

**PHYSICAL & CHEMICAL EVALUATION OF BENZOIN**

**Practical -27**

Date: .../.../.....

**PHYSICAL AND CHEMICAL EVALUATION OF BENZOIN**

**Aim:** To perform the physical and chemical tests for evaluation of Benzoin.

**Reference:**.....  
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**Requirements:**.....

**Synonyms:** Sumatra benzoin, Loban, Siam benzoin

**Biological source:** Balsamic resin obtained from the incised stem of **Syntax benzoin**.

**Family:** Styraceae

**Physical Characteristics:**

S. No.	Physical Character	Observation
1.	Colour	
2.	Odour	
3.	Taste	
4.	Shape	
5.	Size	
6.	Tears	
7.	Mass	
8.	Solubility	
9.	Extra features	

**Chemical tests/Identification tests:**

S. No	Test	Observations
1.	0.5 g benzoin powder heated with 10 ml of $KMnO_4$	
2.	Alcoholic solution of benzoin + water	
3.	Heat 0.5 g benzoin powder slowly in dry test tube	
4.	Sublimates after cooling	

**Difference between Sumatra Benzoin and Siam Benzoin:**

S. No.	Properties	Characteristics	Sumatra benzoin	Siam benzoin
1.	<b>Physical</b>	<b>Colour</b>	Greyish brown or grey Aromatic	Yellowish brown to rusty brown
		<b>Odour</b>	Characteristics Sweetish	Vannila like Sweetish
		<b>Taste</b>	Slightly acrid	Slightly acrid
		<b>Extra features</b>	Lumps of varaying sizes and tears which are externally yellowish milky white.	Hard brittle masses. soften and on heating becomes plastic.
		<b>Solubility</b>	Alcohol	Alcohol
2.	<b>Standards</b>	<b>Acrid insoluble ash</b>	Not less than 6%	Not less than 12%
		<b>Benzoic acid extractive</b>	Not less than 75%	Not less than 90%
		<b>Loss on drying</b>	Not more than 10%	Not more than 10%
3.	<b>Chemical constituents</b>	.....	Free balsamic acids (benzoic and cinnamic acid), Triterpenoid acid like summaresionlic acid	An ester coniferyl benzoate (75%) styol, vanillin and phenyl propyl cinnamate
4.	<b>Chemical Test</b>	<b>a.</b> 1ml ether extract of benzoin + 2 - 3 drops of $H_2SO_4$	Deep reddish brown	Deep purplish red colour
		<b>b.</b> Alcoholic extract benzoin powder + alcoholic solution of $FeCl_3$	Green colour	Negative

		c. Digest 0.5 g of drug +5 ml ether 5 min take 1 ml of ethereal solution in a porcelain dish + conc sulphuric acid	Deep reddish brown colour	Deep purplish red
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**Uses:** Expectorant

**Report:** From the above Physical characters and chemical test the given crude drug was identified as

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## Questions Bank

1. What is the colour of Benzoin?
2. Write the biological source of Benzoin.
3. What are the uses of Benzoin?
4. Write a note on solubility of Benzoin.
5. What happen when Benzoin treated with  $\text{KMnO}_4$ ?
6. Write the five difference between Sumatra Benzoin and Siam Benzoin.
7. What happen when 0.5g benzoin powder slowly in dry testtube.
8. Write the two-physical difference between Sumatra Benzoin and Siam Benzoin.
9. Write the chemical constituent difference between Sumatra Benzoin and Siam Benzoin.
10. Paste the one marketed preparation of Benzoin.