Company: Chimique Inc.

CEO: Mehek Agarwal

Report Authors: Vyom Pratap Singh

Ram Aggarwal

Samarth Yadav

Chemical Formula: $C_{29}H_{30}N_6O_6$

Chemical Name: Olmesartan Medoxomil

Use case:

a. What is the use of this compound?
   Olmesartan is used to treat high blood pressure (hypertension). Lowering high blood pressure helps prevent strokes, heart attacks, and kidney problems. Olmesartan belongs to a class of drugs called angiotensin receptor blockers (ARBs). It works by relaxing blood vessels so that blood can flow more easily.
b. Are there any alternatives to this compound? Name a few.
   Yes, some of the popular alternatives to Olmesartan are Lisinopril, Amlodipine, Losartan.
c. Why this compound is superior to its alternatives?
   Olmesartan is an angiotensin II receptor blocker (ARB) with potency, efficacy that has been shown, and a long half-life that makes it possible to take the medication once daily, which improves patient adherence Olmesartan's favourable profile indicates that it is a compelling option for managing hypertension, even with the recognition of individual variances in response and associated side effects. As such, it should be considered alongside its competitors in the ARB class.
d. Is this compound imported in India? What is the magnitude of imports?

   Yes, Olmesartan is imported in India, in fact, India is the third largest importer of Olmesartan in the world, Olmesartan's import stands at 1.4K shipments, imported by 83 Indian importers from 121 suppliers.

Economic feasibility:

a. What input raw materials are needed for its synthesis (same as reported in the Patent application)?
   The raw materials needed for the synthesis of Olmesartan Medoxomil are:
   - Imidazole ethyl ester derivative
   - 4-[2-(trityltetrazol-5-yl) phenyl] benzyl bromide
   - N,N-Dimethylacetamide

- Acetone
- Tetrahydrofuran
- Ethanol
- Aqueous sodium hydroxide
- 4-(chloromethyl)-5-methyl-1,3-dioxol-2-one
- Sodium iodide
- Ethyl acetate
- Sodium metabisulphite
- Di isopropyl ether
- Aqueous acetic acid
- Methylene chloride
- Sodium bicarbonate
- Demineralized water
- Sodium chloride solution

b. Provide preliminary economic feasibility based on cost of raw materials, solvents and product selling price.

Serial No.	Name Of Chemical	Price per Unit (per 500ml)	Quantity	Cost of Raw Material
1.	Tetrahydrofuran	660/-	1200 ml	1584/-
2.	N,N-Dimethylacetamide	400/-	300 ml	240/-
3.	Acetone	270/-	1400ml	756/-
4.	Sodium Hydroxide	310/-	11.73g	7.27/-
5.	Sodium Iodide	12500/-	6g	150/-
6.	Ethyl Acetate	280/-	2000ml	1120/-
7.	Sodium Metabisulphite	300/-	2g	1.2/-
8.	Di isopropyl ether	550/-	1000ml	1100/-
9.	Acetic Acid	520/-	1075ml	1118/-
10.	Methylene Chloride	270/-	1750ml	945/-
11.	Sodium Bicarbonate	280/-	4.3g	2.4/-

12.	Sodium Chloride	480/-	1150ml	1104/-
13.	Ethanol	95/-	200ml	38/-
Total Cost of Production of Olmesartan Medoxomil (109g)				8165.87/-
Cost of Olmesartan Medoxomil per gram				Rs. 74.9 per g

Current Retail Cost of Olmesartan Medoxomil = Rs. 4,62,500 per kg

Or Rs. 462.5 per g

Profit per gram of Olmesartan Medoxomil = Rs. 387.6 per g

References:

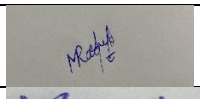
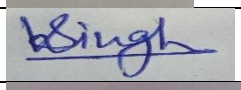
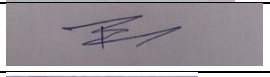
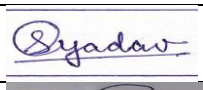
Retail Link

Import Data

Import Data of Each Raw Material

List the contributions of each author:

- Vyom and Ram carried out the market research for chemical trade data
- Kshitiz and Sujal prepared the use case.
- Samarth looked at economic feasibility.

Name	Roll No	Signature
Mehek Agarwal	220646	
Vyom Pratap Singh	221211	
Ram Aggarwal	220864	
Samarth Yadav	220946	
Sujal Jain	221100	
Kshitiz Garud	220398