



# Grain protectant

Guidebook



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## Introduction

K-Obiol™ is a modern liquid pyrethroid formulation containing deltamethrin, synergised with piperonyl butoxide for the control of a wide variety of stored product insects known to infest grain and pulses. This pyrethroid formulation is an ideal alternative to organo-phosphate formulations. Available in two formulations a single admixture treatment can provide protection for up to 12 months.

With unrivalled efficacy against the most common insect pests K-Obiol™ is the product of choice for the treatment of grain storage facilities and as an admixture for longer term grain storage.

Used as part of an Integrated Pest Management (IPM) approach K-Obiol™ will provide the highest level of protection for your valuable stored crops.

## Why Envu has produced this guide

Farm assurance schemes require farmers and growers to plan and record their grain storage strategy and activity.

*This guide book will help you to:*

- Understand the insect problem
- Develop and plan an integrated pest management approach
- Select the correct K-Obiol™ formulation
- Correctly use and apply K-Obiol™

## Grain storage challenges

Grain is a living organism, which cannot be kept for a long time without changing. It is always at risk of deterioration and must be managed to maintain its intrinsic qualities for as long as possible.

*Three factors influence the quality of the grain:*

- Temperature
- Moisture content (MC)
- Storage period

These factors influence the germinating capacity of the grain. Thus when moisture content and temperature are favourable the metabolism of the grain accelerates and it germinates.

The development of micro-organisms and insects which are always present to a greater or lesser extent on the grain or in storage areas are also affected by these factors. The greater the quantity of grain, the greater is the risk of infestation. The conditions required for proper preservation of the grain therefore varies according to the quantity involved.

In the case of flat or floor storage, where the surface in contact with the air is large, the grain is more vulnerable to changes in the ambient humidity than is the case in vertical stores. This in turn may make it more vulnerable to deterioration.

It is estimated that over 90% of farm grain stores harbour at least one species of insect known to infest grain. The number of growers who use an insecticide to treat either the fabric of the building or the grain directly is estimated to be around 40%. When grain prices are high and with the possibility of growers choosing to store their grain for longer a planned approach to good grain storage is essential.

## The insect problem

Stored product insects may be differentiated from each other by their diet, the environment or the duration of the succession of populations during storage.

The infestation of grain is characterised by a succession of insect species, which may be divided into three classes:

### Class 1. Primary insect pests

Primary insect pests are capable of infesting whole grain rendering it suitable for the infestation by other insect species. They damage and contaminate grain but are not found in crops in the fields. The primary pests damage grain and raise temperature and moisture levels which will create suitable conditions for secondary pests and fungi. Typically, the source of insects infesting a newly stored commodity is from populations already infesting some previously stored material.



Grain weevil



Saw-toothed grain beetle



Red rust grain beetle



Lesser grain borer



Rust-red flour beetle



Rice and maize weevil

### Class 2. Secondary storage insects

Secondary storage insects such as australian spider beetles, booklice and fungus beetles will sometimes invade from nearby habitats such as haystacks.

The secondary pests develop on grain that has been already damaged by physical or biological action e.g broken or mouldy grain or previously infested by primary insects.



Fungus beetle



Australian spider beetle



Booklice

### Class 3. Mites

Mites are much smaller than the insect pests (typically less than 0.5mm long) and are a serious pest of stored cereals and oilseed rape causing direct damage and taint. In large numbers they can cause an allergic response in humans and livestock.



Mite



## The basics of IPM

Integrated Pest Management (IPM) is a program of prevention, monitoring, and control strategies to limit the pest damage by the most economical means possible and with the least environmental impact which could lead to a reduction in chemical pesticides used.

## Prevention

### Maintenance

- The building has to be free from last year's grain and debris.
- Buildings must be made weatherproof. All roof leaks, broken sheeting, guttering should be repaired.
- Cracks, crevices and damage to the building structure should be repaired.



## General store hygiene

- All grain store walls, floors and horizontal surfaces of any storage, holding or reception facility must be cleaned and where appropriate washed.
- Where livestock buildings are intended for use as grain storage or temporary holding facilities at least 5 weeks prior to storage they must be thoroughly cleaned, power washed and sanitised with a combined detergent/approved disinfectant.
- Ensure that the building is vermin proof, sealing up holes, repairing doors and brick works.

## Chemical treatment

- The fabric of the building should be treated if there is a history of insect infestation or if a risk assessment indicates the need.

## Monitoring

*There are three things that should be monitored weekly during storage:*

- 1 Insect activity using pit fall traps or bait bags (not containing nuts).
- 2 Grain temperature.
- 3 Grain moisture – the optimum moisture levels for long term storage of cereals are below 14.5% and 7-8% for oilseed rape.

Where infestations of insects or mites are detected early, due to the monitoring put in place, it is sometimes possible to control the problem by using a combination of techniques such as cooling, cleaning or drying.

## Control

However, in some situations apart from the physical techniques put in place, it may be necessary to consider the use of admixed insecticides (such as K-Obiol™) or fumigation where appropriate.

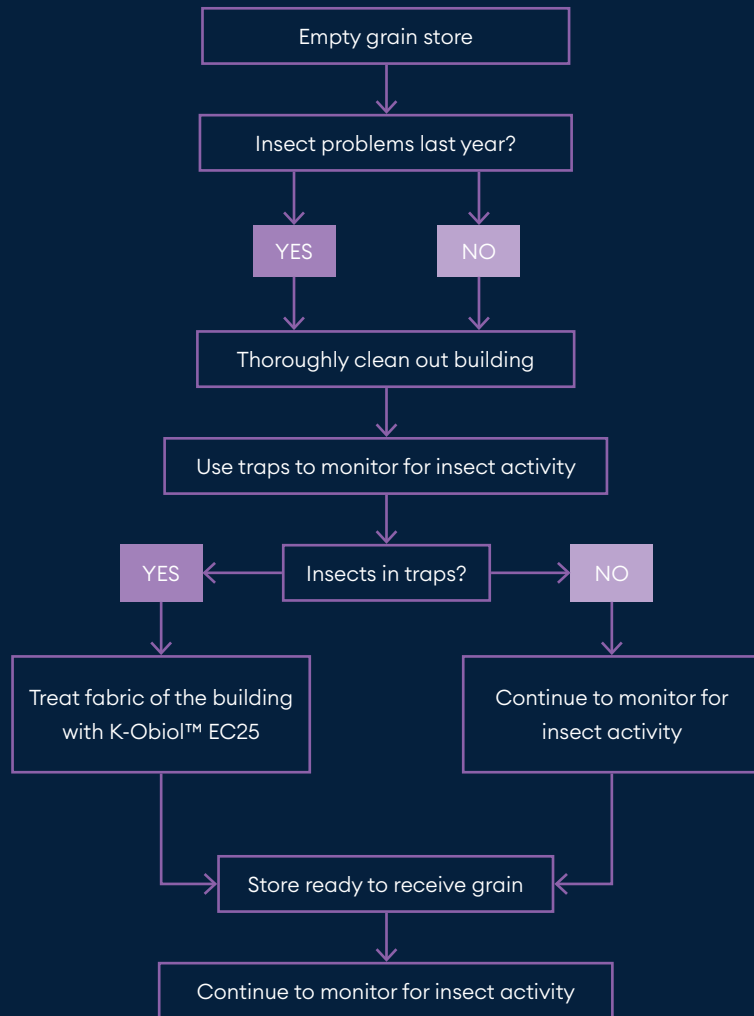
Biological controls which involve the use of predatory insect species are not used in stored combinable crops because there is a zero tolerance of any insects found in a grain sample dictated by end use markets.



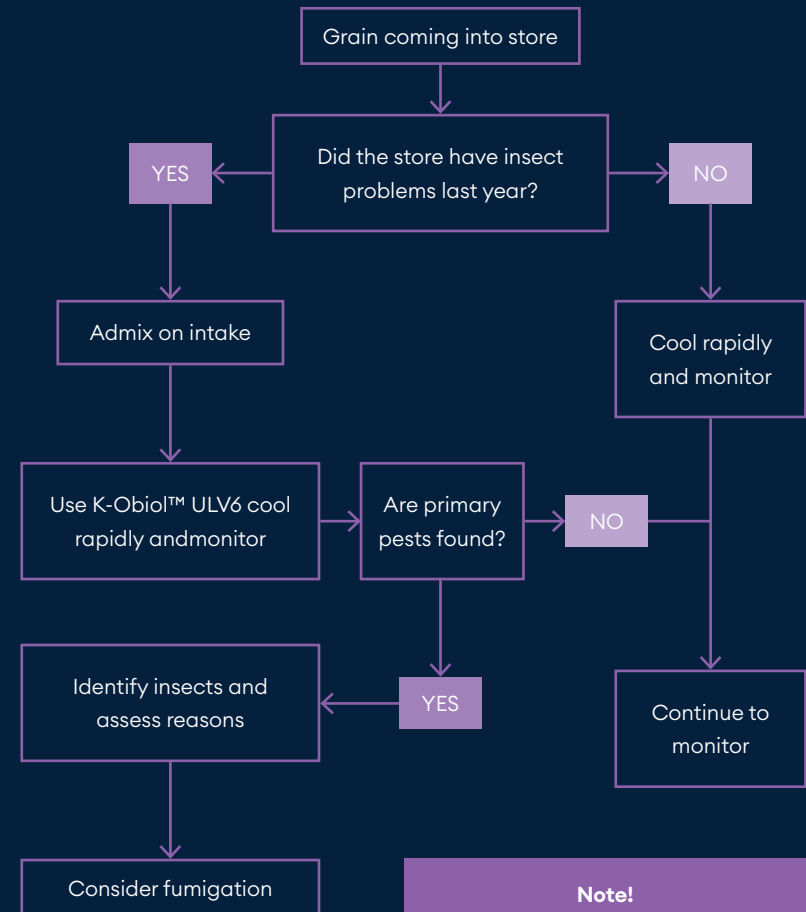
Monitoring insect activity using pit fall traps or bait bags

# Decision trees

## PRE-HARVEST



## GRAIN STORAGE



**Note!**  
The end market and intended use of the grain may determine which products may be used. Please check before use.

## Pre-harvest store preparation

Empty grain stores can harbour many insects, ready and waiting to infest incoming grain. Action should be taken well before grain intake to ensure an insect-free environment. Cleaning alone will not guarantee eliminating risks of all pests in empty stores, nor will solely using a pesticide treatment. This is why an IPM strategy is a must!

### Equipment maintenance

- Clean, check and service key equipment.
- Review electrical and mechanical safety.

### Repair structural problems

- Repair any leaks in the roof or broken gutters.
- Look for structural defects in walls or evidence of groundwater ingress.
- Eliminate dead spaces that trap residues or cause problems with cleaning.
- Proof against rodent and bird entry. Stores should be monitored for signs of rodents. Care must be taken that non-target animals cannot access rodenticides by following the CRRU (Campaign for Responsible Rodenticides Use) code (see page 22).
- Use shatterproof covers on lights to avoid any glass contamination on the intake.

### Store hygiene

- Use an industrial vacuum cleaner. Remove rubbish (including vacuum cleaner contents) immediately after cleaning.
- Dispose of rubbish well away from store.
- Consider cleaning grain to reduce pest risk.
- Make final inspection for waste residues.
- Store all feedstuffs and similar commodities away from the main store.

### Monitoring & treatment

- Monitor store for insects by placing insect traps in corners and at wall/floor junctions at 4-5m intervals and check them regularly. If live insects are found or if there is a history of insect infestation treat the structure of the building with K-Obiol™ EC25 and protect incoming grain. No grain should be stored until the surfaces treated are completely dry.

## Fabric of the building treatment using K-Obiol™ EC25

K-Obiol™ EC25 should be applied by using spraying equipment that allows you to treat the structure of the building up to 15 metres in height to the point of run off and with a reasonable pressure such that it will disturb and penetrate dust lying on beams and roof spaces. These areas can frequently be a place of insect harborage.

### Application rates

Treatment	Application Rate	Period of protection
<b>Fabric of the building</b>		
Porous (absorbent) (EC only) to treat 100m <sup>2</sup>	40-60ml diluted in 10L of water	Up to 2 months
Non-porous (non-absorbent) (EC only) to treat 100m <sup>2</sup>	40-60ml diluted in 5L of water	Up to 2 months

### Personal Protective Equipment (PPE)

When K-Obiol™ EC25 is used as a surface treatment spray gloves, rubber boots, face protection (faceshield) and suitable respiratory protective equipment (disposable filtering face piece respirator) should be worn unless a Control Of Substances Hazardous to Health (COSHH) assessment shows that engineering controls may replace the recommended PPE. Use plant protection products safely, always read labels and product information before use.

#### Note

- Ensure that properly trained staff or contractors (PA1, PA6 certified) apply treatments to clean, empty stores.
- Use only pesticides registered for use in empty grain stores, and approved by your end customers.

## Insecticide treatments approved for use on grain and in grain stores

The production of food, from growing the crop through harvest and processing, requires considerable human and financial resources. In the case of post-harvest some of these investments are lost.

Insecticides which are applied directly to the grain as it enters the store are known as admixtures. In storage or transit sites, the choice of an effective insecticide which guarantees the lowest level of residue is crucial.

Those responsible for the preservation of cereals will choose a high performance product, which also ensures the minimal hazard for users and consumers.

The K-Obiol™ range is unique in that there are two formulations available which both provide preventative and curative protection against stored product insects. Both formulations can be used as admixture treatments, post-harvest and will offer up to 12 months protection. A significant advantage of K-Obiol™ is that when either of its formulations are applied at their recommended rate, the residue level is only 0.25mg/kg – this is 8 times lower than the Maximum Residue Limit (MRL) for grain. K-Obiol™ also offers no withholding period meaning that any grain treated by K-Obiol™ can be processed straight away.

K-Obiol™ EC25 has been formulated to treat the fabric of grain silos and storage facilities prior to the introduction of grain. This fabric treatment provides up to 2 months protection.

K-Obiol™ is accepted for use by the Brewing Research International (BRI), the National Association of British and Irish Millers (NABIM) and the Trade Assurance Scheme for Combinable Crops (TASCC).

### Pyrethroid formulation

*Both formulations contain deltamethrin which acts by contact and ingestion, at the level of the nervous system and on the membrane of nerve cells, specifically the sodium channel, where it modifies or blocks the transmission of nerve impulses. The rapid penetration of deltamethrin associated with its mode of action on the nervous system results in rapid paralysis of the insect resulting in knockdown.*

## Procedure for calibrating spraying equipment

### Calculate the grain flow rate:

- 1 Weigh a quantity of grain to be treated in tonnes
- 2 Activate conveyor
- 3 Add the grain and time flow
- 4 Calculate tonnes per minute of flow
- 5 Choose dose rate from the label (lL of product)
- 6 Choose water volume from the label (99L of water)
- 7 Calculate dose rate per tonne of grain (lL of product in 99L of water to treat 100 tonnes of grain)
- 8 Note tonnage of grain to be treated
- 9 Calculate water and insecticide required for tonnage to be treated
- 10 Select running time – Tonnage x Flow rate (tonnage/min)
- 11 Determine required output of nozzles (flow rate/min)
- 12 Check output of nozzles (collect the nozzles flow over a min and measure the output)
- 13 Adjust pressure/flow control or change nozzles if the nozzle output is not accurate
- 14 Carry out a 'dummy run' on a known quantity of material to check accuracy of application
- 15 Add the insecticide and water required to the tank
- 16 Activate equipment for the running time previously determined



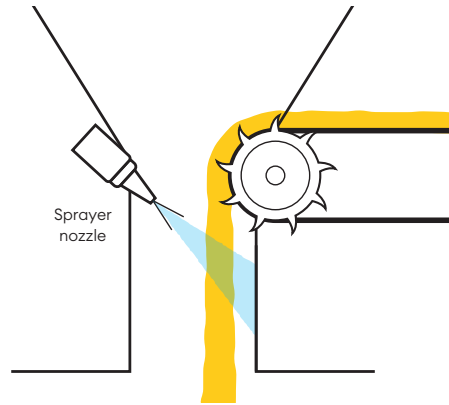


## Applying K-Obiol™ EC25

### Emulsifiable Concentrates (K-Obiol™ EC25) – Water required

K-Obiol™ EC25 is an emulsifiable concentrate for dilution in water in the reservoir of the sprayer before application to the grain by means of semi-automatic or manual pumps.

K-Obiol™ EC25 can be used for both fabric of the building treatment and as an admixture for application directly onto the grain. This formulation contains 25g/litre of deltamethrin synergised with 225g/litre of piperonyl butoxide.



The above diagram is for guidance only

### Application rates

Treatment	K-Obiol™ EC25	Period of protection
<b>Admixture</b> per 100 tonnes of grain	1L diluted in 99L water e.g. 10ml/tonne	Up to 12 months from 1 application
<b>Fabric of the building</b> Porous (absorbent) (EC only) to treat 100m <sup>2</sup>	40-60ml diluted in 10L of water	Up to 2 months
Non-porous (non-absorbent) (EC only) to treat 100m <sup>2</sup>	40-60ml diluted in 5L of water	Up to 2 months

### How to apply it

- Single nozzles are employed for the application of K-Obiol™ EC25. The K-Obiol™ is propelled to the nozzle by means of a pump. The reservoir – pump unit may be located for easy access some way from the nozzle, or, in certain cases directly on the combine harvester for immediate treatment when the grain hopper is emptied. The nozzle can generate droplets between 150 - 300 micron in diameter, depending on the choice of nozzle.
- A fine medium spray would be recommended for the application of K-Obiol™.
- When choosing a nozzle it is worth considering choosing a low drift nozzle to avoid any unnecessary drift.
- The placement of the nozzle is vital in order to ensure efficient application and optimal effectiveness of the treatment which should be determined during the calibration process (see diagram on P14).
- The nozzle should be positioned at the foot of the elevator, on a conveyor belt or where the grain falls.
- The control cabinet, the pumps and automated devices are arranged at another location easily accessible for filling with K-Obiol™, or directly on the equipment for a mobile treatment station. An anti-drip facility and stop valve make it easier to handle the insecticide.
- The treatment must always be performed in compliance with local legislative requirements for the application of insecticides.



Photo courtesy of:  
Alpha Fumigation Services Ltd.

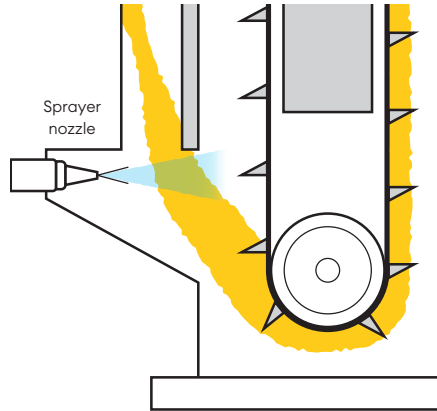


## Applying K-Obiol™ ULV6

### Ready to use Ultra Low Volume (K-Obiol™ ULV6) – No water required

K-Obiol™ ULV 6 is a ready to use formulation applied directly to the grain by means of automatic or semi-automatic pumps, according to the type of installation and size of the storage facility. Operators are not required to dilute the product or be exposed to it directly.

The pack connects directly to the application equipment so there is no measuring or pouring required. The system reduces the risk of application errors, has no concentrate to expose to operators and allows consistent load rates to be maintained.



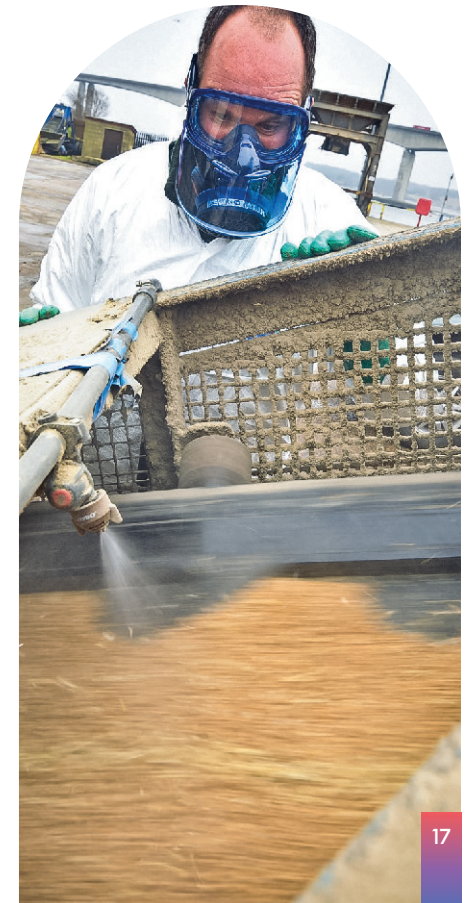
The above diagram is for guidance only

### Application rates

Treatment	K-Obiol™ ULV6	Period of protection
Admixture per 100 tonnes of grain	4.2L undiluted. Ready to use e.g. 42ml/tonne	Up to 12 months from 1 application

### How to apply it

- A twin fluid nozzle is employed involving two fluid inputs: one for the K-Obiol™ solution, the other for compressed air.
- The K-Obiol™ is propelled from the reservoir to the nozzle by means of a pump. The compressed air ensures the disintegration of the K-Obiol™ into very fine droplets, 20 microns in diameter.
- This enables the number of droplets to be multiplied by 10, relative to classical mechanical/hydraulic spraying. In addition, when applied to falling grain the most uniform treatment is achieved.
- The placement of the nozzle is vital in order to ensure efficient application and optimal effectiveness of the treatment (see diagram on Page 16).
- The nozzle should be positioned on the elevator – at the bottom or the top of the elevator according to the installation as the grain falls.
- Alternatively, the nozzle can be positioned on the conveyor belt – at the end of the belt, as the grain falls, avoiding contact with conveyor belt. The conveyor belt can be treated with grease-resistant material in order to prevent corrosion of the belt.
- The control cabinet, pumps and automated devices are arranged at an independent location, easily accessible for filling reservoirs or changing drums of K-Obiol™ ULV6.
- This location must comply with local legislative requirements with regard to the storage and use of insecticide products. Periodic inspection and maintenance of the equipment ensures efficient application and optimal protection of the stored grain.
- K-Obiol™ ULV6 can only be used as an admixture treatment.



## Application of insecticides and COSHH regulations

### An insecticide formulation needs to achieve the following:

- Be effective
- Safe to the operator
- Safe for the environment
- Cost effective
- Adequately packed and recyclable material

Formulation	K-Obiol™
Application	Mixed as per label. Applied with a knapsack sprayer for fabric of building. As admix applied via a fixed nozzle at appropriate point on auger or conveyor belt. (K-Obiol™ ULV applied via pump system on elevator)
Operator hazard	Moderate hazard. PPE equipment must be worn including gloves, rubber boots, eye protection,
Other hazards	Avoid extreme temperature and direct sunlight. Harmful if swallowed and very toxic to aquatic organisms.

Under the Control Of Substances Hazardous to Health (COSHH) regulations, before a pesticide is used an employer or self-employed person must carry out a suitable and sufficient assessment of the likely risks to health. The purpose of a COSHH assessment is to minimise the risk associated with substances that are hazardous to the health of employees. COSHH is essential to ensure that all necessary precautions have been taken before, during and after a pesticide treatment. Accurate records should show the name of the product being used including MAPP & PCS (being replaced by BPR & IE/BPA) numbers, the risk to health that may result from the product being used, the steps taken to prevent exposure. Other information should show the measures that are used to maintain and control exposure, health surveillance of operators and training and instruction given to those using the products.

### Training and certification

The user of any pesticide should always seek advice on selecting and using the appropriate product from a qualified BASIS advisor. Before using application equipment a user should ensure they are trained and hold the necessary certificates. Operators who are applying pesticides should have PA1 and PA6 certifications for a knapsack sprayer and PA1 and PA12 certifications for a continuous process application such as a conveyor or auger.

### Pesticide treatment records

The information that should be recorded when a pesticide has been used is the date of application, the type of product used, reason for the application, the dose rate and water volume and the name and address of the operator. These records should then be kept for 3 years.

### Packaging disposal

The used K-Obiol™ packaging should never be reused for any other purpose and should always be disposed of in line with current guidelines. Before disposing of a used container it should be empty and then it should be triple rinsed and fully drained. Containers should not be punctured or crushed due to the potential contamination. Labels should not be removed and all waste should be removed from the site by a licensed waste disposal contractor. No empty containers should be stored on the site for longer than 12 months.

### Poor application

The main problem with a poor application or treatment is lack of efficacy. The insects that are present at the time of application are not controlled and the insects are likely to build up resistance to that particular product. This is costly and time consuming. Poor control will lead to re-infestation of stored products the result being a reduction in quality of the stored grain, which will affect the end market value.



## Example of COSHH form

<b>COSHH Risk Assessment</b> <b>Product Name:</b> <b>K Obiol EC25</b>											
Company name:											
Describe the activity or work process. <i>(Inc. how long/ how often this is carried out and quantity substance used)</i>	Insecticide application to grain on moving conveyor belt.										
Location of process being carried out?											
Identify the persons at risk:	Employees <input type="checkbox"/>	Sub-contractors <input type="checkbox"/>	Public <input type="checkbox"/>								
Name the substance involved in the process and its manufacturer. <i>(A copy of a current safety data sheet is attached to this assessment)</i>	K Obiol EC25 2.5% w/w deltamethrin and 22.5% w/w piperonyl butoxide.  Emergency number: 0800 220876 (24h) or nearest National Poisons Information Centre										
<b>Classification (Hazard warning symbol)</b> <table style="width: 100%; border: none;"> <tr> <td> <input type="checkbox"/> Toxic</td> <td> <input checked="" type="checkbox"/> Irritant</td> </tr> <tr> <td> <input type="checkbox"/> Oxidising</td> <td> <input type="checkbox"/> Flammable</td> </tr> <tr> <td> <input type="checkbox"/> Corrosive</td> <td> <input checked="" type="checkbox"/> Environmental -aquatic organisms</td> </tr> <tr> <td> <input checked="" type="checkbox"/> Harmful-lung damage if swallowed</td> <td></td> </tr> </table>				<input type="checkbox"/> Toxic	<input checked="" type="checkbox"/> Irritant	<input type="checkbox"/> Oxidising	<input type="checkbox"/> Flammable	<input type="checkbox"/> Corrosive	<input checked="" type="checkbox"/> Environmental -aquatic organisms	<input checked="" type="checkbox"/> Harmful-lung damage if swallowed	
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<input checked="" type="checkbox"/> Harmful-lung damage if swallowed											
<b>Hazard Type</b> <input type="checkbox"/> Gas <input type="checkbox"/> Vapour <input checked="" type="checkbox"/> Mist <input type="checkbox"/> Fume <input type="checkbox"/> Dust <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Other (State)											
<b>Route of Exposure</b> <input checked="" type="checkbox"/> Inhalation <input checked="" type="checkbox"/> Skin <input checked="" type="checkbox"/> Eyes <input checked="" type="checkbox"/> Ingestion <input type="checkbox"/> Other (State)											
<b>Workplace Exposure Limits (WELs)</b> <i>please indicate n/a where not applicable</i> n/a											
<b>State the Risks to Health from Identified Hazards</b>  EC Classification: R10-Flammable R20/22 Harmful by inhalation and if swallowed. R23/25 Toxic by inhalation and if swallowed. R37 Irritating to respiratory system. R41-Risk of serious damage to eyes. R50/ 53-Very toxic to aquatic organisms. R65 Harmful may cause lung damage if swallowed. R66 Repeated exposure may cause skin dryness or cracking.											

<b>Control Measures:</b> <b>General Precautions:</b> Keep locked away from the public, keep container closed and dry. Keep away from food, drink and animal feedstuffs. Do not eat, drink or smoke when using the product.  Handle with care at all times, prevent spillages and have spill kit available. Avoid prolonged or repeated contact with skin and avoid inhalation of mist. All operators handling product to have relevant training and relevant PPE to be worn. Consult Product Label for instructions of use. Is health surveillance or monitoring required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																			
<b>Personal Protective Equipment (state type and standard)</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"> <input type="checkbox"/> Dust mask</td> <td style="width: 25%;"></td> <td style="width: 25%;"> <input checked="" type="checkbox"/> Visor</td> <td style="width: 25%;">Chemical resistant</td> </tr> <tr> <td> <input checked="" type="checkbox"/> Respirator</td> <td>Conforming EN140 type filter</td> <td> <input checked="" type="checkbox"/> Goggles</td> <td>Conforming EN166</td> </tr> <tr> <td> <input checked="" type="checkbox"/> Gloves</td> <td>Chemical resistant gloves or gauntlets, PVC or rubber nitrile CE marked (0.4 mm thickness)</td> <td> <input checked="" type="checkbox"/> Overalls</td> <td>Type 6 suit protection</td> </tr> <tr> <td> <input checked="" type="checkbox"/> Footwear</td> <td></td> <td> <input type="checkbox"/> Other</td> <td></td> </tr> </table>				<input type="checkbox"/> Dust mask		<input checked="" type="checkbox"/> Visor	Chemical resistant	<input checked="" type="checkbox"/> Respirator	Conforming EN140 type filter	<input checked="" type="checkbox"/> Goggles	Conforming EN166	<input checked="" type="checkbox"/> Gloves	Chemical resistant gloves or gauntlets, PVC or rubber nitrile CE marked (0.4 mm thickness)	<input checked="" type="checkbox"/> Overalls	Type 6 suit protection	<input checked="" type="checkbox"/> Footwear		<input type="checkbox"/> Other	
<input type="checkbox"/> Dust mask		<input checked="" type="checkbox"/> Visor	Chemical resistant																
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<input checked="" type="checkbox"/> Footwear		<input type="checkbox"/> Other																	
<b>First Aid Measures</b> <b>Ingestion:</b> Do not induce vomiting, wash out mouth with water, keep at rest and consult physician. <b>Skin Contact:</b> Remove all contaminated clothing, wash with soap and water, and apply Vitamin E cream. <b>Eye Contact:</b> Rinse with plenty of clean water, seek medical attention. <b>Inhalation:</b> Move victim to fresh air and keep at rest and call a doctor. <b>Other:</b>																			
<b>Storage</b> Storage: Dry ventilated container under lock and key. Follow regulations for the handling of insecticides.																			
<b>Disposal of Substances &amp; Contaminated Containers</b>  <b>Hazardous Waste</b> <input type="checkbox"/> Skip <input type="checkbox"/> Return to Depot <input type="checkbox"/> Return to Supplier <input type="checkbox"/> Other <input type="checkbox"/> Empty containers to be rinsed 3 times before recycling. Waste Key 020108 (If Other Please State):																			
Is exposure adequately controlled?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																	
<b>Risk Rating Following Control Measures</b> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input checked="" type="checkbox"/>																			
Assessed by:		Date:	Review Date:																

This is an example of a COSHH assessment, each COSHH assessment should be site specific.



## Rodent control

Rodent proofing and control form a very important part of the IPM plan for grain stores.

Farm assurance schemes require farmers to demonstrate that they have effective rodent control programs in place. There is a need to record bait use, placement and take-up and to ensure that all control work is being undertaken in line with good practice, legal and product label requirements.

Wherever possible preventing rodent infestation is preferable to control. Good hygiene and regular monitoring for activity are important. The removal of undergrowth, harbourage, water and potential nesting sites will make the environment unattractive to rodents.

Where possible the removal of food sources and spills will reduce the likelihood of infestations. Machinery such as combine harvesters which are stored over winter should be cleaned out of grain.

***Proofing a building against rodents is not always easy but simple steps can be taken to reduce the risk:***

- Seal and fill any gaps in masonry or around doors and windows
- Fit rodent proof doors
- Build in rainwater pipes to prevent access
- Cover grain pits and empty of any spills
- Keep the perimeter of buildings clear and free from rubbish

### The CRRU (Campaign for Responsible Rodenticides Use) code

- Always have a planned approach
- Always record quantity of bait & where it is placed
- Always use enough baiting points
- Always collect and dispose of rodent bodies
- Never leave bait exposed to non-target animals and birds
- Never fail to inspect bait regularly
- Never leave bait down at the end of the treatment



Where rodenticides are used as part of the IPM plan it is important to select the correct formulation. Further advice on the correct choice of formulations is available in our Rodilon® User Guide and Record Book.

Rodenticides are toxic and misuse poses a risk to non-target species such as other mammals and birds. Ensure rodenticides are used safely and correctly. The label information should always be followed.



Please use rodenticides responsibly, minimising the risk of exposure to people, pets and non-target species. For practical guidance, just follow the CRRU code.

[www.thinkwildlife.org.uk](http://www.thinkwildlife.org.uk)







## GRAIN PROTECTANT GUIDEBOOK

K-Obiol™ EC25 (MAPP 13573; PCS 03641) Contains 25 g/l Deltamethrin, 225 g/l Piperonyl butoxide and solvent naphtha. K-Obiol™ ULV6 (MAPP 13572; PCS 03642) contains deltamethrin 6g/L and piperonyl butoxide 54g/L. USE PLANT PROTECTION PRODUCTS SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE. PAY ATTENTION TO THE RISK INDICATIONS AND FOLLOW THE SAFETY PRECAUTIONS ON THE LABEL. Accepted for use by BRI, NABIM and TASCC. K-Obiol™ is a registered trade mark of Envu™. © Copyright of Envu™ 2022.

