



ENZYME MANAGEMENT POLICY

McBride plc is committed to achieving long-term sustainability in line with our vision of becoming the most successful private label company in the world. We understand that in order to achieve our business goals we need to ensure the health and safety of our employees during production, and the consumer during use of the products we manufacture. The Group Health & Safety Policy describes how we manage this responsibility.

Laundry care and automatic dishwasher products are key components of our product portfolio and stain-digesting enzymes are an essential element of the majority of these products. Respiratory sensitisation is a well known and understood property of enzymes. The sensitisation hazard can be controlled by appropriate risk management measures in the work place and numerous studies have confirmed that there is little risk to consumers. This Enzyme Management Policy sits within the overall Health & Safety Policy to specifically address respiratory sensitisation.

McBride plc will strive to control exposure to enzymes in the workplace to levels such that sensitisation rates will be at or below the industry norm to ensure that symptoms of occupational asthma and rhinitis do not develop.

This will be achieved by following industry best practice in enzyme management which is described in the 'AISE Guide to Safe Handling of Enzymes'.

- Each functional head shall ensure that every site or central facility site handling enzymes adopts these guidelines and that local policies, procedures and handling practices are in place that meet or exceed the standards prescribed in the guidelines. The guidelines are summarised for executive use in the attached supporting document.
- Sites/facilities handling enzymes shall be audited periodically either on an internal basis or by independent specialist consultants.
- Prior to use, all new enzymes and all new uses will be subject to thorough safety assessment.
- Plant Managers shall be accountable for compliance and shall report on site compliance to the Executive Management Team.
- If employees are adversely affected from exposure to enzymes they will be treated with sensitivity and fairness.



RESPONSIBILITIES

The Chief Executive Officer is accountable for ensuring that the Group operates in accordance with this policy. Responsibility is delegated to the relevant member of the executive team for H&S practices and standards and for monitoring adherence to the safety management system, working in conjunction with relevant outside agencies such as consultants, insurers and national and local authorities. Each functional head will ensure that policy and procedures are developed for their function which implement the standards identified above.

Maintaining day-to-day compliance is the responsibility of plant managers, individual line managers and employees. It is the responsibility of every employee to

- take reasonable care of themselves and any others who may be affected by their acts or omission
- co-operate with line managers on H&S matters and to report any concerns
- take care not to recklessly interfere with or misuse anything provided in the interest of health, safety and welfare
- use enzymes and associated machinery, equipment and other safety devices in accordance with training and instructions
- report spills, accidents and near miss incidents to management.

REVIEW

This policy, along with other related policies, sits within the remit of group Business Sustainability Policy, all of which are published on the Company web site (www.mcbride.co.uk). Policies are reviewed annually by the Executive Management Team.

EXECUTIVE MANAGEMENT TEAM SIGNATURES

Chris Bull
Chief Executive Officer

Richard Armitage
Chief Finance Officer

Colin McIntyre
Chief Operating Officer

Malcolm Allan
Chief HR Officer

Greg Krol
Chief Commercial Officer

Tim Seaman
Strategic Development Director

Carole Barnet
Company Secretary

ENZYME MANAGEMENT POLICY – SUPPORT DOCUMENTATION

Introduction

Enzymes are important constituents of detergents. When first introduced into detergent washing powders in the mid-1960s, the potential for causing respiratory conditions, including asthma, was not recognised. Within a few years many workers had developed respiratory symptoms and a few cases in consumers were also reported. Recognition of these adverse effects led the detergent industry and enzyme manufacturers to take steps to reduce exposure. Major improvements were the reduction in dustiness of enzymes achieved by granulation, introduction of process and equipment control measures and safe-handling procedures to reduce exposure and monitoring to ensure compliance with safe exposure levels. Together these led to the virtual elimination of occupational respiratory disease due to detergent enzymes. Now, such effects are found only as a result of process or equipment controls or lack of compliance with recommended safe practice. There have been no reports of effects in consumers since the improvements in granulation were introduced.

AISE has produced a document which provides detailed guidance on procedures and equipment recommended to achieve safe handling of enzymes – AISE Guidelines for Safe Handling of Enzymes. They have been distributed to each enzyme-handling site.

It is McBride policy to comply with these guidelines. These notes constitute a brief management summary of the key elements so that appropriate questions can be asked when visiting enzyme-handling sites.

Management and Supervision

Each site handling enzymes must have a clear understanding of the risks, procedures in place to address those risks and suitable training for all individuals exposed. Measures required include;

- Risk assessments completed
- Risk management measures in place using the well accepted hierarchy;
 - Prevent exposure (e.g. by isolation or total enclosure)
 - Reduce exposure by engineering means
 - Partial enclosure and exhaust ventilation, local exhaust ventilation
 - Reduce exposure by use of safe procedures and working practices
 - Reduce exposure by personal protection if other approaches not feasible

Risks identified as high obviously require the greatest degree of control and immediate action. Risk management also involves ensuring that the controls put in place to manage the risk are effective. All potentially exposed employees, contractors and other visitors to the site should have training in the safe handling of enzymes and risks involved (including the difference between sensitisation and occupational asthma) so that the need for compliance with control measures is fully understood.

Key strategies to prevent the exposure to enzymes during manufacture are:

- **Use granulated/encapsulated enzyme for the manufacture of detergent powders or tablets – non-granulated dry enzyme must not be used.**
- use of plant and equipment designed to minimise damage to enzyme encapsulates
- containment of dust or liquid aerosols at source using closed process equipment maintained under negative pressure.
- avoidance of routine or uncontrolled spillages.

Tableting involves the application of force to the detergent powder and as a result encapsulated enzyme may be damaged so a higher degree of control may be needed for than for powdered products. Tablets should only be handled using fully enclosed and controlled systems until packed into sealed retail packs.

Reclaim of packed product is often a manual operation with the potential a close interface between operator, product and packaging. The whole reclaim process should be carried out within the containment of a booth controlled by ventilation.

Spillage of enzyme encapsulates and liquids, and spillage of enzymatic products, must be removed with the use of a vacuum cleaner fitted with HEPA filtration. **Brushes, brooms, high-pressure hoses and compressed air must not be used for cleaning spillages**, as these will generate significant airborne dust. Respiratory protection must be used for all cleaning operations as the risk of exposure is high.

Personal & Respiratory protection

Primary control of exposure during normal manufacturing operations should always be achieved by means other than the use of respiratory protection. In abnormal situations RPE may be required as primary protection e.g. major spillage of enzyme raw material or product or maintenance or repair of contaminated plant & equipment. The minimum standard RPE for enzyme handling is half face respirator with P3 filters for

airborne dust only and P3SL filters for airborne aerosol (liquid handling). If greater protection is required or if protection is needed for more than 15 minutes, then positive pressure respiratory protection should be used. **Disposable dust masks are not suitable RPE for work involving enzymes in encapsulate or liquid form.**

Assessment of Control Measures

Visual assessment is an effective and simple tool to help identify areas where containment has been lost and take corrective action. **No visible powder/liquid should be present outside of dust/aerosol control containment or enclosed spillage containment** and there should be no recurring spillage outside of dust/aerosol control and spillage containment.

Air Monitoring

Area sampling is essential to evaluate the effectiveness of plant control measures and trends in performance. General airborne levels are measured at fixed points and personal sampling measures the exposure of individuals throughout the working day or performing specific tasks. Qualified health and safety professionals should oversee the air-monitoring program and establish the sampling plan (e.g. sampling frequency, location and sampling time), selection of air monitoring equipment, data evaluation, assessment of the adequacy of control measures and training of individuals collecting the samples.

Measured levels are compared to exposure limits agreed by the detergent industry (these are lower than the legal limit as they reflect knowledge specific to this industry). The agreed industry limits are 15ng/m³ for proteases and 5 ng/m³ for other enzymes. Where airborne levels exceed these limits, immediate action must be taken. Controls should be sufficient to ensure that during normal operation, exposure is maintained at below half of the above limit values.

Health Surveillance

Health surveillance is essential to monitor the immunological and health status of employees. Pre-employment screening in enzyme handling facilities must ensure that the health of those with active chronic respiratory conditions is not further compromised by exposure to enzymes. During the first 24 months of employment, individuals should have six-monthly health surveillance and thereafter every 12 months. The review should include a Respiratory Questionnaire, spirometry and either skin prick testing or blood analysis. It is not necessary to remove sensitised individuals from handling enzymes but they must be monitored with greater frequency. However individuals showing symptoms need to be moved, at the discretion of the occupational physician, so that further exposure does not occur. Employees must be given the results of their own immunological tests.

Follow-up procedures

Where deviations from acceptable control is indicated by the results of the assessment of equipment performance, behaviour observations, peak exposure detection, air monitoring or health surveillance, then an integrated approach is required to investigate causes of deviations and identify appropriate corrective action (multicausal analysis and vulnerable person assessments for new sensitisations must be undertaken).

Analytical Procedures

The capability to analyse for the presence of enzymes is a major aid to process control. Where there are no on-site facilities for analysis, arrangements must be made with another site or facility for quick and accurate analysis and reporting of results to allow remedial action to be taken when necessary.

Auditing

To ensure the effectiveness of the enzyme programme, regular audits (internal and external) of the operation systems and equipment are necessary.

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