



**Technical Department**

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**FLOUR SPECIFICATION**

<b>Product</b>	BFP Bread Flour 16kg	<b>Product Code</b>	21014
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Certification Details		
<b>EFSIS</b>	Third Party Accreditation	Approved (Grade A)
<b>CLAS</b>	Laboratory Certification	Approved
<b>FEMAS</b>	Animal Feed Certification	Approved

<b>Country of Manufacture</b>	UK
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Declaration	
<b>Product Name</b>	Bread Flour
<b>Legal Name</b>	Wheat Flour [ <b>Wheat</b> Flour, Calcium Carbonate, Niacin (B3), Iron, Thiamin (B1)] <b>Wheat</b> Gluten

Organoleptic Standards	
<b>Description of Product</b>	Wheat Flour
<b>Appearance</b>	Creamy white free flowing powder with possible evidence of very small brown fragments of bran
<b>Flavour</b>	No noticeable flavour
<b>Odour</b>	No noticeable odour
<b>Texture</b>	Fine powder that clumps if squeezed together but breaks apart easily

Ingredient Composition				
Ingredient	Percentage at Mixing Bowl	Supplier	Country of Manufacture	Country of Origin
Wheat flour	96.645	Assured UK Suppliers	UK	UK
Statutory Nutrients				
Calcium Carbonate E170	0.33	Omya (UK) Ltd	France	France
Vitamix	0.025	LFI (UK) Ltd	UK	UK
Nicotinamide Iron Thiamin				
Vital Wheat Gluten	3	Bryan Nash	Germany, Sweden	Germany, Sweden
		Sedamyl	UK	Various locations- Approved Suppliers
		Cargill	UK, Poland, Germany, Netherlands	UK, Poland, Germany, Netherlands
		Tereos	Belgium, France	Various locations- Approved Suppliers
Full breakdown of all compound ingredients				
Compound ingredient	Supplier	Components	Amount in Ingredient	Country of Origin
Vitamix	LFI (UK) Ltd		0.025%	UK
		Calcium Sulphate (Carrier Agent E516)	87.75%	UK
		Nicotinamide	7.0%	India/China
		Reduced Iron Powder	4.3%	USA
		Thiamin	0.95%	China

Nutritional Information From McCance & Widdowson The Composition of Food 7 <sup>th</sup> Edition Ref 9	
Nutrient	Value / 100g
Energy (kJ)	1504
Energy (kCal)	353
Total Fat (g)	1.2
Of which Saturates (g)	0.3
Of which Monounsaturates (g)	0.2
Of which Polyunsaturates (g)	0.3
Of which trans fatty acids (g)	0
Total Carbohydrate (g)	79.2

Of which sugars (g)	0.5
Of which starch (g)	78.7
Protein (g)	11.3
Dietary Fibre (g) AOAC	3.3
Sodium (g)	0.002
Water (g)	11.7

<b>Vitamins &amp; Minerals From McCance &amp; Widdowson The Composition of Food 7<sup>th</sup> Edition</b>	
<b>Nutrient</b>	<b>Value / 100g</b>
Vitamin A – Retinol (µg)	0
Thiamin (B1) (mg)	0.30
Riboflavin (B2) (mg)	0.03
Niacin (mg)	1.8
Folate (µg)	16
Vitamin B12 (µg)	0
Vitamin C (mg)	0
Vitamin D (µg)	0
Vitamin E (mg)	0.43
Vitamin B6 (mg)	0.15
Biotin (µg)	1
Pantothenate (mg)	0.3
Calcium (mg)	134
Iron (mg)	1.9
Phosphorous (mg)	128
Magnesium (mg)	26
Zinc (mg)	0.8

<b>Allergen Information - Contains</b>		
Wheat and wheat derivatives	YES	Flour made from wheat
Gluten	YES	Natural ingredient in wheat
Added colours	NO	
Colours – natural	NO	
Colours – nature identical	NO	
Colours – artificial	NO	
Azo and coal tar dyes	NO	
Added Flavours	NO	
Artificial / Nature Identical flavours	NO	
Natural flavours	NO	

Glutamates	NO	
Monosodium glutamate (MSG)	NO	
Added preservatives	NO	
Benzoates	NO	
Sulphur dioxide at concentrations of more than 10mg/kg or 10mg/litre expressed as SO <sub>2</sub>	NO	
Sulphites	NO	
Stabilisers	NO	
Added salt	NO	
Salt substitute potassium chloride	NO	
Added sugar	NO	
All artificial sweeteners (polyols)	NO	
Aspartame	NO	
A source of phenylalanine	NO	
BHA / BHT	NO	
Milk, lactose, milk products and derivatives	NO	
Egg and egg derivatives	NO	
Other Dairy products	NO	
Animal fats and derivatives	NO	
Meat / Meat Products	NO	
Other Animal products	NO	
Fish and fish products (excluding shellfish)	NO	
Shellfish	NO	
Crustaceans	NO	
Molluscs	NO	
Raw materials derived from animals fed on genetically modified animal feeds	NO	
Gelatine	NO	
Barley and barley derivatives	NO	Barley malt flour used in one product on a dedicated line
Maize / corn and derivatives	NO	
Soya and soya derivatives	NO	No soya added to product which is produced on a site that does not process soya but from a supply chain that handles soya
Oats and oat derivatives	NO	
Rye and rye derivatives	NO	Milled on the same line – line flushed clear at start & end of production run
Spelt and spelt derivatives	NO	Milled on the same line – line flushed clear at start & end of production run
Kamut and kamut derivatives	NO	
Lupin	NO	

Yeast and yeast derivatives	NO	
Vegetables and vegetable derivatives (excluding oils)	NO	
Hydrolysed Vegetable Protein (HVP)	NO	
Fruit and fruit derivatives	NO	
Peanuts and derivatives (excluding oil)	NO	
Unrefined peanut / groundnut oil	NO	
Refined peanut / groundnut oil	NO	
Nuts & derivatives other than peanut	NO	
Nut oils – other than peanut	NO	
Pine nuts / pine kernels	NO	
Seeds and seed derivatives (excluding oil)	NO	
Unrefined seed oil	NO	
Refined seed oil	NO	
Palm & palm derivatives	NO	
Sesame seeds and derivatives	NO	
Poppy seeds	NO	
Celery and derivatives	NO	
Mustard and derivatives	NO	
Coconut	NO	
Caffeine	NO	
Garlic	NO	
Kiwi	NO	
Possible source of Histamine	NO	

<b>Mandatory Allergens</b> (under Dir 2003/89/EC & 2005/26/EC)					
	<b>Present in Product</b>			<b>Present in Factory</b>	<b>Comments / Nature of Ingredient or source</b>
	<b>Component</b>	<b>Trace</b>	<b>Cross Contamination</b>		
Cereals Containing Gluten	Main	N/A	YES	YES	Wheat, Barley Malt Flour, Rye, Spelt Possible adventitious cross-contamination through supply chain as it is not segregated-controls in place
Crustaceans	NO	NO	NO	NO	
Fish	NO	NO	NO	NO	
Egg	NO	NO	NO	NO	
Peanuts	NO	NO	NO	NO	

Soya	NO	NO	YES	NO	No soya added to product which is produced on a site that does not process soya but from a supply chain that handles soya
Milk	NO	NO	NO	NO	
Tree nuts	NO	NO	NO	NO	
Celery	NO	NO	NO	NO	
Mustard	NO	NO	NO	NO	
Sesame Seeds	NO	NO	NO	NO	
Sulphites >10mg/kg	NO	NO	NO	NO	
Molluscs	NO	NO	NO	NO	
Lupin	NO	NO	NO	NO	
<b>Suitability Information</b>					
<b>Suitable for:</b>					
Ovo-Lacto Vegetarians		YES			
Vegans		YES			
Diabetics		YES			
Coeliacs		NO			Contains <b>Wheat &amp; Gluten</b>
Lactose Intolerant		YES			
Nut Allergies		YES			
Kosher		N/A			No certificate required
Halal		N/A			No certificate required
<b>Analysis</b>					
<b>In House Analysis</b>		<b>Range</b>	<b>Method</b>	<b>Frequency</b>	
Dumas As Is Protein (%)		10.8 – 11.2	NIR	Every Milling	
Moisture (%)		13.5 – 15.0	NIR		
Starch Damage (F.U.)		24 – 36	NIR		
Water Absorption (%)		56.5 – 62.0	NIR		
Hagberg Falling Number (Seconds) 7g		250 min	Hagberg Falling Number Apparatus		
<b>External Analysis</b>		<b>Product Type</b>	<b>Frequency</b>	<b>Laboratory</b>	
Pesticide Residues		English & Foreign Wheat	Quarterly	Campden Bri UKAS 1079	
Mycotoxins – Aflatoxins B1, B2, G1, G2, Ochratoxin A, Don		English & Foreign Wheat	Quarterly	Campden Bri UKAS 1079	
Heavy Metals – Lead Cadmium, Mercury		English & Foreign Wheat	6 months	Campden Bri UKAS 1079	
<b>Microbial Analysis</b>					
The milling process does not allow for the control of micro standards in flour. A risk assessment has identified that the control has to be at the point of use, i.e. the baking process.					

Shelf Life & Storage Conditions	
Shelf Life From manufacture	12 months
Storage Conditions	Cool dry place away from direct sunlight
Shelf life on Delivery	9 months
Shelf Life on Opening	4 weeks (Potential food quality issue due to drying out)

Weight Control			
Description of Pack Unit	2 ply paper kraft sack		
Unit Weight	16kg Minimum Weight		
Packaging Information			
Material Type	2 ply paper	GKN Wood Pallet (or plastic on request)	Stretch wrap, base sheet and top sheet
Dimensions	380x75x760mm	1000 X 1200mm	N/A
Weight	250g	25 – 50kg	500g
Method of Closure	Glue Seal top, blue stitching cotton bottom	N/A	N/A
Coding Details	YDDD Hours Minutes Seconds ink jet printed on front of bag		
Palletisation			
Cases per layer	5		
Layers per pallet	13		
Total per pallet	65		
Pallet Height	1.3m		
Delivery on wooden GKN food grade pallet as standard with a blue polythene base sheet. Plastic pallets on request. Shrink wrap and polythene top sheet on request			
FOOD PACKAGING MATERIALS DECLARATION			
All food contact materials comply with legislation for "material and articles intended to come in contact with food" Regulations (EC) 1935/2004 or equivalent.			

Foreign Body Control
Magnets, metal detection and sieves used throughout the process.

GM Information	
1. Does the product or any of its ingredients contain any genetically modified material (whether active or not)?	NO
2. Is the product or any of its ingredients significantly changed as a consequence of use of genetic modification?	NO

3. Is the product or any of its ingredients produced from, but not containing, any genetically modified material?	NO
4. Have genetically modified organisms been used as processing aids or additives or to produce processing aids or additives used in connection with the production of the food or any of its ingredients?	NO
5. Have genetically modified organisms been used as processing aids or additives or, but where such genetically modified organisms are not present in the processing aid as used in connection with the production of food or any of its ingredients?	NO

<b>Irradiation</b>	
1. Does the product or any of its ingredients contain any irradiated material (Electron Beam, Gamma, X-ray) or ionising radiation?	NO



## Materials Safety Data Sheet

### Introduction

Flour (of any variety: wheat, rice, chickpea, etc.), is derived from substances occurring in nature and is not viewed as a chemical substance according to the definition under REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation) and therefore this takes it entirely out of the scope of REACH. Furthermore, as the Classification, Labelling and Packaging (CLP) Regulation uses the same definition of a substance, it also means that flour is outside the scope of CLP.

However, Section 6(4)(c) of the Health and Safety at Work etc. Act 1974, states it shall be the duty of any person who manufactures, imports or supplies any substance: to take such steps as are necessary to secure that persons supplied by that person with the substance are provided with adequate information about any risks to health or safety to which the inherent properties of the substance may give rise, about the results of any relevant tests which have been carried out on or in connection with the substance and about any conditions necessary to ensure that the substance will be safe and without risks to health at all such times as are mentioned in paragraph 6(4)(a) and when the substance is being disposed of.

It is up to suppliers how they convey this information to their customers. Whilst it might make sense to use the standard SDS format, this is entirely at the supplier's discretion.

This generic safety data sheet provides suppliers of wheat flour with a template for meeting the requirements of section 6(4)c of the Health and Safety at Work Act.

### 1. Identification of Substance/Preparation and Company

Product: Wheat Flour

Product Name: Wheat flour of all grades

Use of substance: Food ingredient

Issue Date: 27.07.2021

## 2. Hazards Identification

Prolonged or repeated inhalation of flour dust may affect the respiratory system and may cause sensitisation and/or lung damage.

May cause dermatitis in rare cases.

Capable of forming an explosive atmosphere when roused as a dust cloud at a concentration of >50g/m<sup>3</sup>

### Classification of substance

Respiratory sensitisation Category 1.

Skin sensitisation Category 1.

### Hazard statements

May cause allergy or asthma symptoms, or breathing difficulties if inhaled.

May cause an allergic skin reaction.

### Precautionary statements

Avoid breathing dust.

In case of inadequate ventilation wear respiratory protection.

Contaminated clothing should not be allowed out of the workplace.

Wear protective gloves/clothing/eye/face protection.

## 3. Composition/Information on Ingredients

Wheat Flour is produced by milling cleaned wheat grain or endosperm of cleaned wheat grain.

Flour is mainly used in the manufacture of bread, biscuits, confectionery, and other foodstuffs and for various industrial purposes.

## 4. First Aid Measures

### Description of first aid measures

**Inhalation:** Remove affected person from area of exposure preferably into fresh air. Anyone who has asthmatic symptoms from an exposure to dust should seek medical advice. The symptoms normally disappear if the sufferer avoids further exposure.

**Ingestion:** No known health effects are known under normal use. However, if individual shows signs of sensitisation, allergy reaction or other adverse effects, seek medical attention.

**Eyes:** Wash eyes with running water for several minutes. Medical advice should be sought if the discomfort persists.

**Skin:** If on skin, wash off with plenty of water. There should be no adverse response from exposure to skin. It is only very rarely, if ever, the cause of dermatitis (see 8. Exposure and Controls below).

### **Most important symptoms & effects both acute and delayed**

**Inhalation:** Prolonged or excessive inhalation of flour dust may affect the respiratory system and may cause sensitisation and/or lung damage.

**Ingestion:** No known health effects, however may cause allergic reaction in rare cases.

**Eyes:** May cause irritation as a foreign body. Symptoms would be redness of eyes and tears.

**Skin:** Slight drying of skin. May cause dermatitis in rare cases.

## **5. Fire Fighting Measures**

### **Suitable fire extinguishing media**

Foam, powder.

### **Unsuitable extinguisher media**

Water: Water jet from the water hose has the potential to spread the fire around.

CO<sub>2</sub>: A blast from the extinguisher has the potential to create a dust cloud and add to the possibility of an explosive atmosphere.

### **Hazards arising from fire**

A large concentration of dust in the air could create an explosive atmosphere which, if ignited the shockwaves could dislodge dust from ledges and beams creating dust clouds which could set off secondary explosions.

## **6. Accidental Releases**

Waste should be removed dry. Do not hose down and do not allow to enter drainage system.

Vacuuming is the preferred method of cleaning; the vacuums must be suitable for the environment & comply with relevant legislation (see *HSE guidance at [www.hse.gov.uk/food/dustexplosionapp1.htm](http://www.hse.gov.uk/food/dustexplosionapp1.htm)*).

Compressed air is not suitable for cleaning tasks. It is dangerous and it spreads the problem to areas which are harder to clean and possibly into unexpected sources of ignition.

## 7. Handling and Storage

**Storage:** Bulk flour should be stored at ambient temperatures in dry bins. Bagged flour should be stored in cool, dry conditions. Flour is usually supplied either by bulk tanker or in paper bags.

**Specific end use:** It is recommended that the product is used for food production only.

**Static Electricity:** Though static electricity has been shown not to be a major ignition risk for flour dust, the pneumatic intake of flour from bulk tankers can give rise to static electricity. Accordingly it is essential for blow lines to be earthed; suitable earthing points must be provided at the discharge point.

**Manual Handling:** All manual handling operations, including those involving flour bags, should be the subject of risk assessment appropriate to the environment and the physical characteristics of the handlers. Hands should be kept clean of flour. Creation of dust clouds should be avoided.

## 8. Exposure and Controls

### **Workplace Exposure Limit (WEL)**

8hr TWA – 10mg/m<sup>3</sup>.      15min STEL – 30mg/m<sup>3</sup>.

To comply with the Control of Substances Hazardous to Health Regulations and the assigned WEL, and for general health reasons outlined below, it is necessary to reduce - so far as reasonably practicable - personal exposure to any dust through enclosure, local exhaust ventilation and the provision and use of personal protective equipment. The HSE expects duty holders, via good control methods, to reduce exposures below 2mg/m<sup>3</sup>.

### **Exposure Controls**

So far as is reasonably practicable, dust formation should be minimised during handling to prevent inhalation and reduce skin contact. Dust clouds are most likely to arise from emptying & disposing of bags, machinery maintenance, and malfunctions, such as chokes etc. Assessment of working methods should be undertaken to find ways of reducing risk.

Spillages should be removed without delay to maintain hygiene standards and to minimise the level of dust in the atmosphere. Vacuum cleaning equipment (M-type) should be used wherever possible.

As the lowest form of control, wear suitable, individually face-fitted, respiratory protective equipment (RPE) with a particulate filter, which has assigned protection factor (APF) of 20, e.g. FFP3 for any essential short non-routine dusty tasks.

It is unusual for contact with clean flour dust to cause dermatitis. However, high standards of personal hygiene should be maintained to avoid the possibility of dermatitis or product contamination.

Health surveillance should be provided for the early detection of signs of occupational ill health.

## 9. Physical and Chemical Properties

### Appearance

White/brown free flowing powder.

### Particle Size

Will vary with flour type e.g., in white flour a large majority of particles will be smaller than 150 microns, 50% of particles being smaller than 50 microns. For fine cake flours, about 50% of particles will be below 25 microns. In wholemeal flour, some particles will be greater than 300 microns.

### Kst Values

Comprehensive tests on flours indicate a range of between 53 and 120 bar m/sec, depending on the flour type, particle size and moisture content. (Thus, flour is classified as ST1, the lowest class of explosible dusts; the upper limit of ST1 is 200 bar m/sec and this figure is often used for determining suitable vent size.)

### Explosive Concentrations

Minimum explosive limit 50g/m<sup>3</sup>

(Upper explosive limit concentrations are not well defined for combustible dusts.)

### Minimum Ignition Energy

Comprehensive tests on flours indicate MIE >1000mJ.

### Ignition Temperatures

A cloud of flour in air can be ignited by surfaces at temperatures of about 400C. Layers of flour on a hot surface can smoulder at around 200C, leading to flame and ignition.

### Density

Usually between 450 and 560 kg/m<sup>3</sup>.

### Specific Heat

0.42 J/gm C.

## 10. Stability and Reactivity

**Stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** None under normal conditions. However, there is a possibility of an explosive atmosphere should the flour dust in the air reach a concentration of 50g/m<sup>3</sup>; and note should be taken of ignition temperatures as set out in section 9 above.

**Conditions to avoid:** Formation of dust clouds in the air.

**Incompatible materials:** None known.

**Hazardous decomposition products:** None known.

## 11. Toxicological

This product is non-toxic.

**Ingestion:** Safe for human ingestion.

**Inhalation:** Repeated exposure may cause sensitisation and asthma.

**Eye:** (see 8. Exposure and control)

**Skin:** May cause discomfort as a foreign body/matter. Slight drying of skin. May cause dermatitis in rare cases.

## 12. Ecological

None available at this time.

## 13. Disposal Considerations

Dispose of according to national and local regulations.

## 14. Transport Considerations

This product is not classified as dangerous goods.

## 15. Regulatory Information

Flour is produced so as to comply with the prevailing requirements of the Food Safety Act 1990 and the Bread and Flour Regulations 1998.

## 16. Other Information

### **Hazard statements in full**

May cause an allergic skin reaction.

May cause allergy or asthma symptoms, or breathing difficulties if inhaled.

### **Precautionary statements in full**

Avoid breathing dust.

In case of inadequate ventilation wear respiratory protection.

Contaminated clothing should not be allowed out of the workplace.

Wear protective gloves/clothing/eye/face protection.

Wash contaminated clothing before reuse.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.

IF ON SKIN: Wash with plenty of soap and water.

IF SKIN irritation or rash occurs: Get medical advice/attention.

Dispose of waste in accordance with local authority requirements.

Under CoSHH Regulations the user is under a legal obligation to carry out suitable and sufficient assessment of the health and safety risks which this material may present.

Reference should be made to:

Occupational Exposure Limits EH40/current year; Handling of Combustible Dusts HSG 103.

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The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of issue below. The information is for guidance in safe handling, use, storage, transportation, disposal and release and is not in itself a warranty or quality specification. The information relates only to the products identified. This Material Safety Data Sheet may not be valid for such product used in combination with other substances or processes which must be assessed separately.

<b>Warranty</b>	
The foodstuff, packaging and label (as appropriate) conform to all relevant UK and EU legal requirements at the time of supply.	
The specification will not be altered without prior approval.	
The product is prepared, processed, packaged and handled under strict hygiene conditions consistent with the principles of good manufacturing practice. The manufacture of this raw material conforms to all relevant UK and EU legal requirements at the time of supply.	
Materials shall be transported in clean vehicles of a high standard suitable for transportation of food. They shall be free from infestation and contamination and provide the appropriate conditions of temperature.	

<b>Authorisation</b>	
Completed By	<i>Cathy Briggs</i>
Position	Technical Manager
Date	21.07.2021