



NORTH CAROLINA DEPARTMENT OF LABOR

No. 20-2

OSH DIVISION

Date: 10/2009

OSHNC INDUSTRIAL DATA REPORT

Pages: 4

Industry: Food and Kindred Products

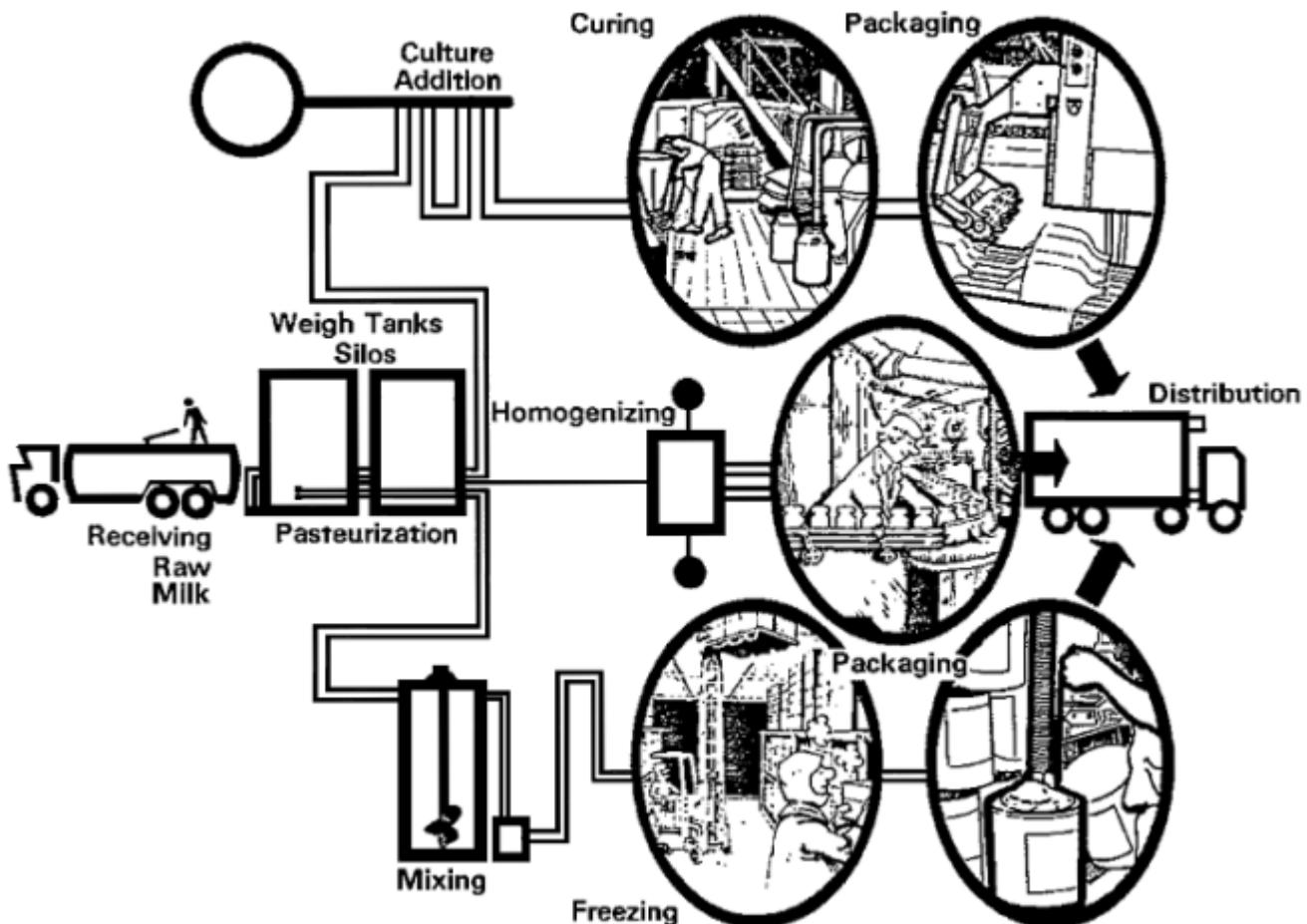
Sub-Group: Dairy Products

SIC: 2021,2022,2023,2024,2025 and 2026

NAICS: 311511, 311512, 311513, 311514, 311515, 311516, 311517, 311518, 311519 and 311520

PROCESS DESCRIPTION: Whole milk is received in cans or bulk tanks and is usually pasteurized by heating to 160 °F, then cooled. Based on the end product, milk is homogenized and sold or cultures of bacteria may be added to start formation of such products as buttermilk, cheese, yogurt, cheese spreads or condensed milk. Some butterfat may be removed from the milk and sold as butter or cream. The whole milk may be used in ice cream products where various substances such as sugar, fruits, chocolate, flavors etc. are added and the product frozen for sale in various types of packages. Milk is handled under very sanitary conditions which require frequent washing or cleaning of equipment causing wet floors, refrigeration and electrical hazards, slips and falls.

PROCESS FLOW:



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Hazards Analysis

Major Hazards			Other Hazards		
Location	Item	Hazard	Location	Item	Hazard
Receiving	Raw milk	Falls, strains and foot injuries	Warehouse	Cartons, containers and bottles	Falling objects, strains, falls and cuts
Pasteurization	Milk	Falls and burns	Distribution	Dairy products	Falls and strains from lifting
Homogenization	Milk	Falls and strains	Freezers / Refrigeration	Ammonia refrigerant and slippery floors	Falls, explosion, asphyxiation, cool stress and frost bite
Mixing or curing	Dairy products	Machine injuries (point of operation and shafts)	Shipping	Forklifts	Carbon monoxide exposure and collisions
Bottling or packaging	Milk or dairy products	Machine injuries, conveyors (point			

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		of operation — shafts and gears), cuts, and dermatitis			
Throughout	Noise Wet floors	Hearing loss Slips, trips, falls and strains			
Maintenance	Ship equipment and hand tools Tank cleaning and repair	Eye injuries, hand injuries and electrocution Moving/rotating parts and limited egress/entry			

Key OSHNC Standards

Reference	29 CFR 1910 - General Industry Standard
NCGS 95-129	General duty clause - cold stress and ergonomics
Subpart D	Walking and working surfaces
Subpart E	Exit Routes, Emergency Action Plans, and Fire Prevention Plans
Subpart I	Personal protective
Subpart O	Machinery and machine guarding
Subpart S	Electrical
1910.95	Occupational noise exposure
1910.119	Process safety management
1910.120	Hazardous waste operations and emergency response
1910.146	Permit-required confined space entry
1910.147	Control of hazardous energy (lockout/tagout)
1910.151	Eyewash and emergency showers
1910.178	Powered industrial trucks
1910.1000	Air contaminants
1910.1026	Hexavalent Chromium
1910.1200	Hazard Communication

Inspection Analysis

The inspection should begin in the milk receiving area. Check tanks, steps, docks, walkways and conveyors. Safety toe footwear is needed if milk is received in cans. Drainage, floor and walk surfaces and grounding of electrical equipment must be closely checked in milk processing areas. Good housekeeping is extremely

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important throughout the processing areas as the milk, butterfat, ice and ice cream spillage is extremely slippery. Equipment with exposed revolving mandrels, shafts, conveyors and star wheels is located in the packaging, cartooning or bottling areas. Wet conditions there require drainage and proper electrical wiring and grounding. Non-slip footwear is needed in all wet areas. Caustic chemicals used to clean equipment must be surveyed to evaluate eye hazards. Refrigeration equipment must be inspected for proper guarding. Proper personal protective equipment must be provided for emergency use in the event of refrigerant leakage. Determine refrigerant type and quantity for applicability of Process Safety Management. Review emergency response policies.

Other Pertinent Comments: New bottling and packaging equipment has reduced to severity of hand injuries from reaching into mandrels, conveyors and hazardous equipment to remove broken or jammed packages or bottles; however, some of the older model equipment is still found in some plants and hand and finger injuries still occur. Good lockout procedures are a must while cleaning, adjusting and maintaining this equipment. More details on accident causes and controls can be secured from the Milk Industry Foundation (MIF) at the International Dairy Foods Association (IDFA), 1250 H Street, NW, Suite 900, Washington, DC 20005; Telephone: (202) 737-4332; Fax: (202) 331-7820; Website: www.idfa.org.