



PRO-LONG

MAPP 14152

**A liquid sprout inhibitor for use on stored potatoes
Contains 500 g/l (52.0 % w/w) of chlorpropham (CIPC) in methanol.**

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

COMPLIANCE WITH THE FOLLOWING CONDITIONS OF USE AND ALL SAFETY PRECAUTIONS MARKED* IS A LEGAL REQUIREMENT

FOR USE ONLY AS A PLANT GROWTH REGULATOR IN FOOD STORAGE PRACTICE

Crop: Ware potatoes

Maximum total dose: 127.5 ml of product (63.75g CIPC) per tonne of potatoes

Maximum individual dose: 42 ml product (21g CIPC) per tonne of potatoes

Latest time of application: 2 days before removal from store for sale or processing.

Note that if the total dose applied (from any combination of products containing chlorpropham) is greater than 36 g chlorpropham/tonne, then the treated potatoes must only be used for commercial processing.

READ ALL OTHER SAFETY PRECAUTIONS AND DIRECTIONS BEFORE USE

PRO-LONG contains 52% w/w chlorpropham and methanol



TOXIC

Toxic: danger of very serious irreversible effects through inhalation and in contact with the skin.

Toxic by inhalation, in contact with skin and if swallowed.

Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment. Irritating to eyes.

Keep locked up and out of the reach of children.

Wear suitable protective clothing and gloves.

† Keep away from sources of ignition - No smoking.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment. Refer to special instructions/safety data sheet.

In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).



HIGHLY FLAMMABLE



DANGEROUS FOR THE ENVIRONMENT

To avoid risks to man and the environment, comply with the instructions for use.

SAFETY PRECAUTIONS

Operator Protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment.

***WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS AND APRON), SUITABLE PROTECTIVE GLOVES, RUBBER BOOTS, FACE PROTECTION (FACESHIELD) AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT (half mask to at least EN140 with a combination filter to at least EN 141 - A1P2 or equivalent) when handling the concentrate.**

***WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS, HOOD), RUBBER BOOTS, EYE PROTECTION (GOGGLES) AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT** when re-entering the store within 24 hours of treatment **WEAR SUITABLE PROTECTIVE GLOVES** when handling contaminated surfaces.

However engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

DO NOT BREATHE FOG.

WASH CONCENTRATE from skin or eyes immediately.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH HANDS AND EXPOSED SKIN before meals and after work.

APPLY ONLY BY REMOTE FOGGING EQUIPMENT SITUATED OUTSIDE THE STORE

***DO NOT ENTER** treated areas for at least 24 hours after treatment (unless appropriate personal protective equipment is worn - see above).

Consumer Protection

***DO NOT REMOVE POTATOES FOR SALE OR PROCESSING FOR AT LEAST 2 DAYS AFTER APPLICATION.**

Environmental Protection

*** DO NOT CONTAMINATE WATER WITH THE PRODUCT OR ITS CONTAINER** Do not clean application equipment near surface water. Avoid contamination via drains from yards and roads.

Storage and disposal

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

WASH OUT CONTAINER THOROUGHLY and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

PROTECT FROM FROST

BATCH No.:

† Except as directed under Method of Application (see back label).

Approval holder

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DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

RESTRICTIONS

Whilst PRO-LONG must be used within the rates specified above [in the 'Compliance' area], note that if the total dose applied (from any combination of products containing chlorpropham) is greater than 36 g chlorpropham/tonne, then the treated potatoes must only be used for commercial processing.

PRO-LONG must not be used on potatoes required for seed.

The maximum permitted residue level (MRL) for chlorpropham in potato tubers is 10ppm.

STORE DESIGN

Seek professional advice on store design before using for potato storage. Current guidance from the Potato Council is included in the **Company Advisory Information** section of this label. Potatoes cannot be successfully treated without proper under-floor forced draught or ducted ventilation. This will ensure good air flow and avoid condensation build up during the storage.

CROP CONDITION

- Potatoes intended for treatment with PRO-LONG must be:
 - Clean, dry and free from soil/debris, as excess soil will cause uneven treatment.
 - Free from significant disease problems.
 - Do not apply PRO-LONG until the potatoes to be treated have cured.
 - After loading the store, blow air through the potatoes to avoid surface moisture occurrence. After curing, the store should be maintained at normal storage temperature.
- Potatoes should be stored at temperatures related to the end use, either fresh or processing. The processor/packer can give instructions on what temperature will be required.
- Potatoes should be inspected daily to check curing and for the onset of sprouting.
 - PRO-LONG may be less effective if potatoes are stored above 10°C. If stored at around this temperature check regularly for sprouting.

TIMING

PRO-LONG should only be applied when the potatoes are dry and are correctly cured, this is generally 10 to 14 days after loading. The first treatment should be made directly after curing and before any sprouting is visible. The first application is critical. Repeat applications may be necessary and regular inspection for the onset of sprouting should be made to ensure timely application.

Do not sell treated potatoes for consumption or processing for at least 2 days after the final application.

CIRCULATION AND VENTILATION

Potatoes cannot be treated successfully in a store without proper under-floor or ducted forced draught circulation. Re-circulation of the air within the store after treatment will assist successful activity of the PRO-LONG.

It is important that the fog has cleared and the CIPC has fully settled before the store is ventilated with outside air.

For advice on post-treatment store ventilation to help keep sugar levels down, refer to the 'Company Advisory Information' section of this label.

RATE OF APPLICATION

Application rates between 16ml product (8g CIPC) and 42ml product (21g CIPC) per tonne of potatoes are recommended.

A maximum total application rate of 127.5ml (63.75g CIPC) per tonne potatoes applies to longer term storage of crops destined for processing (see 'Longer Term Storage' below). All other ware crops are subject to a maximum total application rate of 72ml (36g CIPC) per tonne of potatoes (see 'Shorter Term Storage' below).

Longer Term Storage

For potatoes stored in bulk or in boxes where storage beyond February is envisaged, PRO-LONG should be applied at the rate of 28.5ml (14.25g CIPC) to 42ml (21g CIPC) per tonne of potatoes. Repeat applications may be necessary, and regular inspection of the potato eyes should be made to determine the best timing and programme. An example of a long term storage programme is as follows.

Four treatments of 28.5ml (14.25g CIPC) or one treatment of 42ml (21g CIPC) plus up to three treatments of 28.5ml (14.25g CIPC) per tonne can be applied.

For initial applications where sprouting has occurred a dose of 42ml (21g CIPC) per tonne of potatoes should be applied. Maximum total application rate 63.75g CIPC per tonne potatoes/season.

Shorter Term Storage

For potatoes stored in bulk or boxes destined for short term storage PRO-LONG may be applied at a minimum application rate of 16ml (8g CIPC) up to 24ml (12g CIPC). An example of a short term storage programme is as follows:- An initial lower rate of 24ml (12g CIPC) per tonne followed by subsequent applications at 16ml (8g CIPC) per tonne to potatoes.

Frequency of application

The frequency of application will be dependent upon the need to prevent the onset of sprouting and the avoidance of poorer fry colour resultant from build up of ethylene and CO₂ gases released on fogging. Constant monitoring of sprouting is therefore critical.

METHOD OF APPLICATION

Thermal Foggers

PRO-LONG may be applied through a range of thermal fogging equipment. The manufacturer's instructions must be followed when setting these machines.

Only treat potatoes stored in purpose designed or dedicated potato stores.

The efficacy of PRO-LONG will decline in buildings without proper insulation and temperature controls.

Fogging must be carried out with the fogging machine outside the potato store and the fog being fed into the store via a treatment port or other secure means. Only treat potatoes in stores with forced draught ventilation.

Unprotected persons should be kept out of treated areas for a minimum of 24 hours.

WARNINGS

- PRO-LONG must only be used on potatoes which are free from significant disease problems.
- Traces of PRO-LONG can adversely affect the germination of seeds such as seed potatoes, bulbs and other crop seeds. Seed crops must not come into contact with PRO-LONG and should not be stored in boxes or buildings in which potatoes have been or are being treated with PRO-LONG.
- This product must be stored at a temperature of not less than 0°C (32°F). Store in a dry cool locked pesticide store away from seeds and fertilisers.
- PRO-LONG has a flash point of 13°C (55°F) and care must be taken during application.
- The engine of the fogging generator produces considerable heat during operation; care should be taken to avoid contact with flammable materials such as straw.
- When ventilating with outside air always pass the air through an air-mix system, especially during frosty or windy weather.
- At all times only handle this container with the assistance of mechanical means.
- Consult processors before use on potatoes destined for processing
- Potatoes for processing - Darker fry colour has been linked to increased frequency of 'hot fog' application. Stored crops destined for crisp or chip production should be treated with the minimum number of applications, where a light fry colour is required.

Further advice is available in The Potato Council's latest Growers Advice Sheet for the use of CIPC

COMPANY ADVISORY INFORMATION

This section is not part of the product label under the Control of Pesticides Regulations 1986. It provides additional advice on product use at the discretion of the approval holder.

Storage guidance

Store design, potato variety and condition will affect the height of the potatoes stored in bulk storages. Potatoes can be stored up to 5 metres high. The stacking height for box stores is dictated by the British Standard Mark on the individual boxes and by Health and Safety Legislation. The boxes should be stacked with the pallet slots aligned so as not to impede the fog.

It is important to fill stores as quickly as possible as it is crucial to make the first CIPC application as soon as the potatoes are dry and correctly cured. If the store filling takes weeks, the first potatoes into the store may be starting to sprout before the last ones can be treated. In such circumstances sub-division of large stores may give better results.

Circulation

Follow the latest Potato Council advice on circulation during and post fogging.

Ventilation

Ventilate the store with outside air for 15 minutes after the fog has cleared and the CIPC has settled, usually 6-8 hours after application.

Thermal Foggers

The manufacturer's instructions must be followed when setting these machines.

Application Guidance

Trials data have indicated that each treatment where a higher rate of 28.5 ml PRO-LONG (14.25g of CIPC) is used should provide an average of 7 weeks sprout suppression, but this will vary with variety, crop condition and storage temperature. Each treatment where a lower rate of 16ml of PRO-LONG (8g of CIPC) is used should provide an average of 4 weeks sprout suppression but persistence will be affected by variety, crop condition, and the temperature and type of storage.

It is not essential to follow the example regimes for 'Shorter Term Storage' or 'Longer Term Storage'. Other rates (between the allowed maximum of 42 ml (21g of CIPC) and minimum of 16mls (8g of CIPC) and timings (there is no minimum interval between applications) can be used if necessary. Regular inspection of the potato eyes should be made to determine the best timing and programme. There is also no restriction on the number of applications, but note point 9 under WARNINGS section above.

Maximum Residue Level (MRL)

An MRL is the maximum concentration of a pesticide residue (expressed as mg/kg or ppm), permitted in or on food commodities and animal feeds. MRLs are primarily a check that Good Agricultural Practice is being followed and to assist international trade in produce treated with pesticides. MRLs are not safety limits and exposure to residues in excess of an MRL does not automatically imply a hazard to health.

Best Practice

Reference is made to Potato Council publications for current best practices (www.potato.org.uk), and to Pro-Potato website www.pro-potato.com

CONDITIONS OF SUPPLY

All goods supplied are manufactured to our usual standard of quality, but all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of the goods are excluded and no liability (save as to the liability to replace defective goods herein provided) will be accepted by us for any damage, loss or injury whatsoever arising out of or in connection with the goods or drums or other containers thereof, or from the storage, handling, applications or use thereof. In the case of alleged defects in the manufacture of the goods proved by the customer to our satisfaction we will at our expense replace or otherwise remedy the defective goods. In particular liability in tort arising in or out of the manufacture, distribution, sale or use of the product is hereby expressly excluded. All our goods are sold and supplied on the terms contained in our standard Conditions of Sale (of which the above is part) which shall prevail over any other terms and which may be inspected on request.