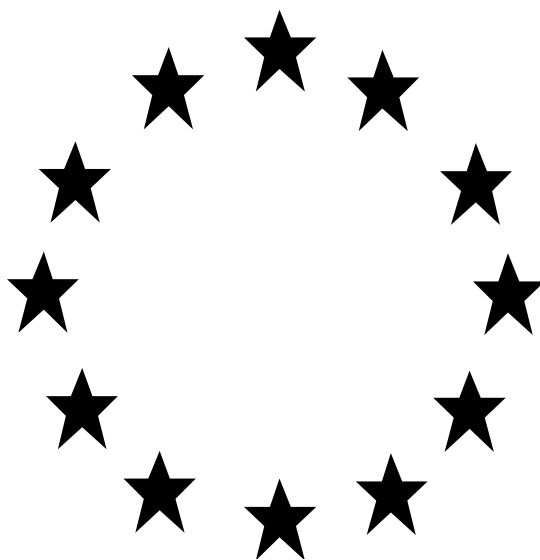




Draft Assessment Report (DAR)

- public version -

**Initial risk assessment provided by the rapporteur Member State
Portugal for the existing active substance**

CALCIUM CARBIDE

**of the fourth stage of the review programme
referred to in Article 8(2) of Council Directive 91/414/EEC**

Volume 3, Annex B, part 6, B.10

August 2008

B.10 Efficacy

B.10.1 Effectiveness against target organisms, or with respect to the effect achieved (level, consistency and duration)

PRONTOX Wühlmausgas (Calcium carbide) is a product for voles and moles control. It's efficacy was tentatively demonstrated in trials by Pflanzenschutzamt Oldenburg, Germany, Biologische Bundesanstalt Braunschweig, Braunschweig, Germany, and by Versuchswesen Pflanzenschutz Dr. Paul Reh, Burgwedel, Germany, respectively. The applicant refers that the product is being used for the past 30 years with no reports of effectiveness.

With reference to the effective dose of Calcium carbide for voles (*Arvicola terrestris*) and moles (*Talpa europaea*) 10g, or 20g Calcium carbide (80% w/w a.s.), respectively, would be sufficient to dislodge the target animals. PRONTOX Wühlmausgas may be used at any time of the year.

Untersuchungen zur Vergrämung der Schermaus (*Arvicola terrestris*) nach der Anwendung von Wula Vergrämungsmittel (Calcium carbide)

Anonymous, 1980

Principles of GLP were not complied with.

Test methods:

One trial was carried out according to the BBA-Guideline II/9-6. The trial was carried out in fruit orchards (apple) in the Northern part of Germany, Oldenburg. After a pre-census and the application the counting of the reopened holes is the basis in the determination of efficacy. Birds were observed for 8 days.

Comments:

The study is generally in accordance with the BBA-Guideline II/9-6 recommendations.

No reference was made to the trial conditions or to results of the trials. Therefore the study is not considered valid for the assessment of the efficacy of the PRONTOX Wühlmausgas.

Untersuchungen zur Vergrämung der Schermaus (*Arvicola terrestris*) nach der Anwendung von Wula Vergrämungsmittel (Calcium carbide)

Rieckmann, 1981

Principles of GLP were not complied with.

Test methods:

One trial was carried out according to the BBA-Guideline II/9-6. The trial was carried out in grassland in the Northern part of Germany, Lower Saxony. The trials were laid out with three treatments without replicates. The first plot was untreated, the second plot was treated with the test item Wula Vergrämungsmittel and the third plot was treated with the commercial standard Delu Wühlmausgas. The size of the plots should have been large enough not to allow a resettlement of moles. After a pre-census and the application the counting of the reopened holes was the basis in the determination of efficacy.

Comments:

The study is generally in accordance with the BBA-Guideline II/9-6 recommendations.

No reference was made to the trial conditions or to results of the trials. Therefore the study is not considered valid for the assessment of the efficacy of the PRONTOX Wühlmausgas.

Untersuchungen zur Vergrämung des Maulwurfs (*Talpa europaea* L.) nach der Anwendung von Prontox (Calcium carbide)

Reh. P. (2004)

In accordance with GLP and Gep principles.

Test methods:

Two trials were carried out according to the BBA-Guideline II/9-6. One trial was carried out in pasture in the Northern part of Germany, Lower Saxony and the other one in a public grassland area in the Southern part of Germany, Baden Wuttemberg. The trials were laid out with three treatments without replicates. The first plot was untreated, the second plot was treated with the test item Prontox and the third plot was treated with the commercial standard Wühlmaus-Gas-Arrex. The size of the plots were large enough not to allow a resettlement of moles. After a pre-census and the application the counting of the reopened holes is the basis in the determination of efficacy. Birds were observed for 8 days (see the formula).

$$Efficacy(\%) = \frac{\frac{C_{new}}{C_{total}} - \frac{T_{new}}{T_{total}}}{\frac{C_{new}}{C_{total}}} \times 100$$

C_{new}-number of the reopened holes in the control plots

C_{total}- number of the total (old+new) reopened holes in the control plots

T_{new}- number of the reopened holes in the treated plots

T_{total}- number of the total (old+new) reopened holes in the treated plots

The efficiency of Prontox was 79,4% in the average of two trials. No references about conditions use have been made about the commercial standard Wühlmaus-Gas-Arrex.

Comments:

The studies are acceptable and were conducted generally in accordance with the BBA-Guideline II/9-6 recommendations.

B.10.2 Possible occurrence of the development of resistance

The applicant is not aware of any occurrence of resistance against PRONTOX Wühlmausgas (Calcium carbide) in relevant susceptible pests. This lack of development of resistance of voles and moles to the product is assumed to be related to the inorganic nature of the active ingredient.

B.10.3 Effects on the quality of plants or plant products

Any potential effects on the yield of treated plants or plant products in terms of quantity and/or quality from the GAP use of PRONTOX Wühlmausgas are not to be expected, for the following reasons: PRONTOX Wühlmausgas is not intended for direct application to growing crops, and thus no residues in plants or in plant food stuffs are expected. Unlike conventional crop protection products, which must be applied over relatively large crop areas, Calcium carbide repellents like PRONTOX Wühlmausgas are predominantly applied to discrete sites in the form of granule directly

into the runs/ holes of voles and moles. Due to the GAP use and the rapid decomposition of the active ingredient in the soil, technical Calcium carbide is degraded to Calcium hydroxide, Acetylene and minor quantities of Phosphine and will not be washed out, and any relevant uptake by plants is excluded. Whereas the first is a normal constituent of soil, Acetylene and Phosphine are gases subject either to rapid atmospheric degradation upon volatilisation, or it may be re-adsorbed onto soil and subsequently be degraded to phosphate. Therefore, no soil accumulation is expected to occur. In the soil, Calcium ions, bicarbonate and phosphate are taken up and metabolised by plants as trace nutrients.

B.10.4 Effects on transformation processes

Not applicable.

B.10.5 Effects on the yield of treated plants or plant products

Not applicable.

B.10.6 Phytotoxicity to target plants or target plant products

Tests on phytotoxicity to target plants (including different cultivars), or to target plant products following the use of the product PRONTOX Wühlmausgas were not conducted. Such tests are not considered to be required.

B.10.7 Impact on succeeding crops, adjacent crops and on treated plants or plant products used for propagation

Not applicable.

B.10.8 Tank mixing recommendations

Not applicable.

WARNING: This document forms part of an EC evaluation data package and should not be used in isolation. Registration must not be granted on the basis of this document.

B.10.9 References relied on

OECD data point/ reference number	Author(s)	Year	Title Source (where different from company) Company, Report No GLP or GEP status (where relevant), Published or not	Data Protection claimed Y/N	Owner
--------------------------------------	-----------	------	---	-----------------------------------	-------

Annex IIA

IIA, 3.4.1/1	Anonymous	1980	Untersuchungen zur Vergrämung der Schermaus (Arvicola terrestris) nach der Anwendung von Wüla Vergrämungsmittel (Calciumcarbid) Pflanzenschutzamt Oldenburg, Germany no unpublished	Y	CFW
IIA, 3.4.1/2	Rieckmann	1981	Untersuchungen zur Vergrämung der Schermaus (Arvicola terrestris) nach der Anwendung von Wüla Vergrämungsmittel (Calciumcarbid) Biologische Bundesanstalt für Land- und Forstwirtschaft, Braunschweig, Germany no unpublished	Y	CFW
IIA, 3.4.1/3	Reh, P.	2004	Untersuchungen zur Vergrämung des Maulwurfs (Talpa europaea L.) nach der Anwendung von PRONTOX (Calciumcarbid) Versuchswesen Pflanzenschutz Dr. Paul Reh, Burgwedel, Germany Report No: VP03-4-96D3 yes unpublished	Y	CFW

Annex IIIA

--	--	--	--	--	--

WARNING: This document forms part of an EC evaluation data package and should not be used for any purpose other than the evaluation of the product. Reproduction must not be granted on the basis of this document.