

**Guidance on Dust
Control and Health
Surveillance
In Bakeries**

Revised August 2020

This document, last reviewed in 2008, has been updated and revised for online publication on the Federation of Bakers Ltd website at www.fob.uk.com.

The revision has been carried out by the Federation's Health and Safety Committee.

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FOREWORD

This is the revised guidance prepared by the Federation of Bakers Ltd. (FoB)

This guidance addresses one of the more significant OH risks in the industry; respiratory exposure to flour and other ingredient dusts.

The publication first appeared in the '80's and was last revised in 2008. It has now been updated again and reissued as a PDF download available from the FoB's website.

It provides information and advice for bakers and others working in the food manufacturing industry which, if followed, will help them reduce risk arising from employee exposure to flour and other ingredient dusts. Following the guidance will also help employers in the industry meet their duty of care for employees and contribute to ensuring health and safety compliance.

The guidance is complimentary to HSE's own advice on controlling dust in workplaces and related information in the 'A baker's dozen – thirteen essentials for health and safety in bakeries' publication which is also available as a download from the FoB's website (first published by HSE as HSG233 in 2003 and gifted to be updated by the FoB Health and Safety Committee in 2015).

Craft Bakers may find the Flour and Ingredient Dust Safe Method in the CBA (Craft Bakers Association) HSMS (Health and Safety Management System) is also helpful to read. The CBA HSMS has been primary authority assured by Horsham District Council and demonstrates legal compliance if correctly followed. It is available free to CBA members.

In particular, the guidance provides advice on how to assess dust levels in the work-place and outlines a range of practical measures which can be taken to reduce dust exposures as low as reasonably practicable. It also contains useful advice on health surveillance.

I am sure that as before the revised guidance will be read and used throughout the baking and wider food industry.

Gordon Polson
Chief Executive
Federation of Bakers Ltd.

August 2020

GUIDANCE ON DUST CONTROL AND HEALTH SURVEILLANCE IN BAKERIES

INTRODUCTION

Flour and ingredient dusts can cause health problems for people working in bakeries. If dust becomes airborne and people can breathe in the dust, they might be affected in a number of ways. It can cause rhinitis (running nose) and conjunctivitis (watering and irritation in the eyes). More seriously, it can cause occupational asthma – attacks of breathlessness, chest tightness and wheezing. This guidance for the baking industry sets out practical measures to reduce this risk to people's health from contact with flour and ingredient dusts.

The legal standard in the UK for controlling risk of exposure to flour and ingredient dust is contained in the Control of Substances Hazardous to Health Regulations 2002 (as amended) (COSHH). This guidance is not a definitive interpretation of the law; rather it sets out best practice measures. Although specific examples are used to illustrate risk control measures, there are always likely to be equally effective alternatives for securing the same objective of minimising risk to people. The most effective measures will often depend on the circumstances of the particular case.

The guidance is based on studies of people working in bakeries, which have shown that allergy (sensitisation) to bakery ingredients such as flour or enzymes (amylase and hemicellulase) in bread improvers can be caused at relatively low levels of exposure. However, studies also showed that the majority of workers with respiratory and nasal symptoms do not become allergic (sensitised) to exposure. Studies in the UK baking industry and by SCOEL (Scientific Committee for Occupational Exposure Limits) also suggest that exposure to high dust levels for short periods of time should also be considered significant in giving rise to symptoms of irritation and sensitisation.

In the non-sensitized group, the symptom is more likely to be irritation of air passages by relatively high level but short-term exposure to airborne dust. This implies the need for controlling exposure in all phases of bakery operation, whether handling small quantities in weighing up ingredients, cleaning machinery, clearing working accumulations of dust from floors or dealing with a major spillage from plant failure in a large bakery. All these eventualities are covered in the guidance.

THE MOST IMPORTANT MESSAGE FOR EMPLOYERS AND PEOPLE WORKING IN A PLACE WHERE THEY MIGHT BE EXPOSED TO FLOUR AND INGREDIENT DUSTS IS THAT DUST IN BAKERIES CAN HARM HEALTH. TO REDUCE THE RISK OF RESPIRATORY ILL HEALTH, MEASURES NEED TO BE TAKEN TO REDUCE THE AMOUNT OF DUST PEOPLE BREATHE IN TO THE LOWEST LEVEL REASONABLY PRACTICABLE.

The guidance sets out steps that can be taken to assess and understand the problem and some practical measures which can be taken to reduce the levels of personal exposure to dust.

**Gordon Polson
Chief Executive
Federation of Bakers Ltd.**

August 2020

1. ASSESSING RISK

Bakers' Asthma is one of the most common forms of Occupational Asthma. In fact flour is the second most common cause of occupational asthma after isocyanates typically found in two pack paints, glues and dyes. Exposure to 'flour dust' can also cause other allergic conditions such as rhinitis (runny or stuffy nose), and conjunctivitis (watery or prickly eyes).

Flour dust has been defined by the HSE, for the purpose of setting an occupational exposure limit, as **“the finely ground particles of cereals or pulses (including contaminants) which result from any grinding process and from any subsequent handling and use of that 'flour'. Any additives (eg flour improvers) are included in this definition only after they have been added to the final product mix.”**

So in this definition, flour dust contains a number of potential allergens, the most important of which are cereal antigens and enzymes, particularly α -amylase.

Substances which when inhaled can cause occupational asthma are called 'respiratory sensitisers' or asthmagens. They can cause a change in people's airways, known as the 'hypersensitive state'. But not everyone who becomes sensitised goes on to get asthma. But once the lungs become hypersensitive, further exposure to the substance, even at quite low levels, may trigger an attack.

A bakery is a complex environment with a multitude of potential sensitisers. Cases of occupational Asthma or rhinitis are usually associated with cereal flours such as wheat flour, rye or barley however other non-wheat flours such as soy and buck wheat are also reported as sensitisers in bakeries. There are also case reports of bakers' asthma caused by yeast, eggs, sesame and sunflower seeds which could be a challenge as there has been a trend to move to more seeded products.

When measuring dust in air, levels are expressed as the weight of dust in milligrams (mg) per unit volume of air in cubic metres (m³) abbreviated to mg/m³. There are a number of ways to approach assessment and/or actual measurement of dust levels.

As a first step, simply looking for dust deposits on horizontal surfaces can be a good indicator of dust escaping. For more information on measured dust levels in bakeries reference can be made to the [HSE website](#) where reports on more recent studies carried out by the Health and Safety Laboratory can be found.

A useful and more informative means of observing dust in the workplace is by using a dust lamp which directs a powerful beam of light on to a dust cloud, allowing the naked eye to identify dust sources and enabling control systems to be assessed. Guidance on the use of these lamps is published by the HSE, [MDHS 82/2 “The Dust Lamp”](#). Although it cannot completely quantify exposure, it is useful in establishing if additional assessment is required.

Further assessment can be carried out by measuring airborne dust levels using sampling apparatus and methods specified by HSE. In house resources may be available in larger companies, or an externally accredited consultant may be employed to carry out assessments. The British Occupational Hygiene Society maintains a directory of consultants who can carry out such assessments.

Examples of tasks where exposure to flour dust and/or enzymes may occur are:

- Adding ingredients by hand into hoppers containing flour
- Maintenance activities or when breakdowns occur
- Filling mixers from bags
- Bag disposal
- Weighing

- Mixing
- Adding ingredients by hand to hoppers containing flour
- Hand dusting at tables
- Using dough brake roll machines
- Maintenance activities
- Cleaning the workplace.

GOOD CONTROL PRACTICES

Once tasks giving rise to dust exposure in the workplace have been identified and assessed, control measures must be put in place to reduce exposure.

Workplace exposure limits (WELs) are published in [EH40](#). A WEL is the maximum permitted concentration of a hazardous substance in air averaged over a reference period, usually 8 hours and known as a time weighted average or TWA. The WEL for flour dust is 10 milligrams per cubic metre of air (mg/m^3), measured as an 8 hour TWA – not an absolute. A higher limit, $30\text{mg}/\text{m}^3$, averaged over a 15 minute period, is recommended for short term high level exposure. Known as the STEL and also listed in [EH40](#), this is not a compliance level but is a reference point for establishing if short term exposure is a potential problem. Exposure limits should be quoted in suppliers' material safety data sheets.

Legally, as flour dust is an asthmagen, employees must not be exposed to levels above that limit and, where exposure cannot be eliminated, it must be reduced to a level which is as low as is reasonably practicable below the WEL.

By adopting good control practice, HSE considers that less than $2\text{mg}/\text{m}^3$ (averaged over 8 hours) is usually achievable based on company information and independent occupational hygiene surveys supplied to HSE; also results of HSE enforcement action.

2. REDUCING EXPOSURE TO DUST

Risk management measures should always be based on a hierarchy of controls (Figure 1). This means that the exposure should primarily be prevented by eliminating or substituting the hazard. If this is not possible then exposure should be controlled by isolating the hazard or reducing it by means of engineering and/or design. In addition, administrative controls may be used such as the imposition of safe working practices & procedures. The final measure for reducing the exposure is the use of appropriate **respiratory protective equipment** (RPE). See appendix 2.



Figure 1 – Hierarchy of Controls

Note: in selecting vacuum cleaners for use in dusty environments, consideration may need to be given to dust explosion risk and the possible need for using vacuum cleaners with ‘spark proof’ motors. In this context further guidance can be found in HSE guidance ‘Prevention of dust explosions in the food industry: <http://www.hse.gov.uk/food/dustexplosionapp1.htm>

General Note Re: Explosion Risk: It should be noted that as flour and ingredient dusts are classified as ‘flammable’, in the right conditions, an explosion can take place in a dust cloud. In this context closed handling systems for flour and ingredients and dust collection equipment are prone to explosion risk as well as open working environments. UK Regulatory standards and guidance can be found in the [Dangerous Substances and Explosive Atmospheres Regulations](#) and the associated approved code of practice.

ELIMINATION

In order to eliminate risk of dust exposure the following controls should be considered:

- The use of non-stick surfaces to eliminate the need for the use of dusting flour.
- The use of rice flour as a lubricant or for hand dusting.
- The use of oil spray. Greaseproof paper in smaller bakeries.

SUBSTITUTION

In order to reduce airborne dust levels the following controls can be considered:

- The use of alternative forms of some ingredients such as the use of some flour treatment agents (improvers and enzymes) are now available in either liquid, granular or paste form. It is also possible to obtain some dry ingredients (e.g. enzymes) in a granular form. Bakers should ask their suppliers for ingredients which are likely to give rise to less dust when handled.
- The use of low dust flour or rice flour for lubricant and for hand dusting.
- The use of oils for lubrication.

ENGINEERING CONTROLS

New Equipment

The need for dust control should be considered in reaching decisions on purchasing all new equipment.

Bulk Flour Storage

Use of silos and associated closed conveying, weighing and dispensing equipment can greatly reduce dust levels. Silo overfilling and spillage can, however, cause serious dust problems. Clear written instructions to staff and drivers involved in flour delivery on how to prevent this are essential. Siting of the high level alarm where it cannot be heard by the driver is a common cause of overfilling.

Bag Tipping

Bag tip units should be enclosed as far as possible and fitted with local exhaust ventilation. The bag should be rolled up from the bottom for disposal preferably with the open end in the extraction zone facing away from the operative.

Sieving and Weighing of Powdered Ingredients

Where manual sieving and weighing is carried out for more than 30 minutes a shift then suitable local exhaust ventilation in addition to operator RPE (min FFP3) should be provided. The only exception to this is where the installed LEV system is tested and proven to be effectively capturing the dust and reducing exposure to flour dust as low as is reasonably practicable where RPE may not be needed for the task. In plant bakeries, large walk-in laminar or downflow booths may be needed to allow containment of containers as well as scales.

If possible the activity should be separated to reduce exposure to other employees.

Mixer Filling

Where bags are tipped directly into mixers, the bowl should be covered as far as possible to contain the dust when the bag is emptied. The mixer lid or a purpose built cover should be used for this purpose. Mixer lids should be as close fitting as possible to prevent the escape of dust before liquid is added. Where there is only a partial enclosure suitable LEV and suitable RPE (min FFP3) is required when tipping more than 15 sacks per shift. The only exception to this is where the installed LEV system is tested and proven to be effectively capturing the dust and reducing exposure to flour dust as low as is reasonably practicable, where RPE may not be needed for the task.

Where mixers or bowls are filled from a weigh hopper, the bowl should be sealed during loading and either local exhaust ventilation provided to remove the dust generated or a filtered outlet on the lid provided to allow the escape of displaced air. When hand tipping small quantities of dry ingredients into high speed mixers in plant bakeries the requirement for control measures should be determined by risk assessment. RPE should be worn if exposure levels cannot be reduced to below 2 mg/m³

On large scale plant, dust prevention is achieved by use of automatic closed conveying of flour and other ingredients to the mixer. Regular checking for leaks minimises the possibility of flour dust from this source.

Dusting

The use of conical sieves for hand dusting should be introduced as a control measure on dough brakes and other plant should be introduced as a control measure. The design of this type of sieve reduces the amount of dust generated. Where in-line flour sifters are used, i.e. on dough breaks the flour must be contained in the hopper i.e. lidded.

SAFE WORKING PRACTICES

- (i) Segregation of dusty processes can prevent exposure of employees not involved in handling flour or other dusty ingredients. Changes in work techniques which can reduce dust levels include:
- Minimising the use of flour for dusting;
 - Use of dredgers or sprinklers to spread dusting flour rather than hand throwing;
 - Using low dust flour in the dredgers and hand-held sieves for dusting.
 - Use of dredgers or sprinklers to spread dusting flour rather than hand throwing;
 - Improving care and attention to the prevention of spillages especially around roll and pastry plants, sieves and mixers;
 - Starting up mixers on slow speed for an initial period;
 - Avoiding damage to bags to prevent leaks;
 - Minimisation of airborne dust when folding or disposing of empty bags. If not done carefully, bag disposal generates dust. One effective method is to roll the bag up from the bottom whilst tipping, avoiding the need to flatten or fold empty bags;
 - Prohibiting use of compressed air lines for cleaning unless all other methods are impracticable. When use of compressed air is unavoidable, for example in awkward openings in machines, and vacuum cleaning is ineffective, a combined air jet/vacuum device should be used. In this instance RPE (FFP3) may also be necessary.
 - Using M type vacuum cleaners* for routine cleaning. Shovels may have to be used for larger volumes and in this case suitable respiratory protective equipment should be worn. Avoid dry brushing as it causes high levels of airborne dust.
 - Consider using wet cleaning methods.

Note: in selecting vacuum cleaners for use in dusty environments, consideration may need to be given to dust explosion risk and the possible need for using vacuum

cleaners with 'spark proof' motors. In this context further guidance can be found in HSE guidance 'Prevention of dust explosions in the food industry': <http://www.hse.gov.uk/food/dustexplosionapp1.htm>

General Note re Explosion Risk: It should be noted that as flour and ingredient dusts are classified as 'flammable', in the right conditions, an explosion can take place in a dust cloud. In this context closed handling systems for flour and ingredients and dust collection equipment are prone to explosion risk as well as open working environments. UK Regulatory standards and guidance can be found in the Dangerous Substances and Explosive Atmospheres Regulations and the associated approved code of practice.

TRAINING AND SUPERVISION

Training and supervision should be provided to ensure that safe working practices are followed.

Employees should be told how to recognise early signs of asthma including:

- Recurring sore or watery eyes
- Recurring blocked or running nose
- Bouts of coughing
- Chest tightness
- Wheezing
- Any persistent history of chest problems.

Employees should be trained on how to work safely with hazardous substances including:

- when and how to use controls;
- how to check they are working;
- how the LEV system works;
- how to use the LEV to get the best out of it;
- how to check that the LEV is working;
- what to do if something goes wrong.

Employees should be trained how to use PPE, especially RPE, including the correct way from fitting a mask

Training records should be kept to demonstrate that training has taken place. Any changes to the work process and LEV may mean that employees require retraining.

The use of the HSE Leaflet '*Bakers – time to clear the air INDG429 HSE Books 2009*' and the FOB Breathe easy (2008) Training DVD programme on controlling dust in bakeries can be used to assist in training.

ILLUSTRATIONS

Photographs of local exhaust ventilation and extraction systems

The following photographs are purely illustrative and do not guarantee any particular level of dust control. Each situation has to be monitored as required.

Laminar Flow Both



Operative working in a large walk-in laminar dust extraction booth. The operative is wearing a powered air respirator which would not be required if exposure was demonstrated as being below $2\text{mg}/\text{m}^3$.

Correct Bag Disposal



The operative is rolling the bag to keep dust to a minimum before disposing. It would reduce dust exposure further if this was carried out with the open end within the extraction zone of a LEV unit.

Enclosed Mixing Bowl



Fully enclosed mixer lids would not require LEV to capture the dust escaping from the mixing bowl when in operation. This photo shows a mixer container with a lid / small opening. This lid could easily be made to be fully enclosing by adding a simple hinged-lid over the small opening

'M' Vacuum Cleaners



Operatives using industrial M class vacuum cleaners suitable for dust extraction.

Respiratory Protective Equipment (RPE) – See Appendix 2.



Operative wearing a FFP3 dust mask correctly.

Local Exhaust Ventilation (LEV)



LEV when weighing ingredients. LEV designed to keep capture distance to a minimum.

4. RESPIRATORY PROTECTIVE EQUIPMENT (RPE)

RPE shall only be used as a last resort after you can provide evidence that all of the controls have been investigated and implemented as practical.

‘Respiratory protective equipment should be considered where a risk assessment has identified potential for dust exposure over $2\text{mg}/\text{m}^3$ despite the presence of additional engineering controls’. The selection of suitable RPE will depend on the task, the potential level of exposure, the time the RPE needs to be worn along with comfort, fit and compatibility with other PPE. RPE must have a particulate filter and have an assigned protection factor of 20 (FFP3).

RPE can be in the form of a disposable dust mask, a half or full-face mask with cartridge filters or a powered air fed respirator.

Face Fit Testing must be carried out for all masks dependent on seal i.e. all disposable masks (as well as half/full face masks if in use) and before operatives commence work in high risk areas. Fit testing should only be carried out by trained, qualified personnel preferably Fit2Fit accredited personnel or by appropriately trained internally personnel.

Where an employee has facial hair, alternative forms of RPE should be chosen which do not rely on a tight fit to the face

If the RPE is reusable, it should be regularly cleaned and checked to ensure that it remains effective and is replaced when necessary. Written records of monthly RPE maintenance must be kept;

All wearers of RPE should undergo formal training in:

- Correct fitting of RPE
- Health risks from exposure to hazardous dusts
- Control measures in place at to minimise exposure (This may be achieved by using the Federation of Bakers “Breathe Easy” training package).

All training must be documented and records maintained.

5. HEALTH SURVEILLANCE

Health surveillance is mandatory for individuals who work with substances that may cause occupational asthma. Its aim is to protect workers health by detecting early symptoms and reducing exposure to reduce the risk of individuals developing occupational asthma.

A health surveillance program should firstly determine what level of monitoring is required. There are two types: lower and higher-level health surveillance.

LOWER-LEVEL HEALTH SURVEILLANCE

This is suitable when there is only occasional or potential exposure to a flour dust and when control is deemed to be adequate.

Lower level health surveillance activities include:

- Pre-placement baseline screening such as a questionnaire
- Health surveillance questionnaires after 6 weeks, 12 weeks and thereafter each year
- Encouraging employees to report symptoms at any time
- Monitoring sickness absence for respiratory illness.

Employees should be referred to an occupational health professional if there are any adverse findings from health screening or surveillance questionnaires or staff report symptoms of flour dust conditions.

HIGHER-LEVEL HEALTH SURVEILLANCE

This is required if for employees who:

- are exposed to flour and grain dust or substances and processes where occupational asthma is a known problem; or
- are working with products labelled R42 'May cause sensitisation by inhalation' (may lead to asthma), or R42/43 'May cause sensitisation by inhalation and skin contact'; or
- have a confirmed case of asthma.

For higher level health surveillance, in addition to the testing required for lower level testing as outlined above, the following actions are required:

- Higher level health surveillance must be carried out by a qualified health professional, such as an Occupational Health Technician or Occupational Health Nurse and includes annual lung function testing.
- The health professional should explain the lung function test results to the individual and give the employer a report on the individual's fitness to work. This will include whether there are any restrictions on substances they can work with, whether any further protective measures need to be taken or whether referral to a respiratory specialist is required.
- When referring an individual to a respiratory specialist it is important that they have as much information as possible to give the correct advice. They will need information regarding respiratory sensitisers that the individual is exposed to: quantity, frequency, duration, control measures and air monitoring results. Samples of the ingredients that the individual uses may need to be sent to determine whether any of them are causing the symptoms exhibited.

APPENDICES

APPENDIX 1a: Example of Baseline Questionnaire

Title:	Example of Initial respiratory assessment questionnaire	Ref No:	
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Initial questionnaire for surveillance of people potentially exposed to substances that can cause occupational asthma. In this workplace, substances are in use that has been known to cause allergic chest problems. Following the risk assessment under Regulation 6 of the Control of Substances Hazardous to Health (CoSHH) Regulations 2002, management have decided to carry out a programme of pre-exposure and periodic health surveillance as required by Regulation 11 of the CoSHH Regulations.

Surname:	Forename:
Date of Birth:	Employee No:
Department/Location: Shift:	Job Title:
Line Manager:	Tel No:

It is an employee's responsibility to ensure any change in health which may affect fitness for the role is communicated to their manager. The information you provide will be assessed by OH and the form will be retained and stored confidentially in your OH file.

Previous history	Yes	No
Have you any chest problems, such as periods of breathlessness, wheeze, chest tightness or persistent coughing?		
Do you believe that your chest has suffered as a result of any previous employment?		
Do you or have you ever had any of the following? (don't include isolated colds, sore throats or flu):		
Recurring soreness of or watering of eyes		
Recurring blocked or runny nose		
Bouts of coughing		
Chest Tightness		
Wheezing		
Breathlessness		
Any other related persistent conditions or history of chest problems		
Comments:		

Smoking history	Yes	No
Do you smoke?		
If yes, how many per day (cigars/cigarettes/tobacco)		
Ex-smokers, how long ago did you stop smoking?		yrs
Comments:		

I understand that a programme of health surveillance is necessary in this employment and this document will form part of my occupational health records and be stored securely. The information provided is true to the best of my knowledge.

Employee Signature:

Date:

Signature & Print of Occupational Health Adviser

Date:

APPENDIX 1b: Example of Annual Ongoing Questionnaire

Title:	Example of Respiratory Assessment - Ongoing Questionnaire	Ref No:	
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In this workplace, substances are in use that has been known to cause allergic chest problems. Following the risk assessment under Regulation 6 of the Control of Substances Hazardous to Health (COSHH) Regulations 2002, management have decided to carry out a programme of pre-exposure and periodic health surveillance as required by Regulation 11 of the COSHH Regulations.

Surname:	Forename:
Date of Birth:	Employee No:
Department /Location: Shift:	Job Title:
Line Manager:	Tel No:

It is an employee's responsibility to ensure any change in health which may affect fitness for the role is communicated to their manager. The information you provide will be assessed by OH and the form will be retained and stored confidentially in your OH file. Anonymized data may be provided to management to assist in the management & reduction of identified health risks in the workplace.

Since starting your present job or since your last assessment have you had any of the following symptoms either at work or at home? (Do not include isolated colds, sore throats or flu).

Respiratory Surveillance	Yes	No
Recurring soreness or watering of eyes		
Recurring blocked or runny nose		
Bouts of coughing		
Chest tightness		
Wheeze		
Shortness of breath when walking on level ground		
If yes, do symptoms improve when away from the work place (days off / holiday)?		
Have you consulted with your Doctor about a chest problem since completing your last questionnaire?		
Comments:		

Smoking History	Yes	No
Do you smoke?		
If yes, how many per day (cigars/cigarettes/tobacco)		
Ex-smokers, how long ago did you stop smoking?		yrs
Comments:		

I understand that a programme of health surveillance is necessary in this employment and this document will form part of my occupational health records and be stored securely. The information provided is true to the best of my knowledge.

Employee Signature: _____ **Date:** _____

To be completed by OHA or person carrying out the procedures:

Lung Function Test Results				
<i>For Vitalograph machines that only measure the FEF 25-75 result, enter this in MEF 50 column</i>				
	FEV1	FVC	PEF	FEV1/FVC
Predicted				
Measured				
%				

Comments:

Recall Date:

Signature of Occupational Health Adviser

Date

APPENDIX 1c: Example of Health Report to be given to Manager

Title:	Example of Health Surveillance Feedback Report	Ref No:	
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To: <<Manager Name>>

Cc: <<HR Name>>

From: <<OHA name>>

Date:

Personal Details:	
Surname:	Forename:
Date of Birth:	Employee No:
Department /Location:	Shift:
Job Title:	Line Manager: Tel No:

The above employee attended for planned health surveillance on <<Date>>

Results are provided below:

Surveillance Performed	Outcome (Fit / Fit with Restriction / Unfit)	Next Due
Lung Function Test		
Respiratory Surveillance		

Advice Given: (Modify as required) eg. PPE use and care, reporting of early health issues to line manager discussed with employee.

Restriction:

Please book further appointment in line with timescale advised above to maintain compliance with your Health & Safety responsibilities / accountabilities

Manager Action taken:

**Signed
(Manager)**

Date:

APPENDIX 2: Personal Protective Equipment

RESPIRATORY PROTECTIVE EQUIPMENT

Type of Equipment	Filter Classification	Assigned Protection Factor APF's	Suitability	Examples
Disposable Respirators	FFP3	20	Normal bakery Operations	
Half Mask Respirators	P3	20	Normal cleaning and minor spillages	
Full Face Mask Respirators	P3	20	Normal cleaning and minor spillages	
Powered Air Flow Respirators with Hood or Visor	THP2 THP3	20 40	Dealing with spillages and blow outs. silo cleaning etc.	
Powered Respirators with Full Face Mask	TMP2 TMP3	20 40	Dealing with spillages and blow outs. silo cleaning etc.	

THE ABOVE TABLE SHOULD BE USED AS GUIDANCE ONLY

Assigned Protection Factor (APF): Is an indication of the proportion of air borne dust removed by the RPE to which it is assigned.

Example: FFP3 - disposable respirator with APF of 20 - used in an area with dust levels at 20 mg/m³ will reduce the concentration of dust inhaled to 1 mg. m⁻³ reduced by a factor of 20.

Guidance on Protection Factors: reputable suppliers should be able to provide advice on APF provided for each item in their catalogue.

Use of the above RPE should be face fit tested periodically to ensure RPE is working in line with manufacturers recommendations as specified in section 4 of the blue book.

REFERENCES

1. INDG 136 REV5 COSHH: Working with substances hazardous to health.
<http://www.hse.gov.uk/pubns/indg136.pdf>
2. HSG 97 A step by step guide to COSHH assessment
<http://www.hse.gov.uk/pubns/books/hsg97.htm>
3. Health and Safety Laboratory Report - Exposure to Flour Dust in UK bakeries and Current use of Control Measures (available on request from HSL)
4. Health and Safety Laboratory Report - Flour Dust Initiative Report on Bakeries in Scotland (available on request from HSL)
5. HSE Research Report RR460 – Trends in inhalation exposure mid 1980s till present
(www.hse.gov.uk/research/rrhtm/rr460.htm)
6. MDHS 82 The dust lamp: a simple tool for observing the presence of airborne particles <http://www.hse.gov.uk/pubns/mdhs/pdfs/mdhs82-2.pdf>
7. MDHS 14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust <http://www.hse.gov.uk/pubns/mdhs/pdfs/mdhs14-4.pdf>
8. Versions of current methods in the MDHS series can be downloaded from
<http://www.hse.gov.uk/pubns/mdhs/index.htm>
9. HSG 173 Monitoring strategies for toxic substances
<http://www.hse.gov.uk/pubns/books/hsg173.htm>
10. EH40/2005 Workplace exposure limits
<http://www.hse.gov.uk/pubns/books/eh40.htm>
11. HSG 258 Controlling airborne contaminants at work - A guide to local exhaust ventilation (LEV) <http://hse.gov.uk/pubns/books/hsg258.htm>
12. HSG 53 Respiratory protective equipment at work: A practical guide
<http://hse.gov.uk/pubns/books/hsg53.htm>
13. Respiratory Protective Equipment <http://www.hse.gov.uk/respiratory-protective-equipment/index.htm>
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15. A baker's dozen – Thirteen essentials for **health and safety** in bakeries
www.fob.uk.com

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