FASS

Colazid®

Almirall

Kapsel, hård 750 mg
(beige gelatinkapsel)

Medel vid inflammatoriska tarmsjukdomar

Aktiv substans:
Balsalazid

ATC-kod:
A07EC04

Läkemedel från Almirall omfattas av Läkemedelsförsäkringen.

Miljöpåverkan

Balsalazid

Miljörisk: Risk för miljöpåverkan av balsalazid kan inte uteslutas då ekotoxikologiska data saknas.
Nedbrytning: Det kan inte uteslutas att balsalazid är persistent, då data saknas.
Bioackumulering: Balsalazid har låg potential att bioackumuleras.

Detaljerad miljöinformation

Environmental Risk Classification

Predicted Environmental Concentration (PEC)

PEC is calculated according to the following formula:

PEC (µg/L) = $(A*10^9*(100-R))/(365*P*V*D*100) = 1.37*10^{-6}*A(100-R)$

PEC = 0.18 µg/L

Where:

A = 1325,93 kg (total sold amount API in Sweden year 2020, data from IQVIA).

R = 0 % removal rate (due to loss by adsorption to sludge particles, by volatilization, hydrolysis or biodegradation) = 0 if no data is available.

P = number of inhabitants in Sweden = $10 *10^6$

V (L/day) = volume of wastewater per capita and day = 200 (ECHA default) (Ref. I)

D = factor for dilution of waste water by surface water flow = 10 (ECHA default) (Ref. I)

Predicted No Effect Concentration (PNEC)

Ecotoxicological studies

No data is available.

Environmental risk classification (PEC/PNEC ratio)

It is not possible to calculate the environmental risk classification (PEC/PNEC ratio) due to lack of data.

Summary phrases for the environmental risk:

Risk of environmental impact of balsalzide cannot be excluded, since no ecotoxicity data are available.

Degradation

Balsalzide is a pro-drug, which is metabolized in the gut to mesalazine, responsible for the anti-inflammatory action, and the inert carrier molecule metabolite.
Ready degradability: Mesalazine showed >90 % degradation over 28 days.
(Ref II)

Summary phrases for degradation:
The potential for persistence of balsalzide cannot be excluded, due to lack of data.

Bioaccumulation

Partitioning coefficient:
LogP balsalazide (the prodrug) = 1.3 at neutral pH (experimentally derived, method unknown).
(Ref III)

LogP mesalazine (the active metabolite) = 1.2 at neutral pH (experimentally derived, method unknown).
(Ref IV)

Justification of chosen bioaccumulation phrase:
Since LogP < 4 at pH 7, balsalazide and its active metabolite have low potential for bioaccumulation.

Excretion (metabolism)

The systemic uptake of balsalazide itself is low (<1 %) and the major part of the dose is split in the colon by bacterial azoreductase. This cleavage results in the primary metabolites

5-aminosalicylic acid (5-ASA), responsible for the anti-inflammatory action, and 4-aminobenzoyl-beta-alanine (4-ABA), considered to be an inert carrier.

Most of the dose is eliminated via the faeces but about 25 % of the released 5-ASA appears systemically predominantly as the N-acetylated metabolite (NASA) after inactivation in the colonic mucosa and liver. The systemic uptake of 4-ABA is only 10-15 % of that of 5-ASA and also this metabolite is grossly N-acetylated (to NABA) in the first pass.
In urine, virtually only NASA and NABA are recovered and their renal clearances are high.

Protein binding of 5-ASA is about 40 % and that of NASA about 80 %.

Fasting slightly increases the systemic uptake of balsalazide and its metabolites.
(Ref V)

References

I. ECHA, European Chemicals Agency. 2008 Guidance on information requirements and chemical safety assessment; find here
II. Summerton L, Sneddon HF, Jones LC, Clark JH. Green and Sustainable Medicinal Chemistry: Methods, Tools and Strategies for the 21st Century Pharmaceutical Industry. 2016.
III. Drug bank web page, assessed as of March 2022; find here
IV. Drug bank web page, assessed as of March 2022; find here

V. SmPC of Colazide, retrieved from medicines.org.uk, March 2022; find here