



K-TECH TRI BLUE 48 (ALSO PART A YELLOW 120) ***TRIVALENT BLUE CHROMATE FOR HIGH CORROSION COATING***

- ✚ K-TECH TRI BLUE 48 (also Part A Yellow 120) baths can be managed for a longer period of months without being discarded as it has a longer operating period compared to numerous other trivalent chromates. Alternatively, instead of discarding, the chromate baths can be transferred and “energized” once every few weeks.
- ✚ It provides a cost efficient exclusive high performance trivalent passivate alteration coating for electroplated zinc.
- ✚ Contains one part structure that is easy to use applied by traditional captivation technique.
- ✚ When applied appropriately, the bright blue conversion coating finish can withstand 96 hours neutral salt spray to white corrosion parts.
- ✚ Waste management can be decreased as the effluent consists of Trivalent Chromium.
- ✚ The rejected parts rate will be reduced with the exceptionally tolerance to organics.

COMMON OPERATING INFORMATION

	RANGE	RECOMMENDED
SOLUTION MAKEUP	5.0% to 10% by volume	7% by volume
TEMPERATURE	80° F to 100° F (26° to 38° C)	85° F (29° C)
AGITATION	Air or mechanical agitation recommended	
DIP TIME	45 to 120 seconds	60 seconds
pH	1.5 to 3.0	2.0-2.5

Note: Depending on the concentration and the maturity of the chromate, the dip duration can fluctuate.

TITRATION METHOD

1. Pipette a 5 ml sample of the working chromate solution into a 250 ml flask.
2. Add 50 ml of distilled water and a 10% solution of liquid caustic soda to roughly 10 to adjust pH.
3. Add 5 ml of hydrogen peroxide solution and boil until the volume remains to roughly half of the original volume.
4. Dilute to approximately 100 ml of distilled water on the cooled solution.
5. Add 10 ml of concentrated Hydrochloric Acid to the solution mixing.
6. Add 1 ml of 10% Potassium Iodide solution and the color change to orange.
7. Using 0.1N Sodium Thiosulfate solution, titrate the solution to a straw yellow end point.
8. Add 1 ml of 1% starch indicator solution and the color will change to blue.
9. Proceed with titration process until the solution turn from blue to clear color end point.

‡ FACTOR: **MLS. 0.1N SODIUM THIOSULFATE X 0.8 = % BY VOLUME OF K-TECH TRI BLUE 48 (ALSO PART A YELLOW 120)** ‡

MAINTENANCE AND CONTROL

To ensure accurate concentration, sporadic titrations should be performed. When the proper amount of K-TECH TRI BLUE 48 (also Part A Yellow 120) is used and analysis is showing a high pH, to make adjustments to the pH, small additions of 50% by volume of nitric acid can be done.

The operating life of the chromate can be lengthened if it is given a pre-dip of 0.5% Nitric Acid by volume (preferably 1.0% Sulfuric Acid by volume, which will extend bath life and increase salt spray protection) followed by a fine, fresh water rinse directly in front of the K-TECH TRI BLUE 48 (also Part A Yellow 120) tank. With the mentioned process, it will give the chromate an easier control and longer lasting operating period. To ensure that best blue color is produced, the hot water rinse in the final stage should range between 100° to 130° (37° to 55° C). Discoloration on the chromate will occur if the water is too hot (not within the mentioned range) during the final rinse.

USUAL PROCESS FOR K-TECH TRI BLUE 48(ALSO PART A YELLOW 120)

1. PLATE
2. RINSE
3. NITRIC ACID PRE-DIP (0.5% BY VOLUME) OR PREFERBLY SULFURIC ACID PRE-DIP (1% BY VOLUME)
4. RINSE
5. K-TECH TRI BLUE 48 (ALSO PART A YELLOW 120)
6. COLD WATER RINSE
7. HOT WATER RINSE
8. DRY

HELPFUL HINTS

- When alkaline zinc electrolyte is used, Nitric or Sulfuric Acid pre-dip is suggested to increase the life of the chromate (see above).
- When using trivalent chromate based conversion coating, to prevent losing the “healing power” like the traditional hexavalent product, it is best to prevent excess scratch on the parts (with finished trivalent coating). If process or application will provide excess scratching, the K-Tech Topcoat Sealer or K-Tech Tri-H Hi Top (Yellow Sealer) can be used.
- Because the new pH will ascend only after a few hours, this enables the process of parts to be carried on (when pH for a new solution is below the recommended range of 1.5 to 3.0).
- Nitric Acid or Sulfuric Acid can be used to adjust the pH down on a working K-TECH TRI BLUE 48 (also Part A Yellow 120) solution.
- When measuring pH, ensure the usage of a calibrated pH meter with a 1.0 standard. Do note that in general, pH paper will give a reading of 0.5 units higher than the actual reading.

SALT SPRAY TESTING

- ❖ To cure between 48 to 72 hours for optimum performance.
- ❖ Zinc deposits must be .0003 which is equivalent to 7.6um.
- ❖ Limited amounts of handling to prevent scratching, oil, salts or other harmful contaminates prior to testing.
- ❖ Salt spray to be done per ASTM B117.

STORAGE AND HANDLING

K-TECH TRI BLUE 48 (also Part A Yellow 120) contains chromium composites and robust minerals acids that are corrosive. Preventive care should be cautiously carried out to avoid contact with eyes or skin. When handling the product, goggles or face masks and rubber gloves should be worn. Contaminated garments should be removed immediately. In the event of contact, do flush with an ample amount of water. Please refer to the MSDS for more extensive information on storage and handling.

Additional Information:

FREEZABILITY: If freezing is required, it should take place during the period of the storage or transportation. However, like most chemical products, it would be best to avoid freezing.

- If K-TECH TRI BLUE 48 (also Part A Yellow 120) is frozen, before usage, do warm the product to 95° to 105°F (35° to 41°C) in warm water bath. The product should be mix thoroughly until precipitates are totally liquefied.

EQUIPMENT

Stainless steel, Koroseal, PVC or rubber lined steel, or polypropylene should be used for assembling the chromate tanks.

NON-WARRANTY

Keane Chemical LLC believes that all the information listed on this sheet is complete, factual and precise. However, there will be no guarantee that the outcome acquired by the customer will be as listed in this sheet given that the ultimate process of usage will be fully utilized by the customer and out of our authority. Therefore, we will not claim any liability on the handling of this product by the customer in any case which may violate the patents of the third parties.