

TATA Chemicals Europe Winnington Site Sodium Bicarbonate HACCP Risk Assessment

PROCESS STEP	FOOD SAFETY HAZARD (MICROBIOLOGICAL, CHEMICAL, PHYSICAL, ALLERGEN)	POTENTIAL CAUSE	SEVERITY OF HAZARD IF REALISED (Score: 1 to 5)	LIKELY OCCURRENCE OF HAZARD (Score: 1 to 5)	RISK ASSESSMENT SCORE	CONTROL MEASURE	PRE-REQUI SITE	CCP QUESTION				CCP																								
								Q1	Q1A	Q2	Q3		Q4																							
1,2 (a-h) and 3 Raw material delivery and Storage	Microbiological	Presence, introduction, growth or survival of pathogenic or spoilage organism or their toxins from raw material, personnel or environment.	1	1	1	<ul style="list-style-type: none"> <li>- All raw materials are microbologically inert and ambient stored.</li> <li>- Specification control</li> <li>- Delivery controls</li> <li>- Supplier approval process</li> </ul>	Yes	Y	-	N	-	N																								
													Chemical	Contamination due to supplier, haulier and environment Contaminated with toxic chemicals during the transport in pipework.	4	1	4	<ul style="list-style-type: none"> <li>- Specification control</li> <li>- Testing (SA only)</li> <li>- Delivery controls/transport</li> <li>- Laboratory results</li> <li>- Supplier approval process</li> </ul>	Yes	Y	-	N	-	N												
																									Physical	Physical contamination from the supplier, environment or haulier	1	2	2	<ul style="list-style-type: none"> <li>- Visual inspection of pre-packaged raw materials and packaging on receipt</li> <li>- Specification control</li> <li>- Magnets in place</li> <li>- Supplier approval process</li> </ul>	Yes	Y	-	N	-	N
	Substitution Deliberate Adulteration	Substitution of Raw Materials	1	1	1	<ul style="list-style-type: none"> <li>- Dedicated tankers for Co2 and SA. Access to silos limited as locked.</li> </ul>	No	Y	-	N	-	No																								

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								Q1	Q1A	Q2	Q3	Q4	
4 and 5 Dissolving and two stage filtration	Microbiological	Presence, introduction, growth or survival of pathogenic or spoilage organism or their toxins from raw material, personnel or environment.	1	1	1	- Hygiene and Housekeeping - Training - Personal hygiene rules	Y	-	N	N	-	N	
	Chemical	Product contaminated with trace elements or incorrect control of the additives process. Contamination from filter aid addition.	2	2	4	- Controlled dosage of process additives - Correct filter controls. - Quality monitored by in process test. - Training	Y	-	N	N	-	N	
	Physical	Harmful foreign body contamination of liquor from factory structure, utensils or personnel. Insolubles from Ammonia Soda process and Quartz contamination due to filter failure. Contamination from filter aid addition	2	2	4	- Chemical and Physical Product Contamination Control Procedure - Hygiene and Housekeeping - Foreign body and factory structure - Training - Maintenance programme	Y	-	N	N	-	N	
	Allergen	Allergen contamination of product	1	1	1	- Chemical and Physical Product Contamination Control Procedure	Y	-	N	N	-	N	
	Substitution Deliberate Adulteration	Adulteration via sampling port or filters	1	1	1	Access limited, logistically difficult. Access difficult to filter stage with amount of contaminant required to make an impact.	No	Yes	N	N	N	No	

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								Q1	Q1A	Q2	Q3	Q4	
6 and 7 Cooling and Crystallisation	Microbiological	Presence, introduction, growth or survival of pathogenic or spoilage organism or their toxins from cooling water, personnel or environment.	1	1	1	<ul style="list-style-type: none"> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Enclosed system</li> <li>- Cooling water isolated when not in use.</li> </ul>	Yes			N	-		N
			2	1	2	<ul style="list-style-type: none"> <li>- Chemical and Physical Product Contamination Control Procedure</li> <li>- Hygiene and Housekeeping</li> <li>- Training</li> </ul>	Yes			N	-		N
	Physical	Presence or introduction, of physical materials from plant equipment, personnel or environment.	1	3	3	<ul style="list-style-type: none"> <li>- Chemical and Physical Product Contamination Control Procedure</li> <li>- Hygiene and Housekeeping</li> <li>- Foreign body and factory structure</li> <li>- Training</li> <li>- filtration prior to cooling</li> </ul>	Yes			N	-		N
			1	1	1	<ul style="list-style-type: none"> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Enclosed system</li> <li>- Supplier approval process</li> </ul>	Yes			N	-		N
Substitution Deliberate Adulteration – No access at these points in the process													

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								Q1	Q1A	Q2	Q3	Q4	
							Y/N	Q1	Q1A	Q2	Q3	Q4	Y/N
8, 9 AND 10 Hydro cyclone and Centrifuge 8, 9 AND 10 Hydro cyclone and Centrifuge	Microbiological	Presence, introduction, growth or survival of pathogenic or spoilage organism or their toxins from, personnel or environment.	1	1	1	- - - Hygiene and Housekeeping Training - Hydro cyclone checks	Yes	Y	-	N	N	-	N
	Chemical	Addition of rogue chemicals to the process such as hydraulic fluid.	1	2	2	- - - Chemical and Physical Product Contamination Control Procedure - Hygiene and Housekeeping Training - Maintenance procedures	Yes	Y	-	N	N	-	N
	Physical	Harmful foreign body contamination from equipment or personnel.	1	2	2	- - - Contamination Control Procedure - Hygiene and Housekeeping Training - Maintenance procedures	Yes	Y	-	N	N	-	N
	Allergen	Allergen cross contamination of intermediate product from staff.	1	1	1	- - - Allergen Management - Visual inspection of the area and staff - Hygiene and Housekeeping Training	Yes	Y	-	N	N	-	N
Substitution Deliberate Adulteration – No access at these points in the process													

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								Q1	Q1A	Q2	Q3	Q4		
11-13,12,14, 16 Drying, transfer and screens/ magnets	Microbiological	Presence, introduction, growth or survival of pathogenic or spoilage organism or their toxins from, personnel or environment.	1	1	1	<ul style="list-style-type: none"> <li>- Hygiene and Housekeeping</li> <li>- Finished product testing</li> <li>- Maintenance</li> </ul>	Yes	Y	-	N	N	-	-	Y/N
	Chemical	Cross contamination of products with chemical or chemical residue from hygiene or maintenance activities.	2	1	2	<ul style="list-style-type: none"> <li>- Chemical and Physical Product Contamination Control Procedure</li> <li>- Hygiene and Housekeeping</li> <li>- Training</li> </ul>	Yes	Y	-	N	N	-	-	N
	Physical	Harmful foreign body contamination from factory structure, equipment and utensils or personnel	1	3	3	<ul style="list-style-type: none"> <li>- Chemical and Physical Product Contamination Control Procedure</li> <li>- Hygiene and Housekeeping</li> <li>- Foreign body and factory structure</li> <li>- Training</li> <li>- Rare earth magnets checked and finds recorded</li> <li>- Maintenance</li> <li>- Black spec testing after maintenance activities</li> </ul>	Yes	Y	-	N	N	-	-	N
	Allergen	Allergen cross contamination of finished product from staff.	1	1	1	<ul style="list-style-type: none"> <li>- Allergen Management</li> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Personal Hygiene</li> </ul>	Yes	Y	-	N	N	-	-	N
	Substitution Deliberate Adulteration	Adulteration via sampling ports	1	1	1	Access limited, logistically difficult. Access difficult with amount of contaminant required to make an impact.	No	Yes	N	N	N	-	-	No

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								Q1	Q1A	Q2	Q3	Q4	Y/N
15 and 17-24 Classifiers hoppers, screens and magnets	Microbiological	Presence, introduction, growth or survival of pathogenic or spoilage organism or their toxins from, personnel or environment	1	1	1	<ul style="list-style-type: none"> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Personal Hygiene</li> </ul>	Yes	-	N	N	-	N	
	Chemical	Cross contamination of products with chemical or chemical residue from hygiene or maintenance activities	2	1	2	<ul style="list-style-type: none"> <li>- Chemical and Physical Product Contamination Control Procedure</li> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Supplier approval process</li> <li>- Controlled dosage of additive, visual inspection and identified dosing points.</li> <li>- Finished product testing</li> </ul>	Yes	-	N	N	-	N	
	Physical	Harmful foreign body contamination from factory structure, equipment or personnel. Contamination with metallic or non-metallic fragments.	1	3	3	<ul style="list-style-type: none"> <li>- Chemical and Physical Product Contamination Control Procedure</li> <li>- Hygiene and Housekeeping</li> <li>- Foreign body and factory structure</li> <li>- Training</li> </ul>	Yes	-	N	N	-	N	
	Allergen	Allergen cross contamination of finished product from staff.	1	1	1	<ul style="list-style-type: none"> <li>- Allergen Management</li> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Personal Hygiene</li> </ul>	Yes	-	N	N	-	N	
	Substitution Deliberate Adulteration	Adulteration via sampling ports	1	1	1	Access limited, logistically difficult. Access difficult with amount of contaminant required to make an impact.	No	Yes	N	N	-	No	

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								Q1	Q1A	Q2	Q3	Q4	Y/N		
25-28, Silo storage	Microbiological	No Risk of additional entry of microbiological contaminants	1	1	1	-	Y/N	-	-	-	-	-	-	-	-
	Chemical	Cross contamination of products with chemical or chemical residue from hygiene or maintenance activities.	1	1	1	-	Yes	Y	-	N	-	-	-	-	N
	Physical	Harmful foreign body contamination from factory structure, equipment and utensils or personnel	1	1	1	-	Yes	Y	-	N	-	-	-	-	N
	Allergen	Allergen cross contamination of finished product from staff	1	1	1	-	Yes	Y	-	N	-	-	-	-	N
Substitution Deliberate Adulteration – No access at these points in the process															

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								Q1	Q1A	Q2	Q3	Q4
29-36, 41 and 44. Milling, hoppers, screens and magnets	Microbiological	Intrusive activities, contamination from additives, dirty equipment or machinery	1	1	1	<ul style="list-style-type: none"> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Maintenance</li> <li>- Dedicated colour coded equipment contact tools for cleaning</li> </ul>	Yes	-	N	-	-	N
	Chemical	Cross contamination of products with chemical or chemical residue from maintenance activities. TCP, Magnesium Stearate addition error or wrong chemical, contamination from conveying equipment	2	2	4	<ul style="list-style-type: none"> <li>- Chemical Product Contamination Control Procedure</li> <li>- Hygiene and Housekeeping</li> <li>- Training</li> <li>- Controlled dosage of additives, visual inspection and identified dosing points.</li> <li>- Finished product testing</li> </ul>	Yes	-	N	-	-	N
	Physical	Harmful foreign body contamination from factory structure, equipment and personnel Contamination with metallic or non-metallic fragments.	1	3	3	<ul style="list-style-type: none"> <li>- Physical Product Contamination Control Procedure</li> <li>- PPM on conveyors</li> <li>- Hygiene and Housekeeping</li> <li>- Foreign body and factory structure</li> <li>- Training</li> </ul>	Yes	-	N	-	-	N
	Allergen	Allergen cross contamination of finished product from staff.	1	1	1	<ul style="list-style-type: none"> <li>- Allergen Management</li> <li>- Hygiene and Housekeeping</li> <li>- Training</li> </ul>	Yes	-	N	-	-	N
	Substitution Deliberate Adulteration	Adulteration via sampling ports/hoppers	1	1	1	Access limited, logistically difficult. Access difficult with amount of contaminant required to make an impact.	No	Yes	N	N	N	No

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37-40,43,47,50,45 and 48 Packing, metal detection and check weighing. Magnets and Screens	Microbiological	No Risk				- survival or growth of microorganisms - Finished product testing	Y/N							
	Chemical	Cross contamination of products with chemical or chemical residue from hygiene or maintenance activities.	2	2	4	- Chemical and Physical Product Contamination Control Procedure - Hygiene and Housekeeping Training - Finished product testing - Maintenance	Yes	-	Y	N	N	N	-	N
	Physical	Harmful foreign body contamination from packing/conveying	4	4	16	- Chemical and Physical Product Contamination Control Procedure - Hygiene and Housekeeping - Foreign body and factory structure - Training - Rare earth magnets fitted with screens before packing outlets checked and finds recorded. Metal detection carried out on 25kg bags. - All dried Sodium bicarbonate passes through screens, screen condition is regularly checked.	Yes		Y	-	Y	-	-	Y
	Allergen	Allergen cross contamination of finished product from staff.	1	1	1	- Allergen Management - Hygiene and Housekeeping - Training	Yes		Y	-	N	N	-	N
Substitution Deliberate Adulteration – No access at these points in the process														

TATA Chemicals Europe Warrington Site Sodium Bicarbonate HACCP Risk Assessment

PROCESS STEP	FOOD SAFETY HAZARD (MICROBIOLOGICAL, CHEMICAL, PHYSICAL, ALLERGEN)	POTENTIAL CAUSE	SEVERITY OF HAZARD IF REALISED (Score: 1 to 5)	LIKELY OCCURRENCE OF HAZARD (Score: 1 to 5)	RISK ASSESSMENT SCORE	CONTROL MEASURE	PRE-REQUISITE	CCP QUESTION						
							Y/N	Q1	Q1A	Q2	Q3	Q4	Y/N	
42. Bulk loading	Microbiological	Contaminated bulk tanker	1	1	1	- Bulk tanker checks (last 3 loads and cleaning certs)	Yes	Y	-	N	N	-	N	
	Chemical	Contaminated bulk tanker	2	2	4	- Bulk tanker checks (last 3 loads and cleaning certs)	Yes	Y	-	N	N	-	N	
	Physical	Harmful foreign body contamination from factory structure, equipment and utensils or personnel	4	4	16	- Bulk tanker checks (last 3 loads and cleaning certs) - Visual inspection of rubber sleeves on loading chutes - Screen and magnet	No	Y	-	Y	-	-	Y	
	Allergen	Allergen cross contamination of finished product from staff.	1	1	1	- Bulk tanker checks (last 3 loads and cleaning certs)	Yes	Y	-	N	N	-	N	
Substitution Deliberate Adulteration – No access at these points in the process														