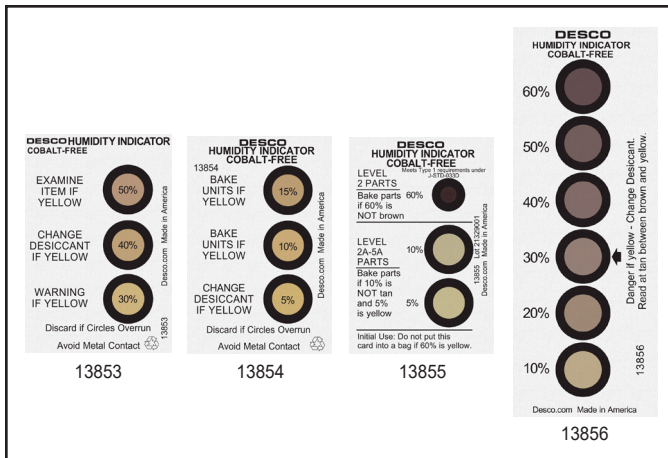


Figure 1. Cobalt-free Humidity Indicator Cards

## Description

An integral part of a complete moisture barrier packaging assembly is the Humidity Indicator Card (HIC). High relative humidity can cause significant, possibly irreparable damage to sensitive equipment, supplies, and products. To ensure dehydration measures work, humidity indicator cards measure the relative humidity (RH) inside sealed packages to allow immediate visual inspection of whether it has sustained unsafe humidity levels.

The Cobalt-free HIC contains chemically impregnated, humidity sensitive, indicating spots that will change color with moisture. The comparison bar is used to determine relative humidity of air. Select the indicating spot that most closely matches the color described on the cards. The measured relative humidity is the percentage indicated on the matching spot. The chemical reaction of the indicating spots is completely reversible; the spots will continue to change color as the moisture levels change. Our Cobalt-free HICs' chemistry formula involves a sulfur compound, but no cobalt compounds.

Cobalt-free HICs are sold in cans. Cobalt-free HICs should be inserted and sealed within a Moisture Barrier Bag with the desiccant packs.

| Item                  | Size             | Cards/Can | Relative Humidity |
|-----------------------|------------------|-----------|-------------------|
| <a href="#">13853</a> | 2" x 3"          | 125       | 30/40/50          |
| <a href="#">13856</a> | 1 9/16" x 4 3/4" | 200       | 10/20/30/40/50/60 |
| <a href="#">13855</a> | 2" x 3"          | 125       | 5/10/60           |
| <a href="#">13854</a> | 2" x 3"          | 125       | 5/10/15           |

Our Humidity Indicator Cards meet the requirements of MIL-I-8835 and IPC/JEDEC J-STD-033D (Type 1).

**"Humidity Indicator Card (HIC)** A card on which a moisture-sensitive chemical is applied as a spot that will make a significant, perceptible change when the indicated relative humidity is exceeded.

**Type 1 HIC (reversible)** For reversible spots the change is temporary and occurs as a change in color (hue), typically from blue (dry) to pink (wet). A perceptible change will be seen if the humidity threshold is only momentarily surpassed.

The HIC is packed inside the moisture-barrier bag, along with a desiccant, to aid in determining the level of moisture to which the moisture-sensitive devices have been subjected." (IPC/JEDEC J-STD-033D Section 1.5.7)

## Application

1. The humidity indicator spots will change from brown (dry condition) to yellow (humidity condition) as the relative humidity changes in the volume of air surrounding the indicator.
2. Relative humidity is indicated at the tan color.
3. Indicator spots will change within eight hours of being exposed to a change in relative humidity.
4. The humidity indicator spots are reversible, and the yellow spots will change back to brown when the volume of air is dried, humidity indicator cards with yellow or tan spots can be returned to a brown color by placing indicators in a sealed container with 33 grams (1 unit) of desiccant for four hours. However, "Type 1 and Type 2 HICs that have been exposed to 60% or greater RH will no longer be considered accurate." (IPC/JEDEC J-STD-033D Section 1.5.7)
5. The highest humidity indicator spot should be brown before being put into use.
6. The humidity indicator will be at its most accurate at a temperature of 23°C (73°F).
7. Avoid contact with indicator spots. Wash any irritated areas with clean water.

## Storage

1. Store humidity indicators in original sealed container with desiccant when possible before using, verify that indicator spots have not changed color.
2. Replace desiccant bags after three openings of container.
3. Store in dry, cool area.
4. Keep indicators out of direct sunlight.
5. Keep humidity indicators away from water or steam.
6. Ammonia gasses will damage humidity indicators.

### RoHS, REACH, and Conflict Minerals Statement

See the Desco RoHS, REACH, and Conflict Minerals Statement:

<https://desco.descoindustries.com/pdf/RegulatoryStatement-Desco-Humidity-Indicator-Cards.pdf>

### Desco Industries Limited Warranty

See the Desco Industries Limited Warranty: [DescoIndustries.com/Warranty.aspx](https://DescoIndustries.com/Warranty.aspx)