

**Premier Proteins (2000) Ltd**

**HACCP**

## Table of Contents

1	Administration of the Manual .....	3
1.1	Policy Statement .....	3
1.2	Purpose of HACCP and Procedures .....	3
1.3	Responsibility .....	3
1.4	Availability .....	3
1.5	Controlled Copies .....	3
1.6	Amendment Procedure .....	4
1.7	Training .....	4
2	Product Identification .....	5
2.1	Meat and Bone Meal .....	5
2.2	Tallow .....	8
3	Intended End use and End users .....	12
4	The Process .....	13
4.1	Flow Diagram .....	13
4.2	Process Description .....	14
5	Process Hazard Analysis .....	15
6	HACCP PLAN .....	20
7	Procedures .....	20
7.1	Training procedure Rev 1 .....	20
7.2	RawMaterialHandlingRev1.doc .....	20
7.3	LorryWashRev0.doc .....	20
7.4	CookingRev1.doc .....	20
7.5	ScraperTankRev0.doc .....	20
7.6	PressingRev0.doc .....	20
7.7	RMSParticleSizeRev2.doc .....	20
7.8	RMS sterilisationRev1.doc .....	20
7.9	MillingRev0.doc .....	20
7.10	MBMDispatchRev0.doc .....	20
7.11	TallowSterilisation.doc .....	20
7.12	TallowRelease&DispatchRev1.doc .....	20
7.13	TallowInsolubleImpuritiesInRev1.doc .....	20
7.14	Boiler Temperature.doc .....	2

## 1 Administration of the Manual

### 1.1 Policy Statement

It is the policy of this company to achieve a high standard of food safety/quality for all products manufactured.

The Quality Manager, has overall responsibility for maintaining this standard in its everyday operation and it is he/she who will guide, advice and monitor all aspects of food safety/quality, and in conjunction with the General Manager, provide the resources necessary to achieve the company's goals

### 1.2 Purpose of HACCP and Procedures

It is the objective of this HACCP plan and procedures to outline the processes and methods by which Category 1 animal by products are handled, treated and processed in accordance with the provisions of EC Regulation 1774/2002 (laying down the health rules concerning animal by-product not intended for human consumption).

#### **To process sterilise and avoid recontamination with un-sterilised material or intermediates**

The procedures are the working document which ensures that the policy objectives are met.

### 1.3 Responsibility

The Quality Manager is responsible for the compilation and maintenance of the HACCP and procedures.

### 1.4 Availability

Copies of the HACCP and Procedures are available to:

- All the staff of the company
- All clients and potential clients of the company
- All official Inspectors (internal and external)

### 1.5 Controlled Copies

Controlled copies of the complete manual are held by

<u>HOLDER</u>	<u>LOCATION</u>
1. The General Manager	The General Managers Office
2. The Quality manager	The Quality Managers Office

Photo copies of the entire manual or parts of the manual are freely available to all staff as working/ reference copies.

## **1.6 Amendment Procedure**

Amendment to any part of the manual (HACCP or Procedures) is affected through the Quality Manager

## **1.7 Training**

All personnel whose responsibility is to carry out procedure listed in this HACCP and in particular where that procedure covers a CRITICAL CONTROL POINT must receive training. This training must be recorded and documented. Training records are kept in individual training files. See [Training procedure Rev 1](#).

## **2 Product Identification**

### **2.1 Meat and Bone Meal**

<b>Product and Company Identification</b>	
Commercial Name	<b><u>Meat and Bone Meal</u></b>
Description:	Sterilised meat and bone meal produced from rendered Specified Risk Material and animal by products.
Appearance :	Brown coarse powder
Produced by:	Premier Proteins ( 2000) ltd, Poolboy, Ballinasloe, Co. Galway IRELAND  Telephone 00353 9096 42305
<b>Information on Ingredients</b>	
Composition	Meat and Bone meal is produced from the rendering and sterilisation of Specified Risk Material and animal by products not fit for human consumption. This includes brains, spinal cord, thymus, tonsils, spleen, intestines; placental tissue, cell cultures of bovine origin, serum, including foetal calf serum, pancreas, adrenal glands, testicles, ovaries and hypophysis.
<b>Hazard Identification</b>	
There are no known hazard associate with handling may cause skin irritation on prolonged contact. High dust level during handling may lead to irritation of the nose, throat and respiratory tract. Observe HSE exposure limits for general dust. This Product has been linked to BSE.	
<b>First aid Measure</b>	
Eyes:	Do not rub eyes. Irrigate with copious amounts of water. If symptoms persist then seek medical attention
Skin	Wash skin with soap and water
Ingestion	Wash mouth out with water
Inhalation	Removes from exposure. Seek medical Attention if symptoms persist
<b>Fire Fighting Measures</b>	
Extinguishing media	No special Hazards. Use Extinguisher suitable for C Class A Fire

<b>Accidental Release Measures</b>	
Personal Precautions	Wear appropriate protective clothing
Spillage	Prevent material from entering watercourse and drains. Remove spillage and dispose of waste in accordance with Local Environmental Regulations in force.
<b>Handling / Storage</b>	
Use local exhaust ventilation to control exposure to dust. Avoid Inhalation, contact with eyes and skin. Use suitable personal protective equipment if exposure is unavoidable. Store under cool dry conditions.	
<b>Exposure controls / personal protection</b>	
Engineering controls	Use local exhaust ventilation to control dust emissions when handling
Personal protective Equipment.	Use a dust mask conforming to EN 149 category FFP2S when high dust levels are created. Wear eye protection when high dust levels are created. Wear overalls and gloves if required
<b>Physical and Chemical Properties</b>	
Physical state (2.47mm)	Solid powder with ranging particle sizes below 8 mesh
Colour	Light Brown
Odour	Strong odour
Bulk Density	0.65-0.75 g/ml
Solubility in water	Insoluble in water but will form colloidal suspension.
Chemical Properties	This product is chemically inert

<b>Stability and reactivity</b>  This product is stable under normal storage conditions
<b>Toxicological Information</b>  There is currently no Toxicological information on this product
<b>Ecological Information</b>  There is currently no ecological information available
<b>Disposal Regulations</b>  This product is required under EU and Irish law to be disposed of by incineration.
<b>Transport information</b>  This product is not classified as dangerous for transport but may only be transported by licensed and DAFRD approved hauliers
<b>Regulatory information</b>  Produced in accordance with Council Decision No 1999/534/EC and SI 182of 2000
<b>Other information</b>  <b>Notice :</b> The information contained in this Material Safety Data Sheet is believed to be correct as at the date of Issue. The accuracy or completeness of this information and any recommendation or suggestions are made without warranty or guarantee.

**2.2 Tallow**

<b>Product and Company Identification</b>	
Commercial Name	<b><u>Tallow</u></b>
Description:	Sterilised Tallow produced from rendered Specified Risk Material and animal by products is mainly fat (Triglyceride) With small amount of impurities and Free Fatty acids.
Appearance :	Light Brown
Produced by:	Premier Proteins ( 2000) ltd, Poolboy, Ballinasloe, Co. Galway IRELAND  Telephone 00353 9096 42305
<b>Information on Ingredients</b>	
<p>Composition              Tallow is produced from the rendering and sterilisation of Specified Risk Material and animal by products not fit for human consumption. This includes brains, spinal cord, thymus, tonsils, spleen, intestines; placental tissue, cell cultures of bovine origin, serum, including foetal calf serum, pancreas, adrenal glands, testicles, ovaries and hypophysis.</p>	
<b>Hazard Identification</b>	
Human Health Hazards	
Inhalation.	Not applicable at ambient temperatures. Vapour from Heated product can cause Irritation
Skin Contact	Unlikely to be Irritant. Will cause burn at High Temperatures
Eye Contact	Can Cause Irritation. Will cause burn at High Temperatures.
Ingestion	Unlikely to be Harmful unless excessive amount swallowed
Physical / Chemical Hazards	Self Ignition can Occur in contact with organic material and finely distributed in insulation material
Environmental Hazards	None Identified

<b>First aid Measure</b>	
Eyes	Do not rub eyes. Irrigate with copious amounts of water. If symptoms persist then seek medical attention
Skin	Wash skin with soap and water
Ingestion	Wash mouth out with water
Inhalation	Removes from exposure. Seek medical Attention if symptoms persist
Contact with product at High Temperatures;	Run cold water over affected area for prolonged period. Seek medical Attention if burn is severe
<b>Fire Fighting Measures</b>	
Extinguishing media	Water (MIST), Foam, Dry Powder, Carbon Dioxide
Unsuitable Extinguishing media	Water may cause fire to spread if product at high Temperature
Specific Hazard	None
Special Protective Equipment	Protective Clothing and Self-contained breathing apparatus should be available for Fire-men
<b>Accidental Release Measures</b>	
Personal Precautions	Avoid Contact with Eyes. Do. Not breath Vapours
Spillage	Prevent material from entering watercourse and drains.
Method of clean up	Absorb spillage onto inert material (e.g. sand) and collect into suitable labelled containers for disposal in accordance with Local Environmental Regulations in force.
<b>Handling / Storage</b>	
Handling	No Special Precaution Necessary
Storage	Store in closed containers under dry conditions. For quality reason avoid extremes of temperature

<b>Exposure controls / personal protection</b>	
General Precautions	Good Industrial Hygiene should be followed
Ventilation	Adequate Ventilation should be maintained when handling heated product
Occupation Exposure Limit	Not Established
Personal protective Equipment.	Wear protection from burns and scalded if product is at high temperature
<b>Physical and Chemical Properties</b>	
Physical state (20oC)	Solid
Colour	Light Brown
Odour	Faint Odour
pH	Not applicable
Boiling Point (20mbar)	235 °C Approx
Vapour Pressure ( 20oC)	<1hPa
Bulk Density (60oC)	890 Kg/m3 approx
Solubility in water	Insoluble in water
Oxidising Properties	Not to be expected
<b>Stability and reactivity</b>	
Stability	This product is stable under normal storage conditions
Materials to avoid	Strong Oxidising agents
Hazardous decomposition products	No to be expected
Hazardous Polymerisation	Will Not Occur
<b>Toxicological Information</b>	
There is currently no Toxicological information on this product	
<b>Ecological Information</b>	
There is currently no ecological information available	
<b>Disposal Regulations</b>	
This product is required under EU and Irish law to be disposed of by use as a fuel or incineration.	
<b>Transport information</b>	
This product is not classified as dangerous for transport but may only be transported by licensed and DAFRD approved hauliers	
<b>Regulatory information</b>	
Produced in accordance with Council Decision No 1999/534/EC and SI 182of 2000	

## **Other information**

**Notice:** The information contained in this Material Safety Data Sheet is believed to be correct as at the date of Issue. The accuracy or completeness of this information and any recommendation or suggestions are made without warranty or guarantee.

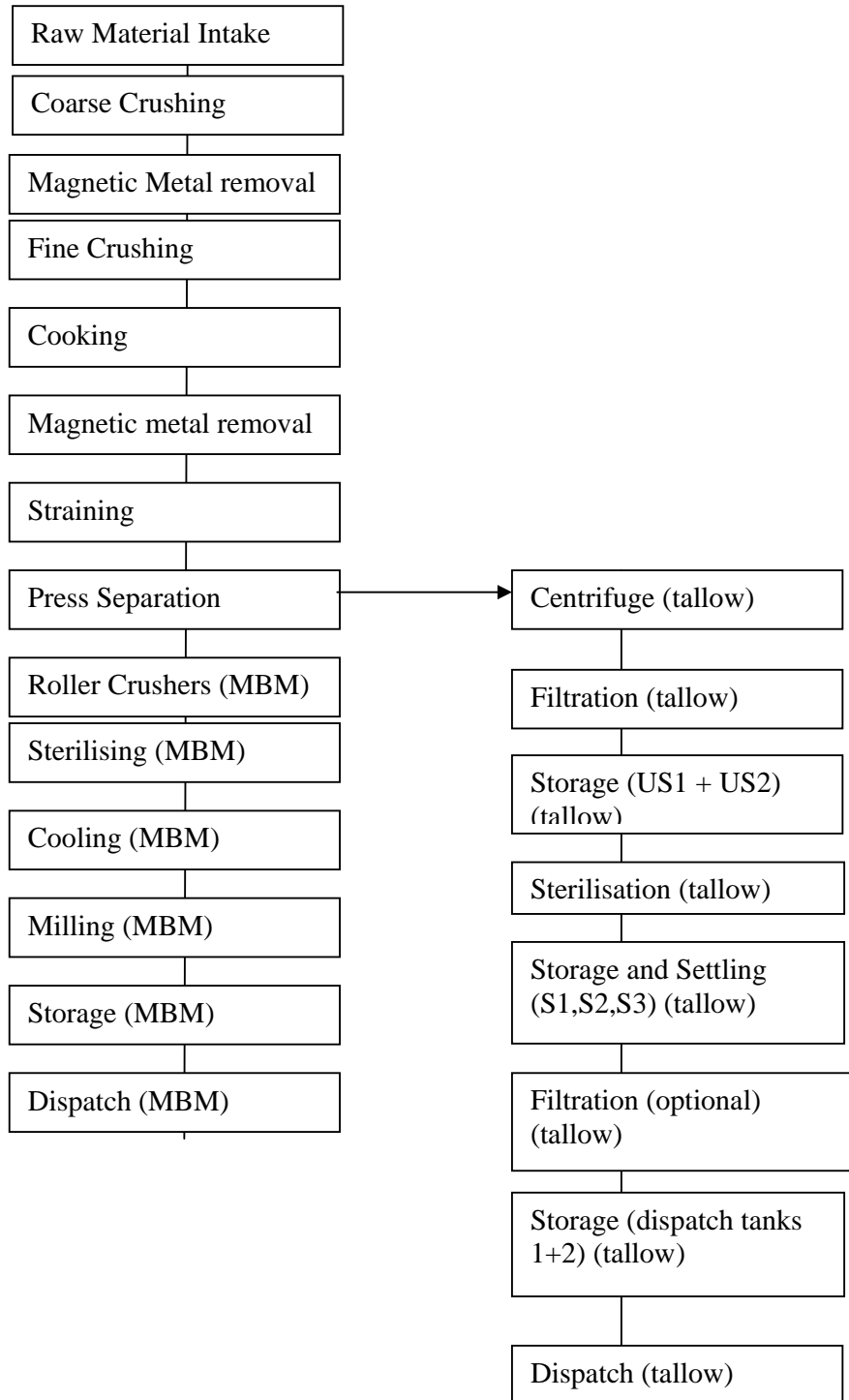
### **3 Intended End use and End users**

The raw material processed at Premier Proteins (2000) Ltd. is Category 1 material as defined in EC regulation 1774/2002 and as such cannot enter the food chain. Both tallow and Meat and Bone Meal produced at Premier Proteins (2000) Ltd. is to be disposed of by incineration or by use as a fuel.

	<b>End Use</b>	<b>End Users</b>
Tallow	Boiler fuel (approved plant only) Incineration	Approved rendering facilities Incineration/co-incineration - energy recovery
Meat and bone meal	Incineration/co-incineration - energy recovery	Approved power generation, Cement manufactures

## 4 The Process

### 4.1 Flow Diagram



## 4.2 Process Description

Animal by-products (Fallen animals and Specified Risk Materials) are received into the factory and off-loaded in the Raw material shed. From there the ABPs are fed through two crushers to reduce the particle size. The crushed material is fed from a buffer bin via a hydraulic ram pump to a continuous cooker. Waste water from the raw material area and crushing area is collected in an isolated sump from where it is pumped through a 2mm self cleaning screen and then sterilised (133oC @ 3BAR A for 20 minutes).

The raw material is heated in the cooker to drive off moisture and break down the raw material (rendering). After cooking, the material (now called “greaves”) is discharged and goes on to be separated into tallow and meat and bone meal.

Vapours which are driven off at the cooking stage are drawn by a fan to a cyclone, air cooled condenser, acid scrubber and finally to a bio filter. The cooker condensate from the cyclone and the air cooled condenser is directed to the WWTP.

After discharge from the cooker the material contains an amount of tallow which freely runs off the greaves. This is collected in a drain hopper and is sent to a centrifugal decanter. The remaining material is conveyed to a buffer bin from where it is sent to one of two press separators. At this stage the remaining tallow is separated from the greaves leaving a dry “cake”. The caked meal is passed through a roller crusher to reduce the particle size to less than 50mm before it is sterilised. The cake is sterilised in a batch process by heating to 133oC at 3 bar for 20 minutes. When sterilised, the caked meal is milled. Milled meat and bone meal is conveyed via screw conveyer to a storage silo from where it is loaded into containers, tankers or mini-bulk bags for dispatch

Separation of the tallow is done by a number of steps.

The tallow produce at the pressing stage is pumped to centrifugal decanters. After being centrifuged the tallow is filtered before being pumped to outside un-sterilised storage tanks (US1 and US2). The tallow is then sterilised in batches of 10tonnes to- 11 tonnes. Sterilised tallow is stored and settled in one of three Settling tanks (S1, S2 and S3). The tallow is settled until a sample drawn from the bottom of the tank contains less than 0.15% insoluble impurities. When the tallow has been adequately settled and tested it is transferred (via optional filter) to one of two Dispatch tanks (TD1 and TD2). The dispatch tanks are kept stirred to keep the contents homogeneous. All tallow dispatched must contain less than 0.15% insoluble impurities. Any tallow not meeting this specification is returned for further purification.

The process area where the cooking, separation and sterilisation processes takes place are ventilated by the bio filter systems and thus kept under negative pressure. All waste waters arising from this area as a result of washing and cleaning is directed to the WWTP.

**5 Process Hazard Analysis**

Step	Hazard (what can go wrong)			Cause	Control Measure	Does Loss at this point lead to contaminated product being dispatched	Is there a later stage to control this hazard	CCP	Comment
	Biological (contamination, growth, survival)	Chemical (Residual cleaning agents, medicines. Impurities)	Physical (People, premises, plant, Pests)			Question 1	Question 2		
Raw Material Intake	Cross contamination of other vehicles and people on site			Inadequate Cleaning and disinfection of Raw material Delivery vehicles	Effective cleaning and disinfection of Vehicles	Yes	no	No	Pre Req.
Raw Material storage and	Pathogen and possible BSE prions are to be expected		Personnel cross contamination, Failure of building structure, Pests (Rodents, birds)	Personnel going from one area to another. Rodents and bird gaining access to Raw materials area	Personnel working in the area have dedicated toilet and dressing room, Are not permitted in process area, have colour coded Overalls. Pest control contractor Employees	No	yes	No	Pre req

# HACCP

Rev: 4 May2007

Rev3

Step	Hazard (what can go wrong)			Cause	Control Measure	Does Loss at this point lead to contaminated product being dispatched	Is there a later stage to control this hazard	CCP	Comment
	Biological (contamination, growth, survival)	Chemical (Residual cleaning agents, medicines. Impurities)	Physical (People, premises, plant, Pests)			Question 1	Question 2		
Coarse Crushing	Pathogen and possible BSE prions are to be expected		Particle size too large	Crusher worn or defective	Maintenance	No	yes	No	
Magnetic Metal Removal			Metal remains in product	Magnet overloaded or Not operation	Magnet checks and Maintenance	No	yes	No	
Fine Crushing			Particle size too large	Crusher worn or defective	Maintenance	No	yes	No	
Cooking	Pathogen and possible BSE prions are to be expected				Cooking will reduce the pathogen but has no effect on BSE prion inactivation	No	yes	No	
Magnetic Metal Removal			Metal remains in product	Magnet overloaded or Not operation	Magnet checks and Maintenance	No	yes	No	
Straining								No	
Press Separation								No	
Roller Crusher			Particle size too large	Crusher worn or defective	Monitoring and Maintenance	Yes	no	Yes	CCP1

# HACCP

Rev: 4 May2007

Rev3

Step	Hazard (what can go wrong)			Cause	Control Measure	Does Loss at this point lead to contaminated product being dispatched	Is there a later stage to control this hazard	CCP	Comment
	Biological (contamination, growth, survival)	Chemical (Residual cleaning agents, medicines, Impurities)	Physical (People, premises, plant, Pests)						
Sterilisation MBM	Survival/non sterilisation			Inadequate Time temp or pressure	PLC and operator supervision - Operator Training - Sensor maintenance and calibrating	Yes	no	Yes	CCP2
Cooling MBM	Contamination of Sterilised product			Infiltration of Unsterilised product to meal cooler	Enclosed machinery	No		No	Pre req
Milling	Contamination of Sterilised product			Infiltration of Unsterilised product to meal cooler	Enclosed machinery	No		No	Pre req
Storage MBM	Contamination of Sterilised product			Infiltration of Unsterilised product to meal cooler	Enclosed machinery			No	Pre req
Dispatch MBM	Contamination of Sterilised product		People and pests	Cross contamination form People or pests	Enclosed machinery	No	no	No	
Centrifuge		insoluble's		Overloading		Yes	yes	No	

# HACCP

Rev: 4 May2007

Rev3

Step	Hazard (what can go wrong)			Cause	Control Measure	Does Loss at this point lead to contaminated product being dispatched	Is there a later stage to control this hazard	CCP	Comment
	Biological (contamination, growth, survival)	Chemical (Residual cleaning agents, medicines, Impurities)	Physical (People, premises, plant, Pests)						
Filtration		insoluble's		Overloading or ruptured filter		Yes	yes	No	
Storage Tallow		insoluble's				Yes	yes	No	
Sterilisation Tallow	Survival/non sterilisation			Inadequate Time temp or pressure		Yes	No	Yes	CCP3
Storage and Settling	Recontamination with Unsterilised tallow	insols remaining in the tallow		Loss of control of steriliser Low settling Time Agitation in tank	PLC and operator supervision	No	yes	No	
Filtration (optional)						No	No	No	
Storage Dispatch Tank	Recontamination with unsterilised tallow	Greater than 0.15% insoluble's in tallow		Inadequate settling		Yes	yes	No	Pre req
Dispatch Tallow	Recontamination with unsterilised tallow	Greater than 0.15% insoluble's in tallow		Settlement occurring in tank leading to lower portion having elevate Insoluble impurities		yes	No	Yes	CCP4

Premier Proteins (2000) Ltd.  
Poolboy,  
Ballinasloe,  
Co. Galway

# HACCP

Rev: 4 May2007

Rev3

Burning tallow as fuel in boilers			Temperature <1100oC	Sensor error – incorrect fuel/air mix	Temperature sensor	Yes	No	Yes	CCP5
--------------------------------------	--	--	------------------------	--	-----------------------	-----	----	-----	------

**6 HACCP PLAN**

CCP No	Step	Hazard	Cause	Control Measure	Critical Limits	Monitoring.			Corrective Action	Doc Ref	Verification
						Procedure	Responsibility	Freq			
1	Roller Crusher	<b>Phys.</b> Particle size too large	Crusher worn or defective	Monitoring and Maintenance	< 50 mm in any one plane	RMS Particle Size	Operator	2/shift when processing	Stop processing and make repairs as per SOP	Particle Size Record	Weekly Record Check and sign off Dept. of Ag. Check
2	Sterilisation of MBM	<b>Bio:</b> Survival/non sterilisation	Inadequate Time temp or pressure	PLC and operator supervision - Operator Training - Sensor maint and calibrating	133oC @ 3BarA for 20minutes	RMS Sterilisation	Operator Supervisor	Every Batch	Reprocess as per SOP	Computer Batch Printouts	Weekly Record Check and sign off Batch printout check
3	Sterilisation of Tallow	<b>Bio:</b> Survival/non sterilisation	Inadequate Time temp or pressure		133oC @ 3BarA for 20minutes	Tallow Sterilisation	Operator Supervisor	Every Batch	Reprocess as per SOP	Computer Batch Printouts	Weekly Record Check and sign off Batch printout check
4	Dispatch Tallow	<b>Bio.:</b> Contamination with unsterilised tallow <b>Chem:</b> Greater than 0.15% insols in tallow	Settlement occurring in tank leading to lower portion having elevate Insoluble impurities		<0.15% insoluble impurities	Tallow Release and dispatch	Operator Supervisor Lab. Tech	Every Dispatch	return Tallow as per SOP	Lab Records	Weekly Record Check and sign off External Laboratories
5	Boilers	Flame Temperature below 1100°C	Inadequate Temp	Monitoring and Maintenance	> 1100°C	Boiler Temperature Check	EHS Officer Lab Tech.	Daily	Check sensor. Check fuel/air mix	Boiler Temp. Check Sheet	Daily Record

Signed \_\_\_\_\_ Date \_\_\_\_\_

## **7 Procedures**

This Section contains procedures related to the handling and rendering of SRM and Category 1 material

- 7.1 [Training procedure Rev 1](#)
- 7.2 [RawMaterialHandlingRev1.doc](#)
- 7.3 [LorryWashRev0.doc](#)
- 7.4 [CookingRev1.doc](#)
- 7.5 [ScraperTankRev0.doc](#)
- 7.6 [PressingRev0.doc](#)
- 7.7 [RMSParticleSizeRev2.doc](#)
- 7.8 [RMS sterilisationRev1.doc](#)
- 7.9 [MillingRev0.doc](#)
- 7.10 [MBMDispatchRev0.doc](#)
- 7.11 [TallowSterilisation.doc](#)
- 7.12 [TallowRelease&DispatchRev1.doc](#)
- 7.13 [TallowInsolubleImpuritiesInRev0.doc](#)
- 7.14 [Boiler Temperature.doc](#)

Premier Proteins (2000) Ltd.  
Poolboy,  
Ballinasloe,  
Co. Galway

# HACCP

**Rev: 4 May2007**

Rev3