

# Cobalt-Dichloride Free HI Cards

## Purpose

To offer the electronics and semiconductor industries a Cobalt-Dichloride ( $\text{CoCl}_2$ ) Free humidity indicator card, while maintaining the accuracy required by international JEDEC standards.

## What are they?

Cobalt-Dichloride Free Humidity Indicator (HI) Cards provide electronic and semiconductor manufacturers with a JEDEC-compliant humidity indicator card that is free of Cobalt-Dichloride, a chemical regulated under European Chemical Bureau (ECB) REACH directives.

## Why use them?

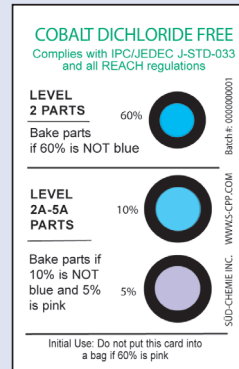
Many products such as sensitive semiconductors, electronics, optics, radar and various defense systems are highly sensitive to moisture. In order to constantly verify that dry packaging methods are not compromised during storage and transport of these products, humidity indicator cards allow users along the supply chain to monitor the package conditions.

Some companies desire the use of indicators that are free of Cobalt-Dichloride. The Cobalt-Dichloride Free HI Cards from Süd-Chemie provide verifiable color-change accuracy as required by JEDEC standard J-STD-033B, as well as exceed applicable regulations administered by the ECB.

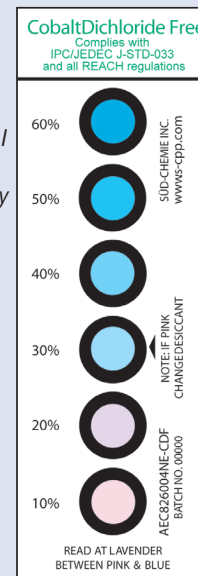
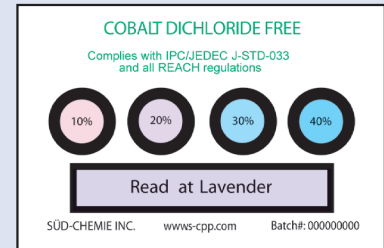
## Available configurations

Cobalt-Dichloride Free HI Cards are available in all standard configurations and humidity ranges, including the standard JEDEC-required format indicating 5, 10 and 60 percent relative humidity levels.

Süd-Chemie continues to manufacture a full range of  $\text{CoCl}_2$  based humidity indicator cards that are also in full compliance with relevant JEDEC standards and ECB regulatory, reporting and labeling requirements.



*Cobalt-Dichloride Free HI cards change color from blue to pink as verified by a JEDEC-compliant Color Meter test.*



## Key Advantages

- Cobalt Dichloride Free Humidity Indicator Cards are free of Cobalt-Dichloride ( $\text{CoCl}_2$ ), a chemical which has classification and labeling requirements under the European Chemical Agency (ECHA) REACH directives
- Fully compliant with JEDEC standard J-STD-033B for color-change accuracy
- Meets all relevant ECB/REACH labeling requirements
- Typical applications include the dry packaging of semiconductor and electronic devices

# Cobalt-Dichloride Free HI Cards

## JEDEC Compliance

Humitector® CDF Humidity Indicator Cards provide visible color change humidity indication as required for dry packaging under JEDEC standards.

	Indication at 2% RH Environment	Indication at 5% RH Environment	Indication at 10% RH Environment	Indication at 60% RH Environment	Indication at 65% RH Environment
<b>5% Spot</b>	Blue (dry)	Lavender (spot value) $\Delta \geq 7\%$ hue	Pink (wet)	Pink (wet)	Pink (wet)
<b>10% Spot</b>	Blue (dry)	Blue (dry)	Lavender (spot value) $\Delta \geq 10\%$ hue	Pink (wet)	Pink (wet)
<b>60% Spot</b>	Blue (dry)	Blue (dry)	Blue (dry)	Lavender (spot value) $\Delta \geq 10\%$ hue	Pink (wet)

Note: Other color schemes may be used

## Available Configurations

Humitector® CDF Humidity Indicator Cards provide visible color change humidity indication as required for dry packaging under JEDEC standards.

### Reversible

Description	Indicates (%RH)	Dimensions	Pkg./Approx. Wt.
<b>Three-Spot</b>			
MS051060-CDF: Meets JEDEC Standard J-STD-033B and MIL-I-8835.	5, 10, 60	2" x 3"	125 cards per liter can; 5,000 cards per case; 25 lbs per case
MS051015-CDF: Meets JEDEC Standard J-STD-033A and MIL-I-8835.	5, 10, 15	2" x 3"	125 cards per liter can; 5,000 cards per case; 25 lbs per case
<b>Six-Spot</b>			
AEC826004NE-CDF: Designed for the electronics industry. Meets IAW MIL-I-8835.	10, 20, 30, 40, 50, 60	2" x 3"	125 cards per liter can; 5,000 cards per case; 25 lbs per case

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