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## Product Specification

### 20 - 40mm Broccoli Floret

Date: 12<sup>th</sup> September 2011

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#### PACK SIZE

1 x 10kg

#### ORIGIN:

Spain / China / Ecuador

#### GENERAL

The product shall be prepared from fresh sound raw material that is free from all toxic residues and taints. The final product shall comply with all current U.K. and E.C. Food Legislation.

#### INGREDIENTS

Broccoli 100%

Declare as: Broccoli  
(*Brassica oleracea var. italica*)

#### PROCESSING

Broccoli is harvested, delivered to the factory to be floretted. Each load is sampled and assessed for foreign material and physical defects. The load is then cleaned, blanched, frozen, size graded and filled into bulk palletainers. The frozen broccoli is sampled and assessed against specification. The palletainers are then labelled and transferred to the cold store, where they are stored at -23°C until required for packing.

#### PACKING

During packing, the broccoli florets are inspected before weighing and filling into blue poly lined cartons. The cartons are Best Before and Production date coded, check weighed and metal detected, palletised and stretch wrapped before being returned to store at -23°C to await despatch.

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**QUALITY CONTROL** Checks are carried out on the following: -

- Processing: - Raw material  
Peroxidase  
Final Product  
Temperature
- Packing: - Metal detection  
Check weighing  
Final product physical defect levels  
Organolepsis  
Case quantity  
Case sealing  
Case coding and print quality

**DEFECT TOLERANCES** Product shall be checked at least hourly against the following tolerances for defects: -

<b><u>Per 1000g</u></b>	<b><u>Target</u></b>	<b><u>Maximum</u></b>
Clumps	2% w/w	5% w/w
Foreign Matter	Nil	Nil
E.V.M.	1	5
Overmature	2	5
Major Blemish	1	4
Minor Blemish	2	10
Floret Length >43mm	5	8
Head Diameter >43mm	5	8
Floret >55mm	0	2
Floret <18mm	2	5
Fragments and Dust <10mm	3% w/w	5% w/w

**DEFINITIONS OF DEFECTS****Clumps**

These are where three or more pieces of broccoli are frozen together which cannot be readily separated without causing damage to the product.

**Foreign Material**

This includes any material not derived from the broccoli plant or defined as EVM, such as insects, pieces of insects, wood, glass, stones, metal, sand, grit, plastic or any other material which will render the product unacceptable.

**Extraneous Vegetable Matter (EVM)**

This includes any vegetable material that is derived from the broccoli plant or other harmless vegetable matter such as leaves or leaf pieces.

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**Overmature**

This includes any floret which has one or more buds showing yellow petals. This shall not be confused with paler underparts (lacking chlorophyll), which are characteristic of cut heads.

**Major Blemish**

This includes broccoli that is blemished to the extent that the area affected is greater than 6mm in diameter, either as a single blemish or an aggregate of blemishes on the same piece.

**Minor Blemish**

This includes broccoli that is blemished to the extent that the area affected is between 2mm and 6mm in diameter, either as a single blemish or an aggregate of blemishes on the same piece. Blemishes less than 2mm in diameter shall be ignored.

**Size**

These are pieces of broccoli that are greater than 43mm in either length or head diameter, or florets greater than 55mm in any dimension, or less than 18mm in any dimension.

**Fragments and Dust**

These small pieces of broccoli less than 10mm in any dimension.

**ORGANOLEPSIS****COLOUR**

Fairly bright green but may be slightly non-uniform.

**FLAVOUR**

Characteristic broccoli flavour, with only slight bitterness.

**TEXTURE**

Tender and firm, with a yielding bite. Stalks may be slightly fibrous.



Average sample

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**MICROBIOLOGICAL**

Organism	Target	Maximum
T V C @ 30°C	$1 \times 10^5$	$1 \times 10^6$
Total Coliforms	$5 \times 10^2$	$1 \times 10^3$
E. coli	$0.5 \times 10^1$	$1 \times 10^1$
Yeasts & Moulds	$1 \times 10^2$	$1 \times 10^3$
Staph aureus	10/g	$1 \times 10^2$
Salmonella	Absent in 25g	Absent in 25g
Listeria monocytogenes	Absent in 25g	$1 \times 10^2$

**ANALYTICAL**

Product shall be blanched to give a trace positive peroxidase reaction (guaiacol test) between 60 and 90 seconds.

**WEIGHT CONTROL**

The product shall be packed to minimum weight.

**METAL DETECTION**

All cartons shall be passed through a metal detector. The system shall be tested at least hourly using 3.5mm ferrous and non-ferrous, 4.5mm stainless steel test pieces.

**CODING**

Best Before End shall be twenty four months following the month of packing e.g. if packed 5<sup>th</sup> May 2011 then BEST BEFORE END MAY 2013 or BEST BEFORE 05/05/2013.

Production / Traceability Code Four figure International date code (Year number, Day number) plus factory identification code and shift code e.g. product packed 1<sup>st</sup> January 2011 = 1001 or 01/01/2011.

**CARTON LINERS**

Dark blue food grade polythene liner of a **minimum** thickness of 45µm.

**CARTONS**

Corrugated fibreboard of glued construction, no metal staples to be used. Shall be sealed using dark blue adhesive tape.

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**NUTRITIONAL INFORMATION**

This data conforms to the requirements of EC Council Directive 90/496/EEC

100g of uncooked broccoli typically contains: -

Parameter	Value / 100g	Methodology
Energy - kcal	33	McCance & Widdowson 6 <sup>th</sup> Edition
Energy - kJ	137	McCance & Widdowson 6 <sup>th</sup> Edition
Moisture	88.2g	McCance & Widdowson 6 <sup>th</sup> Edition
Carbohydrate	1.7g	McCance & Widdowson 6 <sup>th</sup> Edition
- as sugars	1.4g	McCance & Widdowson 6 <sup>th</sup> Edition
- as polyols	0.0g	McCance & Widdowson 6 <sup>th</sup> Edition
- as starch	0.1g	McCance & Widdowson 6 <sup>th</sup> Edition
Fat	0.9g	McCance & Widdowson 6 <sup>th</sup> Edition
- as saturates	0.2g	McCance & Widdowson 6 <sup>th</sup> Edition
- as mono unsaturates	0.1g	McCance & Widdowson 6 <sup>th</sup> Edition
- as poly unsaturates	0.5g	McCance & Widdowson 6 <sup>th</sup> Edition
Protein	4.4g	McCance & Widdowson 6 <sup>th</sup> Edition
Fibre	2.6g	McCance & Widdowson 6 <sup>th</sup> Edition
Sodium	8mg	McCance & Widdowson 6 <sup>th</sup> Edition
Cholesterol	0g	McCance & Widdowson 6 <sup>th</sup> Edition
Vitamin A	96µg	McCance & Widdowson 6 <sup>th</sup> Edition
Vitamin B6	0.14mg	McCance & Widdowson 6 <sup>th</sup> Edition
Vitamin B12	0 µg	McCance & Widdowson 6 <sup>th</sup> Edition
Vitamin C	87mg	McCance & Widdowson 6 <sup>th</sup> Edition
Vitamin D	0µg	McCance & Widdowson 6 <sup>th</sup> Edition
Vitamin E	1.30mg	McCance & Widdowson 6 <sup>th</sup> Edition
Thiamin	0.10mg	McCance & Widdowson 6 <sup>th</sup> Edition
Riboflavin	0.06mg	McCance & Widdowson 6 <sup>th</sup> Edition
Niacin	0.9mg	McCance & Widdowson 6 <sup>th</sup> Edition
Folic Acid	90µg	McCance & Widdowson 6 <sup>th</sup> Edition
Biotin	0.0 µg	McCance & Widdowson 6 <sup>th</sup> Edition
Pantothenic Acid	0.00mg	McCance & Widdowson 6 <sup>th</sup> Edition
Calcium	56mg	McCance & Widdowson 6 <sup>th</sup> Edition
Phosphorus	87mg	McCance & Widdowson 6 <sup>th</sup> Edition
Iron	1.7mg	McCance & Widdowson 6 <sup>th</sup> Edition
Magnesium	22mg	McCance & Widdowson 6 <sup>th</sup> Edition
Zinc	0.6mg	McCance & Widdowson 6 <sup>th</sup> Edition
Iodine	2 µg	McCance & Widdowson 6 <sup>th</sup> Edition
Potassium	370mg	McCance & Widdowson 6 <sup>th</sup> Edition

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**GMO DECLARATION**

Does the product, or any of its ingredients contain any genetically modified material (whether viable or not)? YES / NO

Is the product or any of its ingredients not substantially equivalent as a consequence of the use of genetic modification? YES / NO

Is the product or any of its ingredients produced from, but not containing any genetically modified material? YES / NO

Have genetically modified organisms been used as processing aids or additives used in connection with the production of the food or any of its ingredients? YES / NO

Have genetically modified organisms been used to produce processing aids or additives but where such genetically modified organisms are not present in the processing aid as used in connection with the production of the food or any of its ingredients? YES / NO

Name: Alan Gosling Job Title: Technical Consultant

Signature:  Date: 12<sup>th</sup> September 2011

**IRRADIATION POLICY**

I confirm that the product supplied by Foodnet Limited under this specification has not undergone any irradiation treatment or process. I further confirm that no ingredient or processing aid used in conjunction with this product has undergone irradiation treatment.

Name: Alan Gosling Job Title: Technical Consultant

Signature:  Date: 12<sup>th</sup> September 2011

Where any answer is YES, see details below.

Product or Material	Details of Genetic Modification

I confirm I have made any necessary enquiries and obtained relevant written assurances from suppliers to verify the accuracy of the details provided above. I confirm the above data supplied is correct and can be used without reservation to advise customers.

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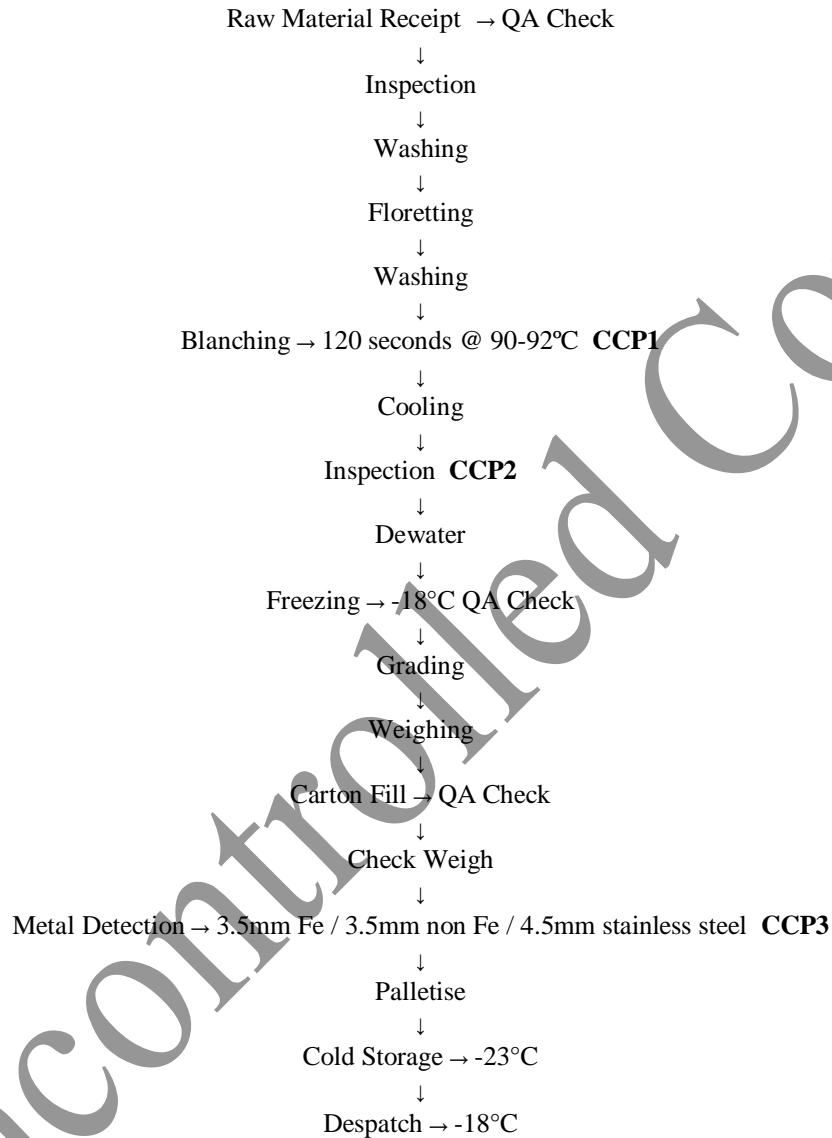
**FOOD INTOLERANCE**

<b>Food Intolerance Data</b>		
Does the material supplied contain any of the following? (NO) Absent, (YES) Present		
<b>Allergen</b>	<b>NO / YES</b>	<b>Reason for presence if YES</b>
Milk & Milk Derivatives	NO	
Egg & Egg Derivatives	NO	
Animal Products (*)	NO	
Fish/Shellfish/Crustaceans/Molluscs	NO	
Cereals (**)	NO	
Gluten	NO	
Yeast/Yeast Extract	NO	
Soya/Soya Derivatives	NO	
Fruit & Fruit Derivatives	NO	
Beef & Beef Products	NO	
Pork & Pork Products	NO	
Lamb & Lamb Products	NO	
Poultry & Poultry Products	NO	
Legumes	NO	
Peanuts	NO	
Sulphite >10ppm	NO	
MSG	NO	
BHA / BHT	NO	
Benzoates	NO	
Glutamates	NO	
Azo & Coal Tar Dyes	NO	
Added Colour	NO	
Added Flavour	NO	
Preservatives	NO	
Antioxidants	NO	
Added Salt	NO	
Nuts/Nut Oils	NO	
Caffeine	NO	
Sesame Products	NO	
Garlic	NO	
Poppy Seeds	NO	
Mustard	NO	
Celery/Celariac	NO	
Lupins	NO	
*Including any product derived from slaughtered animals, e.g. gelatine, rennet		
**Including wheat, corn, barley, rye, oats, etc.		
Is the material suitable for:		
Vegetarians?	Y / N	
Vegans?	Y / N	
Kosher?	Y / N	
Halal?	Y / N	
Organic?	Y / N	

**FOOD ADDITIVES**

<b>E. Number</b>	<b>Name</b>	<b>In Which Ingredient</b>	<b>Function in Ingredient</b>	<b>Function in Final Product</b>	<b>% In Final Product</b>
None					

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**PROCESS INFORMATION****PROCESS FLOW CHART****BROCCOLI FLORET****CRITICAL CONTROL POINTS:**

to include time / temperature / frequency / target and sensitivity of all process steps.

CCP Number	Process Step	Controls in place
CCP1	Effective blanching to minimise microbiological loading. Half hourly checks.	Continuous chart recoding of temperature and guaiacol test for adequate blanching.
CCP2	Inspection of the product. Continuous control	To remove foreign material via manual inspection.
CCP3	Metal detector efficiency. Hourly checks.	Testing of detector using certified test pieces of 3.5mm Ferrous and non-Ferrous, 4.5mm stainless steel.

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## **COSHH Data For Frozen Vegetables**

Treat as you would any frozen material i.e. if engaged in prolonged handling of the vegetables wear gloves.

Care should be used when lifting full cases of frozen vegetables.

There are no other perceived COSHH implications regarding the use of frozen vegetables.

**THE CONTENTS OF THIS SPECIFICATION ARE CONFIDENTIAL TO FOODNET LTD AND THE CUSTOMER, AND MAY NOT BE DISCLOSED TO ANY OTHER PARTY.**

Signed on behalf of Foodnet Ltd:-

Name: Alan Gosling Job Title: Technical Consultant

Signature:  Date: 12<sup>th</sup> September 2011

Signed on behalf of the Customer:-

Name: Job Title:

Signature: Date:

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