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Brennereitechnologie

## TRITAL-FIX

version 12/2015

- Highly alkaline special still cleaner in powder form  
for immersion, recirculation and spray head methods -

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### Technical informations and use instructions

#### Dirt in the still:

Contamination of the still surfaces in contact with mash, spirit and distillate impair distillate quality and often require additional input of working time and energy.

Greasy dirt, layers of fusel oils (from yeast) and essential oils (from raw material) prevent contact between spirit and copper. They also cause particularly cloudy, rancid distillates.

Dark, corroded copper also impairs the so-called "catalytic" effect of pure copper. In the distiller this means the bonding of hydrogen sulphide and hydrogen cyanide, the most important precondition for proper distillates with regard to sensory perception and food regulations.

#### Cleaning principle:

Regular cleaning maintains or restores pure-metal copper and clean stainless steel surfaces inside the still. Successful cleaning consists of two consecutive steps:

1. Hot, alkaline main cleaning with **TRITAL-FIX** (as a 0.5% solution in water) for degreasing;
2. Subsequent or later lukewarm purification with a **citric acid solution** of approximately the same concentration to remove the copper patina.

If the still remains unused for several months following cleaning, step 2 should only be performed directly before recommissioning.

#### TRITAL-FIX and its effects:

Dissolved in water, **TRITAL-FIX** exerts its effects only in direct contact with dirt:

- Dried mash and foam residue and sticky or burnt layers containing protein and starch swell up in pot and bell,
- Fats, oils and resins in multiplier, reflux condenser, catalyser, spirit pipe and cooler come loose through alkaline hydrolysis.

**TRITAL-FIX** therefore facilitates mechanical cleaning with brushes and pressure rinsing equipment. In addition, it enables metal-conserving cleaning of inaccessible parts of the apparatus using recirculation or immersion methods.

#### Potential cleaning methods:

In the immersion method described in detail overleaf, the still is almost completely filled with a cleaning solution of approx. 2 kg **TRITAL-FIX** in 400 litres of water, heated and left standing for several hours.

In the recirculation method, approx. 100 litres of cleaning solution are prepared and heated in the pot, then sucked out of the pot by a pump and pushed into the receiver.

The spray head and CLP (cleaning in place) methods in principle are recirculation methods in which the cleaning solution is sprayed with high pressure into the still by spray heads.

#### Safety instructions:

As a powder, but also in diluted aqueous solutions, **TRITAL-FIX** causes

**severe burns** of the skin and particularly the eyes. Please ensure that you

- do not inhale any dust when dissolving the powder,
- wear protective goggles and alkali-resistant waterproof protective clothing and
- do not leave the still unattended during cleaning.

#### Composition:

>50 % Sodium hydroxide  
15-30 % Phosphates  
<5 % Anionic surfactants

#### Material compatibility:

Alkali-resistant plastics and sealing material, copper, brass, steel, stainless steel and compounds of these materials are resistant to **TRITAL-FIX** but not aluminium, aluminium alloys and galvanised metals.

#### Additional information:

A 1-2% solution of **TRITAL-FIX** is suitable for the cleaning of steel reservoirs, plastic containers, appliances and pipes. Depending on the degree of contamination, the solution should be allowed to act for 15-30 minutes at min. 70°C before rinsing well with fresh water.

#### Storage:

Tightly closed, out of the reach of children.

#### Container size:

2 kg screw-cap jar (no. 5910)

### Work instruction for cleaning of a 150 litre still with TRITAL-FIX using the immersion method

*The cleaning of a still for which production is estimated at a standard level for tax purposes, whose filling opening is closed and whose heater is put into operation has to be reported to the competent main customs office in time as a cleaning firing!*

#### 1. Hot alkaline main cleaning with TRITAL-FIX for degreasing

- a) Remove any coarse contamination, stillage sludge and foam residue from the pot by mechanical precleaning.
- b) Close the sludge drain tap and fill the pot with 100 litres of cold or at most lukewarm water. (**Caution:** Using hot water could lead to sudden boiling as the dissolution of **TRITAL-FIX** produces additional heat!)
- c) Carefully stir in the entire contents of one package of **TRITAL-FIX** (2 kg).
- d) Close the filling opening, switch off the cooling system and, if technically possible, open the bubble-cap trays.
- e) Place a collection container under the receiver.
- f) Fill the still with cold water up to the second tray, preferably from the pot (e.g. via a taper with a hose coupling on the sludge drain). Ensure complete dissolution and even distribution of the cleaning agent.
- g) If filling with water from below is not possible, the still must be filled via the top sight glass. In order to ensure a sufficiently high concentration of **TRITAL-FIX** also in the multiplier, it is recommended to drain several litres of cleaning solution from the pot and then to pour it in via the sight glass.
- h) Reclose the sight glass.
- i) Heat the cleaning solution to 75°-80°C.
- j) If possible, add water from the pot until several litres of cleaning solution have drained from the receiver. This will ensure that the reflux condenser, the spirit pipe and the cooler are also reached by the solution.
- k) Allow the cleaning solution to act for at least 1 hour or longer in case of less frequent cleaning.
- l) Ensure the receiver is open so that air can flow back into the still during subsequent draining of the cleaning solution.
- m) Slowly drain the cleaning solution: **Attention: carefully open the filling opening lid only after the still is completely drained!**
- n) To remove loose dirt, the soaps forming during cleaning and cleaning solution residue, it is recommended to rinse the still from the receiver with warm tap water. **Caution:** the sludge drain tap must remain open to prevent excess pressure in the still!

#### 2. Cold or lukewarm purification with citric acid to remove copper patina

**Citric acid** is also used in a 0.5% aqueous solution. It also acts only in direct contact with dirt, meaning the immersion method described in Section 1 is also suitable for purification. In the process, 2 kg of citric acid are dissolved in 400 litres of water and allowed to act; however, the following variations and guidelines apply:

- The **citric acid** solution should only be lukewarm and should only be allowed to act until the pure copper starts to appear, and should not be allowed to inflict unnecessary damage to the copper metal.
- Following successful previous alkaline main cleaning, purification with citric acid will take no longer than 15-20 minutes.
- If no copper metal starts to appear in the multiplier part after a substantial amount of time or after heating to 40°C, the alkaline main cleaning with the used quantity of **TRITAL-FIX** or the application time have been insufficient and must be repeated.
- The same applies if you observe black streaks running from the multiplier down into the pot when draining the used citric acid solution.
- In order to remove any citric acid residue and dissolved copper salts from the descending part of the still, rinsing with generous quantities of fresh water from the receiver or general cleaning with water should be performed.

#### Catalyser cleaning information:

Due to the large internal surface of the catalyser, it may be more effective to clean it separately. This is particularly true for types not equipped with a spray head but whose copper fillings can be dismantled and removed. Consider the recommendations of the still manufacturer in this respect.

#### Cleaning solution disposal information:

Both cleaning solutions should be carefully mixed after cooling down and, if necessary, neutralised with a small quantity of diluted sulphuric acid, and then drained into the sewer provided the potential copper exposure does not violate any local regulations. If in doubt, please ask your local sewage treatment plant about separate disposal options.

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