

FEED. Risk assessment of the chain of starch manufacturing

EXAMPLE 2.3 : POTATO PROCESSING; STARCH AND CO-PRODUCT MANUFACTURING

GENERAL RISK BASED APPROACH FOR POTATO PROCESSING			Process stage: 1 RECEPTION (POTATOES)				
Hazard	Category	Chance	Severity	Risk Class.	Legislation	Control Measure	Remarks
Bad rotten potatoes	B	Medium	Low	2		Portal control, Inspection truck loads, removal of rotten potatoes.	Visual inspection. Product specifications.
Stones, glass, plastics, wood, metal, carton, sand, soil	P	Medium	Medium	3		Portal control. Inspection of the truck loads. Cleaning of the potatoes and removal of contaminants with sieving and magnets equipment	Visual inspection. Product specifications.
Pesticide residues (authorised) above the MRL, i.e. residues of herbicides, insecticides, fungicides or rodenticides above the MRL.	C	Medium	Medium	3	Dir. 91/414/EC Reg.396/2005/EC	Certified potato growers. PRP for incoming materials. Analysis via monitoring programme.	Product specifications. Regulatory compliance.
Pesticides residues (non authorised)	C	Very low	High	2	Directive 2002/32/EC	A monitoring program should be in place.	Directive 2002/32/EC sets limits for a number of pesticides residues in feeding stuff. Some of the banned pesticides



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							may be present in the environment.
Heavy metals above the specified limit	C	Medium	Medium	3	Dir. /2002/32/EC	PRP for incoming raw materials. Analysis via monitoring programme.	Product specifications. Regulatory compliance.
Natural contaminants (solanine)	C	Medium	Medium	3	Dir. 2002/53/EC	Certified potato growers. Allowed potato varieties listed in National Varieties List. Monitoring solanine content of the potato protein.	Product specifications. Regulatory compliance.
Pests	B	Medium	Medium	3		Closed buildings, PRP for Pest control. Covered storage and loading.	Checks on pest activity.



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GENERAL RISK BASED APPROACH FOR POTATO STARCH PROCESSING			Process stage: (Process (CLEANING/WASHING, GRINDING, SEPARATION/REFINING, DE-WATERING, DRYING, COAGULATION, SUSPENDING, REFINING, DE- WATERING, DRYING, EVAPORATION))				
Hazard	Category	Chance	Severity	Risk Class.	Legislation	Control Measure	Remarks
Foreign bodies	P	Low	High	3		Cleaning and washing, dedicated transport lines. Glass procedure.	Visual checks.
Lubricants from equipment	C	Low	High	3		PRP for maintenance. Use of food grade lubricants. Good maintenance practices.	
Water contamination	C	Low	High	3	Reg. 183/2005/EC	Water monitoring. Dedicated water circuits. Chemicals used have to be authorised.	Apply water of suitable quality.
Water contamination	B	Medium	High	4	Reg. 183/2005/EC	Water monitoring, CIP. Dedicated water circuits. Monitoring programme should be in place.	Apply water of suitable quality.
Neoformed chemicals	C	Low	Medium	2		Burner control direct dryers. Gas specifications. End product analysis (according to the dryer type).	
Excessive use of processing aids	C	Low	Medium	2		Online monitoring of the use of processing aids. pH control, control ready product, food grade antifoam. Work instructions and training personnel.	Product specifications, food grade antifoam
Pathogenic microorganisms	B	Medium	High	4		Process control temperature and time. Drying/evaporating steps:	

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						Control moisture content of product. A monitoring programme should be in place.	
Cleaning agents	C	Low	Medium	2		PRP for cleaning and sanitation. Control of consumption rates. Use of Food contact authorized.	Purchasing specifications.
Pests	B	Medium	Medium	3		PRP for pest control.	Regular checks on pest activity.

RISK BASED APPROACH FOR POTATO STARCH PROCESSING				Process stage : STORAGE & LOAD OUT			
Hazard	Category	Chance	Seriousness	Risk Class.	Legislation	Control Measure	Remarks
Foreign bodies	P	Low	High	3		Protected storage, sieving.	Visual checks.
Lubricants from equipment	C	Low	High	3		PRP for maintenance. Use of food grade lubricant.	Purchasing specifications.
Pests	B	Medium	Medium	3		PRP for pest control. Covered storage and loading.	Regular checks on pest activity.
Pathogenic microbiological organisms, including Salmonella	B	Low	High	3		PRP for pest control, PRP for personal hygiene, PRP for cleaning and PRP for maintenance. Control of temperature and ventilation. A monitoring plan shall be in place	Good storage practices for bulk storage
Cross contamination during transport	B	Medium	Medium	3		Cleaning of transport means and the verification of previous loads.	Service provider specification.

