DECAP 93, S.L.

ESTUDIO DE NO-TOXICIDAD DE LOS DECAPANTES ECO

Este estudio compara los resultados de análisis de toxicidad de nuestros productos tradicionales (ácidos), con los resultados obtenidos del análisis de toxicidad de nuestros productos ECO.

Los resultados demuestran que mientras nuestros decapantes ácidos tienen efectos nocivos por ingestión oral, los calificados como ECO no la tienen.

Este estudio fue realizado en 1996 por profesores de la Universidad de Barcelona.

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ACUTE ORAL TOXICITY OF DECAFLUX-PINCEL

Fasted (18h) female Sprague-Dawley rats (180-200g) subjected to a 12 hours light/dark cycle were used. Room temperature was controlled a 22ºC ± 2ºC .

The product was given to 6 groups of 10 rats by gavage with a feeding needle. The product was diluted with water when necessary, to administer 2ml/200g (10 ml/Kg) to each animal.

The weight of the animals was registered before the administration of product and on day 21 to confirm the growth of the rats.

Clinical signs, morbidity and mortality were observed every hour during the first eight hours. Afterwards were observed every day until twenty one days.

With the dose of 10 ml/Kg all the animals show respiratory depression and motor incoordination with loss of postural reflex in the interval of .25 - 2 h hours after the administration of product. All the animals of this group died in the first 8 h after the product was given. Congestive lungs was observed at necropsy; but histopathological study show no lesion.

With 2 and 4 ml/Kg died 1 and 2 animals respectively showing respiratory depression and motor incoordination like the group treated with 10 ml/Kg. The other animals were normal without clinical signs.

The necropsies of all survivors on day 21 show no macroscopy signs. The histopathological study was normal.

Growth of the survivors rats was normal. The weight increase was not dose-related. With dose of 4 ml/Kg it was appreciated a little increase of standard error.

In the TABLE are shown the values of bodyweight and mortality of different animal groups.

DOSE ml/Kg	Initial Bodyweight (g) mean ± E.S.	Weight increase (g) mean ± E.S.	Mortality	
		Ratio	%	
0.25	188.5 ± 2.8	27.7 ± 3.1	0/10	0
0.50	191.2 ± 2.7	29.7 ± 3.1	0/10	0
1	198.7 ± 3.3	26.2 ± 3.4	0/10	0
2	187.5 ± 3.4	32.2 ± 3.5	1/10	10
4	183.5 ± 2.9	35.0 ± 6.4	2/10	20
10	192.4 ± 3.1	- - - -	10/10	100

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Maximal tolerated dose of DECAFLUX-PINCEL is 1 ml/Kg in rat by oral route, since no clinical signs were observed and no histopathological lesions were detected.

LD-50% is greater than 4 ml/Kg and lesser than 10 ml/Kg, approximately 6-8 ml/Kg.

Acute toxicity is inferior than expected keeping in mind that one of the components is zinc chloride. Probably bio-availability is decreased by excipient.

Barcelona, March 20, 1996

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ACUTE ORAL TOXICITY OF DECAFLUX-PINCEL ECOGEL

Fasted (18 h) female Sprague-Dawley rats (180-200g) subjected to a 12 h light/dark cycle were used. Room temperature was controlled at 22° C ± 2° C. 10 ml/kg of the test substance was given to one group of 10 rats by gavage with a feeding needle.

Clinical signs, morbidity and mortality were observed every hour during the first eight hours. Afterwards were observed every day until twenty one days. All the animals survived these three weeks period being the average weight increase of 45 g ± 8. No clinical signs were observed. At the end of observation period the animals were killed and necropsied. No anomalies were observed.

Conclusion: The oral administration of 10 ml/ kg of product DECAFLUX-PINCEL ECOGEL, was well tolerated without evident clinical signs. The volume administered is the maximun (2 ml/200 g) that is possible to be given by this route.

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ACUTE ORAL TOXICITY OF DECAFLUX-PINCEL ECOCREMA

Fasted (18 h) female Sprague-Dawley rats (180-200g) subjected to a 12 h light/dark cycle were used. Room temperature was controlled at 22° C ± 2° C. 10 ml/kg of the test substance was given to one group of 10 rats by gavage with a feeding needle.

Clinical signs, morbidity and mortality were observed every hour during the first eight hours. Afterwards were observed every day until twenty one days. All the animals survived these three weeks period being the average weight increase of 45 g ± 8. No clinical signs were observed. At the end of observation period the animals were killed and necropsied. No anomalies were observed.

Conclusion: The oral administration of 10 ml/ kg of product DECAFLUX-PINCEL ECOCREMA, was well tolerated without evident clinical signs. The volume administered is the maximun (2 ml/200 g) that is possible to be given by this route.

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