

FAQ FOR SPENT BLEACHING EARTH OIL EXTRACTION

1. What is Spent Bleaching Earth?

Spent Bleaching Earth is a solid waste material generated as a part of the refining process in the edible oil industry, worldwide.



2. What is the current application of Spent Bleaching Earth?

Spent Bleaching Earth is usually disposed of in landfills or waste dumps. Due to increasing cost of disposal and being an environmental hazard, it is desirable to recover oil using a Solvent Extraction process in an efficient and economical manner, before disposing off Spent Bleaching Earth as per environmental regulations.

3. How much oil does Spent Bleach Earth absorb?

In refining, bleaching earth is used to remove color, metal, phosphatides, oxidized products and residual gums from the oil; however, in turn, it absorbs approximately 20-40 % by weight of the Spent Bleaching Earth.

4. How much oil can be recovered during the Solvent Extraction process?

The Oil in Spent Bleaching Earth can be recovered using our patented technology leaving less than 1% in the Spent Bleaching Earth which meets the environmental regulations for the disposal of spent bleaching earth for any application

5. What are the areas of application of oil recovered from this process?

The oil recovered immediately after the bleaching process by extraction with a solvent can be used as feedstock to a refinery. Otherwise it can be reused as a raw material for industrial applications to save costs in the processing industry. As the residual oil has a very high FFA and Peroxide Value, it can only be used for non-food applications, as feed stock for conversion to Biodiesel, and as a lubricant base for bio-lubricants as a feedstock to the oleo-chemical industry.



6. What is the novelty of Mecpro's technology?

We have been able to successfully run a plant on a continuous process as against the batch process prevalent in the industry

7. What are the process highlights?

In our process, the oil can be recovered from Spent Bleaching Earth using both a flammable as well as non-flammable solvent, which has been done for the first time in the world.



8. What are the applications for de-oiled Spent Bleaching Earth?



The output de-oiled Spent Bleaching Earth is safe for disposal in land fill. It can also be used as a fuel in the boilers. The anhydrous clay can be used in Cement manufacturing. It can also be used in manufacturing Fertilizers containing silica/silicates or can be used as a soil amendment, as it poses no harm to the soil and acts as a soil conditioner.

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10. Is it safe to dispose of Spent Bleaching Earth without treating?

Due to the high oil content in the Spent Bleaching Earth, its disposal can cause environmental hazards, since it is prone to catching fire, besides polluting the ground water. With the regulatory restrictions in place in most countries, the need to lessen the environmental impact is of growing importance and concern to the industry

11. What is the minimum and maximum capacity of the plant?

Mecpro has the engineering capability to design any capacity required as per the market demand both as a batch process or a continuous process. This can range from 5 MT/day to 1000MT/day.

12. What is the project implementation time?

Usually the project implementation schedule varies from 8 months to 12 months depending upon the location and soil condition.

13. How can one reduce the utility consumption?

In the plant operation, optimum economization as well as reduced processing temperature helps reduce the utility consumption. Besides, a vent air purification system can be used to reduce the solvent consumption in the process.

14. How can one improve the quality of the product?

The preparation of raw material and increased efficiency in penetration will help to extract oil below 1 % concentration in the de-oiled cake. The miscella filtration with filter cloth and azeotropic distillation at low temperature will eliminate any degradation of the product and help to reduce corrosion as well as the maintenance cost.

15. Is the process technology proven or patented?

We have already established our batch process as well as continuous process. Our recently commissioned 150 TPD continuous spent bleaching earth plant with non-flammable solvent is a new concept. For the first time in the global market such a plant is running successfully and producing a good quality of oil

16. What are the safety considerations? What should be the distance between other buildings and an SBE plant?

Mecpro's spent bleaching earth extraction plant uses a non-flammable solvent and there is no specific distance required to be kept from other process units. It can be kept near the refinery to reduce the transportation cost. The process plant with 5 patented technologies ensures safe operation with reduced utility consumption besides improved quality of both product and by-product.

17. What is the operational life of the plant and equipment?

The plant and equipment supplied by Mecpro has a service life time of 15 to 20 years provided periodic maintenance is carried out as per Mecpro's guidelines.

18. What is the payback period of the capex?

Generally such a plant can recover the capital investment in 1 to 3 year. It all depends upon the cost of spent bleaching earth and the applications of the de-oiled spent earth. However the payback period is not likely to be greater than 3 years in any case.

19. How do we proceed further?

MECPRO can arrange a detailed technical presentation to your core technical team, to clarify any doubts. Moreover, MECPRO can arrange a plant visit to show you the latest plant, based on our state-of-the-art, cutting edge, innovative technologies.



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