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Sertraline Hydrochloride

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SERTRALINE HYDROCHLORIDE

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Water Solubility Literature Value:

0.000145 mg/mL

After Converting to g/100 mL

1g = 1000mg

$0.000145\text{mg} / 1000\text{mg} \cdot 1\text{g} = 0.000000145\text{g}$

$0.000000145\text{g} \cdot 100\text{mL} = 0.0000145\text{g}/100\text{mL}$

✓ Sertraline HCl is insoluble in water.

2 3 6

Generic Name:

Sertraline Hydrochloride

Trade Name:

Zoloft

Classification:

ANTIDEPRESSANT;
SELECTIVE SEROTONIN REUPTAKE INHIBITOR (SSRI)

Chemical Name:

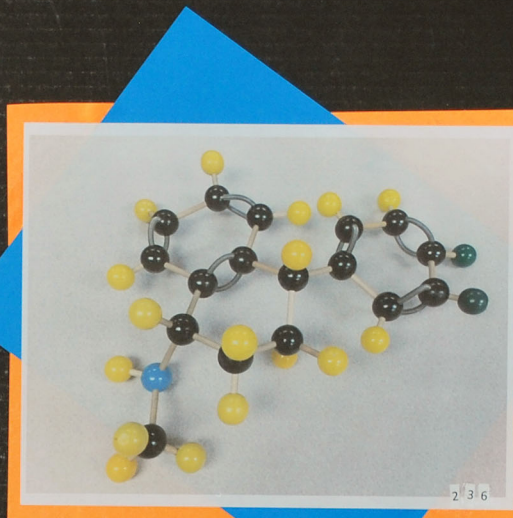
(1S,4S)-4-(3,4-Dichlorophenyl)-1,2,3,4-tetrahydro-
N-methyl-1-naphthalenamine, Hydrochloride.

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Labeled Uses:

The uses are for major depression, obsessive compulsive disorder, panic disorder, social anxiety disorder, premenstrual dysphoric disorder, generalized anxiety, and post-traumatic stress disorder

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How the body takes in Sertraline HCl:

Sertraline hydrochloride is administered orally.

Absorption of Sertraline HCl:

The body takes in/absorbs Sertraline hydrochloride slowly from the GI (gastrointestinal) tract. Sertraline hydrochloride inhibits the production of serotonin 5-HT (5-hydroxytryptophan) in the brain. The drug is given over a course of several days and will result in the decrease of norepinephrine.

How the body breaks it down:

The metabolism of sertraline hydrochloride is greatly reduced before it reaches the systemic circulation in the liver to slow down the metabolites.

How does the body eliminate Sertraline HCl:

The elimination of Sertraline hydrochloride is 40-45% in urine and 40-45% in feces.

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Dosing for Obsessive Compulsive Disorder:

For adults taking this medication, do so by mouth. Take 50 milligrams per day, depending on your situation you may have to take up to 200 milligrams per day.

How Supplied:

Sertraline/Sertraline Hydrochloride/Zoloft Oral Sol: 1mL, 20mg
Sertraline/Sertraline Hydrochloride/Zoloft Oral Tab: 25mg, 50mg, 100mg

2 5 6 8

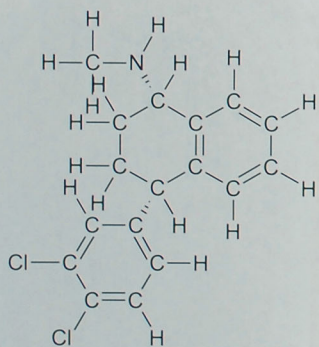
Tablets per Dose:

The doctor prescribes to a patient one 50mg tablet. In the pharmacy there are only 25 mg tablets. Therefore, you will have to take two 25 mg tablets to make up the 50mg tablet prescribed by your doctor.

one 50 mg tablet = two 25 mg tablets

2 5 6 8

Expanded Structure



1 2 3 6

Literature Value for Molar Mass:

Sertraline: mol wt 306.23

Hydrochloride: mol wt 342.69

Chemical Formula:

$C_{17}H_{17}Cl_2N$ • HCl

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Calculating Molar Mass:

C: (Carbon) $12.01 \times 17 = 204.17\text{g}$

H: (Hydrogen) $1.01 \times 17 = 17.17\text{g}$

Cl: (Chlorine) $35.45 \times 2 = 70.90\text{g}$

N: (Nitrogen) $14.01 \times 1 = 14.01\text{g}$

$204.17\text{g} + 17.17\text{g} + 70.90\text{g} + 14.01\text{g} = 306.25\text{g/mol}$

H: (Hydrogen) $1.01 \times 1 = 1.01\text{g}$

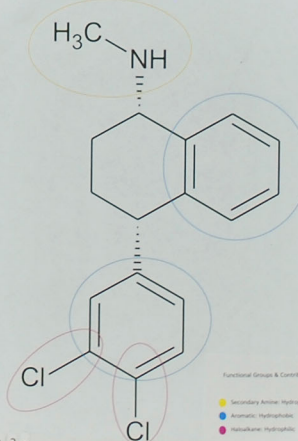
Cl: (Chlorine) $35.45 \times 1 = 35.45\text{g}$

$1.01\text{g} + 35.45\text{g} = 36.46\text{g/mol}$

Sertraline HCl = $306.25\text{g/mol} + 36.46\text{g/mol} = 342.71\text{g/mol}$

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Condensed Structure



Functional Groups & Contributions:

Secondary Amine Hydrochloride
Aromatic Hydrophobic
Nucleus Hydrophobic

1 2 3 6

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