

NIACET CALCIUM PROPIONATE PROCESS FLOW DIAGRAM 12/2023 **Raw Material** Raw material receipt -Storage Tank receipt-storage Silo Vessel Step 1 Step 1 City WATER CALCIUM OXIDE PROPIONIC ACID Step 1 FEEDER FEEDER Diatomaceous Rework if required CALCIUM PROPIONATE REACTOR / FILTER Step2 earth CALCIUM PROPIONATE SOLUTION STORAGE Step3 Natural Gas/Filtered CALCIUM PROPIONATE DRYER Step4 air **SCREENER / PRODUCT HOPPER** Step 5 PACKAGING UNIT Product bags Step 6 PC #1 Metal **CHECK WEIGHING / METAL DETECTOR** Step 7 Detection Palletizing, Stretch Wrap, Batch Identification Step 8 Finished Goods Storage, Dispatch / or Rework Step 9 PC #2 Lab Testing



As a producer: These are our controls within the HACCP framework:

BIOLOGICAL HAZARDS : Calcium Propionate is Antimicrobial by nature and not subject to bacterial attack

PHYSICAL HAZARDS :

Materials of Construction/ Visual Inspection / Sifting of Product / Sealing of Product / Metal Detection PC1

CHEMICAL HAZARDS:

Raw Material control /Process Intermediate control/ Weight and Volume Control/ Finished Goods Control PC2

HAZARD ANALYSIS AND RISK ASSESSMENT STATEMENT

Niacet A Kerry® Company metal organic acid salt products including Calcium Propionate are anti-microbial compounds not subject to attack. They are produced from synthetic raw materials that are received via bulk railcar or tank truck. Niacet A Kerry® Company has no allergens in the process, or on site.

Hazard Analysis concludes health risks may be attributed to contamination from tramp metal associated with stainless steel production equipment. The risk of injury due to metal in the product is considered to be low due to the minor amount used and reprocessing by the end user. Food Chemicals Codex (FCC) guidelines also require Calcium Propionate FCC to meet specification. The risk of injury due to off spec product is low due to the minor amount consumed, typically 3-5 oz per 100 lbs. of flour. Our preventative control points include metal detection of each bag of finished product, and specification testing of each lot. Neither of these control points is considered to be critical due to the minor ingredient use of this product.