

HUMIDITY INDICATOR CARDS

An integral part of a complete moisture barrier packaging assembly is the Humidity Indicator Card. 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 Monitor Card 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 of the comparison bar. 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.

Humidity Indicator and Monitor cards comply with MIL-I-8835A and are sold in cans. The 2" x 3" blotting paper cards indicate relative humidity exposure. Humidity Indicator and Monitor Cards should be inserted and sealed within a Moisture Barrier Bag with desiccant packs to meet dry pack requirements.

Item#	Std. Package	Relative Humidity	Additional Specs
48886	125 pieces/can	5/10/15	J-STD-033A
48885	125 pieces/can	5/10/60	J-STD-033D Type 1
48882	100 pieces/can	10/20/30/40	

IPC/JEDEC-J-STD-033D

1.5.7 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.

Note 1: Two types of HIC's have been defined.

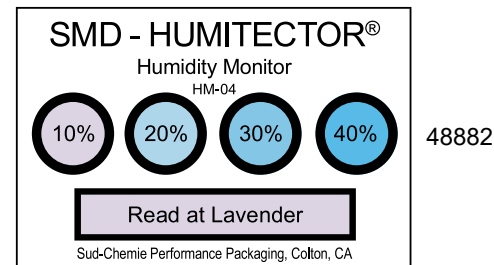
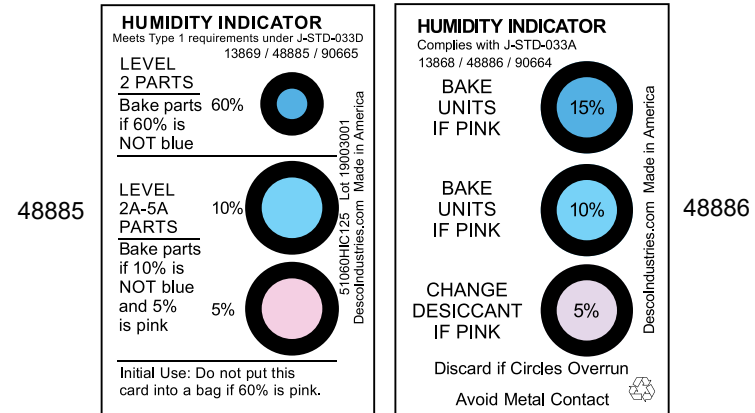
Type 1 HIC(reversible) For reversible spots the change is temporary and occurs as a change in color (hue), typically from blue (dry) to pink (wet). A perceptible change will be seen if the humidity threshold is only momentarily surpassed.

Type 2 HIC (nonreversible) For nonreversible spots the change is not temporary and can be a spot of color migration outside of the spot border or some other nonreversible indicator. A nonreversible HIC includes at least a 60% RH indicator spot, but can have other nonreversible RH% indicators that do not revert after exposure to a humidity threshold.

Note 2: 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. Type 1 and Type 2 HICs that have been exposed to 60% or greater RH will no longer be considered accurate.

Application

1. The humidity indicator spots will change from blue (dry condition) to pink (humid condition) as the relative humidity changes in the volume of air surrounding the indicator.
2. Relative humidity is indicated at the lavender 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 pink spots will change back to blue when the volume of air is dried. Humidity indicator cards with pink or lavender spots can be returned to a blue color by placing indicators in a sealed container with 33 grams (1 unit) of desiccant for four hours. However, J-STD-033D prohibits reusing an HIC if the 60% spot has exceeded its threshold.
5. The highest humidity indicator spot should be blue 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.



Specifications and procedures are subject to change without notice.

HUMIDITY INDICATOR CARDS (HIC)

PROTEKTIVE PAK
13520 MONTE VISTA AVENUE, CHINO, CA 91710
PHONE (909) 627-2578
ProtektivePak.com

DRAWING NUMBER
48882

DATE:
March
2019

PROTEKTIVE PAK

Handling

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 bag 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 gases will damage humidity indicators.

Sufficient Information for Safe Use

This document has been prepared in order to provide sufficient information for safe use of the product.

FIRST AID MEASURES

Description of first aid measures

Eye Contact

Flush with water for at least 15 minutes.
Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact

Wash with soap and water. If skin irritation occurs: Get medical advice/attention.

Ingestion Inhalation

No need for first aid is anticipated
The substance is in a form that cannot be inhaled. No need for first aid is anticipated.

HANDLING AND STORAGE

Precautions for safe handling

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

Conditions for safe storage, including any incompatibilities

Keep in dry place.

EXPOSURE CONTROL/ PERSONAL PROTECTION

Control parameters

Hazardous Ingredients	CAS No.	Value Type (Form of exposure)	Control parameters/ Permissible concentration	Basis
Cobalt Dichloride Hexahydrate	7791-13-1	TWA	0.02 MG/M3(Cobalt)	AGIH

Exposure Controls

Individuals Protection measures

Eye/Face Protection	Not Required
Skin/Hand Protection	Not Required
Respiratory Protection	Not Required

OTHER INFORMATION

DII non-chemical products meet the definition of "article" under Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1200(c) and Article 4(8) and Section 2.1 of Annex I of Classification, Labeling and Packaging (CLP) Regulation for not providing Safety Data Sheet (SDS).

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is to the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

NOTE: For EU-based downstream user, please contact your national REACH help desk if you have further questions on this topic.

Revision Date: 2019-01-15

RoHS, REACH, and Conflict Minerals Statement:

See the Desco Industries ROHS, Reach and Conflict Minerals Statement
[Descoindustries.com/ROHS3.aspx](https://descoindustries.com/ROHS3.aspx)

See the Protektive Pak Limited Warranty
[Protektivepak.descoindustries.com/Limited-Warranty.aspx](https://protektivepak.descoindustries.com/Limited-Warranty.aspx)