FASS

Becotide® Nasal

M

GlaxoSmithKline

Nässpray, suspension 50 mikrog/dos

Avregistreringsdatum: 2018-10-28 (Tillhandahålls ej) (Nässpray, suspension)

Inflammationshämmande medel för lokal rinitbehandling

Aktiv substans:

Beklometasondipropionat (vattenfritt)

ATC-kod:

R01AD01

För information om det avregistrerade läkemedlet omfattas av Läkemedelsförsäkringen, kontakta Läkemedelsförsäkringen.

Läs mer om avregistrerade läkemedel

Miljöpåverkan

Beklometasondipropionat (vattenfritt)

Miljörisk: Risk för miljöpåverkan av beklometason kan inte uteslutas då det inte finns tillräckliga ekotoxikologiska data.
Nedbrytning: Beklometason är potentiellt persistent.
Bioackumulering: Beklometason har låg potential att bioackumuleras.

Detaljerad miljöinformation

Detailed background information

Environmental Risk Classification

Predicted Environmental Concentration (PEC)

PEC is calculated according to the following formula:

PEC (µg/L) = $(A*10^{9}*(100-R)/(365*P*V*D*100) = 1.5*10^{-6}*A(100–R)$

PEC = 4.70 x 10^{-4}µg/L

Where:
A = 3.11kg (total sold amount API in Sweden year 2019, derived from all salt forms, data from IQVIA).
R = 0% removal rate (conservatively, it has been assumed there is no loss by adsorption to sludge particles, by volatilization, hydrolysis or biodegradation).
P = number of inhabitants in Sweden = 9 *10^{6}
V (L/day) = volume of wastewater per capita and day = 200 (ECHA default) (Reference 1)
D = factor for dilution of waste water by surface water flow = 10 (ECHA default) (Reference 1)

According to the European Medicines Agency guideline on environmental risk assessment of medicinal products (EMA/CHMP/SWP/4447/00), use of Beclomethasone dipropionate is

unlikely to represent a risk for the environment, because the predicted environmental concentration (PEC) is below the action limit 0.01 µg/L.

Predicted No Effect Concentration (PNEC)

Ecotoxicological studies

All data refers to Beclomethasone dipropionate

Algae:
No data

Water flea (Daphnia magna):

Acute toxicity

EC50 48 h (immobility) = 3.74 µg/L (OECD 202) (Reference 6)

Water flea (Ceriodaphnia dubia):

Chronic toxicity

No data

Bluegill sunfish (Lepomis macrochirus):

Acute toxicity

LC50 48 h (lethality) = 1,600 µg/L (OECD 203) (Reference 8)

Chronic toxicity

No data

Other ecotoxicity data:

Microorganisms in activated sludge:
EC50 3 h (inhibition) = 97,200, µg/L (OECD 209) (Reference 2)

Sediment toxicity

Blackworm (Lumbriculus variegates):
EC50 28d (lethality) > 500,000 µg/kg (OECD 218) (Reference 12)

Terrestrial toxicity

Manure worm (Eisenia foetida):
LC50 28d (lethality) > 750,000 µg/kg (TAD 4.12) (Reference 9)

PNEC cannot be calculated because data is not available for all three (algae, crustacean and fish) of the toxicity endpoints.

Environmental risk classification (PEC/PNEC ratio)

Risk of environmental impact of beclomethasone cannot be excluded, since there is not sufficient ecotoxicity data available.

Degradation

All data refers to Beclomethasone dipropionate

Biotic degradation

Ready degradability:
3% degradation in 28 days (TAD 3.11) (Reference 7)

Inherent degradability:
No Data
Soil Metabolism:
21.9-61.5% degradation in 64 days (TAD 4.12) (Reference 8)

Abiotic degradation

Hydrolysis:
50% degradation (pH 7) in 166 h (TAD 3.09) (Reference 11)

Photolysis:
No data

Justification of chosen degradation phrase:
Beclomethasone is not readily biodegradable. There are no data for inherent biodegradation. The phrase “beclomethasone is potentially persistent” is thus chosen.

Bioaccumulation

All data refers to Beclomethasone dipropionate

Bioconcentration factor (BCF):
Partitioning coefficient:
Log Pow = 3.49 (TAD 3.04). (Reference 10)

Justification of chosen bioaccumulation phrase:
Since log Pow < 4, the substance has low potential for bioaccumulation.

For the active metabolite, beclomethasone-17-monopropionate, there is low potential to bioaccumulate in aquatic organisms. Log $Pow_{calculated}$ = 3.5 @ pH 7.4 (Reference 2).

Excretion (metabolism)

Beclomethasone dipropionate is a prodrug with weak pharmacological activity but once clinically administered it is

extensively hydrolyzed into its active metabolite beclomethasone-17-monopropionate (Reference 3). There are two minor metabolites, beclomethasone-21-monoprppionate and beclomethasone, which are inactive. Approximately 60 % of dose is excreted in the faeces as free and conjugated polar metabolites (Reference 4).

PBT/vPvB assessment

Beclomethasone does not fulfil the criteria for PBT and/or vBvP.

All three properties, i.e. ‘P’, ‘B’ and ‘T’ are required in order to classify a compound as PBT (Reference 1). Beclomethasone does not fulfil the criteria for PBT and/or vBvP based on log Pow < 4.

Please, also see Safety data sheets on

http://www.msds-gsk.com/ExtMSDSlist.asp.

References

1. ECHA, European Chemicals Agency. 2008 Guidance on information requirements and chemical safety assessment.
2. ACD /LogD. September 2011. Advanced Chemistry Development, Inc.
3. Martin LE, et al, *Clin Pharmacol Ther* 15:267-275, 1974.
4. Lipworth, *Br J Clin Pharmacol* 42:697-705, 1996.
5. Jenkins WR. AH15720AA: Activated Sludge – Respiration Inhibition Test. Report No. WPT/94/026. Pharmaco LSR Ltd, January 1995.
6. Jenkins CA. AH15720AA: Acute Toxicity to Daphnia magna. Report No. WPT/94/026. Pharmaco LSR Ltd, December 1994.

7. Jenkins WR. AH15720AA: Biotic Degradation with Acclimatised Composite Inoculum. Modified Sturm Test. Report No. WPT/94/026. Pharmaco LSR Ltd, January 1995.
8. O'Connor J. AH15720AA: Biodegradation in Soil. Report No. WPT/94/026. Pharmaco LSR Ltd, December 1994.
9. Wetton PM and Bartlett AJ. AH15270AA: Earthworm Subacute 28-Day Toxicity Test. Report No. WPT/93/113. Safepharm Laboratories Ltd, February 1996.
10. Colwyn TC. AH15270AA: Determination of Physico-Chemical properties. Report No. WPT/94/026. Pharmaco LSR Ltd, December 1994.
11. Colwyn TC. AH15270AA: Determination of Hydrolysis as a Function of pH. Report No. WPT/94/026. Pharmaco LSR Ltd, December 1994.
12. Sewell IG and McKenzie J. Beclomethasone Dipropionate: A Prolonged Toxicity Test Using Spiked Sediment with the Oligochaete, Lumbriculus variegatus. Report No. 1127/307. Safepharm Laboratories Ltd, July 2004.