

# SOP

Standard Operating Procedure



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- A **standard operating procedure** is a set of written instructions that describes the step-by-step process that must be taken to properly perform a routine activity
- Standard operating procedures (SOPs) are the documented processes that a company has in place to ensure services and/or products are delivered consistently every time while meeting minimum quality standards.



- Reduced training time for new employees.
- Ensured business continuity.
- Standardized processes leading to consistent quality product
- Employee accountability
- Delegation of tasks.



- Traditionally a written document
- Add pictures
- Video



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# Legal Stuff

- FDA has oversight
- Food Safety Modernization Act
- HACCP Hazard Analysis and Critical Control Points
- GMP Good Manufacturing Practices



# GMP Good Manufacturing Practices

- Manufacturing facilities must maintain a clean and hygienic manufacturing area.
- Manufacturing facilities must maintain controlled environmental conditions in order to prevent [cross-contamination](#) from adulterants and allergens that may render the product unsafe for human consumption or use.
- Manufacturing processes must be clearly defined and controlled. All critical processes are [validated](#) to ensure consistency and compliance with specifications.
- Manufacturing processes must be controlled, and any changes to the process must be evaluated. Changes that affect the quality of the product are validated as necessary.
- Instructions and procedures must be written in clear and unambiguous language using [good documentation practices](#).
- Operators must be trained to carry out and document procedures.
- Records must be made, manually or electronically, during manufacture that demonstrate that all the steps required by the defined procedures and instructions were in fact taken and that the quantity and quality of the product was as expected. Deviations must be investigated and documented.
- Records of manufacture (including distribution) that enable the complete history of a batch to be traced must be retained in a comprehensible and accessible form.
- Any distribution of products must minimize any risk to their quality.
- A system must be in place for recalling any batch from sale or supply.
- Complaints about marketed products must be examined, the causes of quality defects must be investigated, and appropriate measures must be taken with respect to the defective products and to prevent recurrence.



# Beer

- Historically safe from a public health point of view
- Pathogenic organisms cannot survive in beer
  - Alcohol, low pH, hops are antimicrobial, low oxygen, carbon dioxide, low nutrients
- New ingredients
- Draft NA beer is a new risk.



- Keep them in a sharable location
  - Google docs
  - Dropbox
  - Company computer
- Date on the document
- Give the document a number
- List the revisions
- Make an individual responsible for signing off on the document.
- Notify staff of the updates



- **MILLING IN**

1. -Follow the instructions for the weigh hopper display exactly or it may not work correctly.
2. -Press on (Display will say "hello". If it says "hi" it needs maintenance)
3. -Press Gross.
4. -Press Zero/Re-Set. (It should then read zero)
5. -Enter target weight (total grain bill).
6. -Press Load/Unload.
7. -Make sure hopper is empty, slide gate on weigh hopper is closed.
8. Make sure the red door to mill is closed. The handle must be to the right when the mill is powered up to prevent it from having to start up under a load of grain.
9. Turn on power box to grain loader, there are two switches. Turn on vertical auger and then horizontal auger for the dump station.
10. -Weigh out and dump in any specialty grains which are less than 50#
11. -Dump in buckets of specialty malt and drop bags of specialty malt on to blades until all specialties are in.



6. Partially open the valve ahead of the pre-filter to drain the Perosan out of the beer line and pump. It will spray over the floor. Open the small drain valve in the line just under the pre-filter and the sample port. Once gas comes out of the valve rather than liquid close the valve.



7. Partially open the valve downstream of the pre-filter to drain the perosan out of the pre-filter housing. Leave the sample port, and the bottom drain on the pre-filter open until gas rather than liquid is coming out, and then close them. Once gas rather than liquid is coming out of the valve downstream of the pre-filter then close it.





9. Partially open the valve downstream of the pad filter to drain the perosan from the housing. Once all the liquid has drained and gas is coming out of the valve then close the valve.  
**(NOTE Do not allow the pressure in the pads to rise above 30psi)**



10. Open the valve feeding the “**CROSS**” fitting in front of the final filters then partially open the drain valve after it, until gas rather than liquid is coming out. Open the valve to the final filters.



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<https://www.asbcnet.org/lab/webinars/Pages/MicrobiologyVideos.aspx>



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