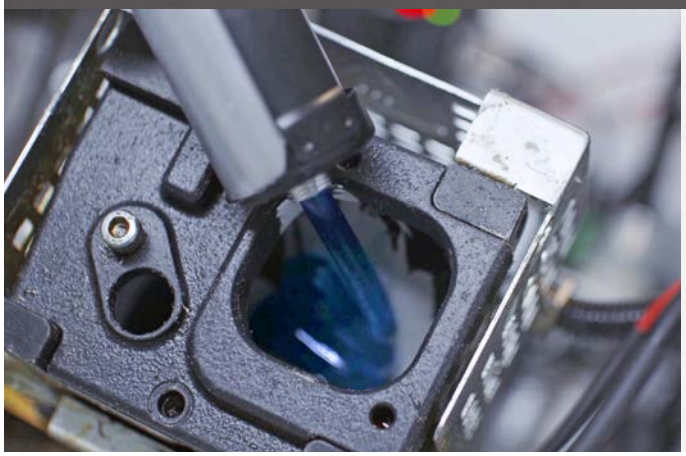
KLEIBERIT®
ADHESIVES • COATINGS

CLEANER FOR MELTING UNITS AND APPLICATION EQUIPMENT



Bulk melters, bag melters, drum unloaders, rollers, slot nozzles, slot coating head etc.

Competence PUR

Contents

1. Safety

Cleaning work may only be carried out by trained personnel wearing appropriate protective clothing! Heat-resistant gloves must be worn for all work, and wearing safety goggles is mandatory. The machines operate at very high temperatures, which can quickly lead to severe burns. When working with adhesive systems that must be heated, it is essential to ensure that an appropriately equipped extraction system is used. The vapors generated in the process must be extracted. The safety regulations prescribed by the manufacturer must be observed, as well as all other instructions regarding handling, application, etc.

2. When is cleaning necessary?

- loss of the required coat width (blockage in the system)
- noticeable contamination of the machine through PUR hotmelt
- long down times / pauses of the machine i.e. holidays
- in any case the equipment should have a major cleaning at least once a year.

3. Cleaning of bulk melters

3.1 Standard cleaning with KLEIBERIT 761.7 or KLEIBERIT 761.9

After work with the bulk melter is completed the application head has to be removed from the pipe. Allow the remaining adhesive to run out. Stuck on adhesive can be taken off with a long non metallic spatula (wood, teflon or plastic). After removing the larger adhesive remains the tank should be half filled with KLEIBERIT 761.7 or 761.9 melt the cleaner should be melted completely (for temperature please see enclosed data sheet 761.7 or 761.9). During the melting process turn the pump on briefly several times to remove the last adhesive remains in the system as well as the hose. Adhesive remaining on the tank walls can be removed with the cleaner and a non metallic spatula (wood, teflon or plastics). Now the pump needs to be run consciously to allow the entire cleaner to run through the system, this should remove all remaining adhesive. The cleaner should be pumped into a suitable container. When the cleaner has been completely pumped through the system, the tank should be filled up to approx. ¼ of its volume with KLEIBERIT 761.7 or 761.9 again.

The hose must now be reconnected to the applicator head. Once the cleaner has been molten completely, it needs to be run through the system to clean the pressure relief valve / by pass valve. Afterwards let the cleaner run through the nozzle.
It is recommended to change the filters after cleaning is completed. After the filter change the system is ready to be loaded with new adhesive or to be turned off.

3.2 Major cleaning with KLEIBERIT 826.0

The bulk melter should have a major cleaning once or twice a year. This could be done during annual shut down or at the end of the year. A standard clean has to precede a major clean. After finishing the standard clean fill KLEIBERIT 826.0 (details see technical data sheet) into the tank (1 to 2, 4.5 kg canister, depending on the tank volume). All areas of the system should then be heated to 180 °C. Once this temperature has been reached, place the hose end, without the applicator head into the tank. It is important that a sieve is attached to the hose end, to ensure all contamination can be removed from the system. Now the pump can be turned on. The KLEIBERIT 826.0 will circulate in the system. The cleaning / circulation process should last for 1-3 hours. Stubborn contamination of adhesive can be removed with a non metallic spatula (wood, teflon or plastic). The cleaner can be filled back into the canisters after the cleaning process has finished. Generally, depending on the PUR remains in the system, the cleaner KLEIBERIT 826.0 can be used 2-4 times.

Cleaning

After cleaning has been completed the sides of the tank can be wiped down with a paper towel or lint free cloth. To remove every trace of the KLEIBERIT 826.0 from the pump and hose, cleaner KLEIBERIT 761.7 or 761.9 have to be filled into the system again. The machine is now ready to be switched off. Before use the next time it has to be ensured that no 826.0 has remained in the system. In any case purge the pump and the hose with adhesive before the applicator head is applied to the hose.

4. Cleaning of bag melters

4.1 Standard cleaning with KLEIBERIT 761.7 or KLEIBERIT 761.9

Before starting the cleaning process, the adhesive should be completely processed if possible. Then move the plunger out of the unit and carefully remove the empty adhesive container. Remove any visible adhesive residues inside the tube using a non-metallic spatula (e.g. wood, Teflon, or plastic). Next, disconnect the hose from the application head and pump the remaining adhesive in the reservoir out of the system.

A block or granulate of KLEIBERIT 761.7 or 761.9 cleaner can now be filled into the tube. Melt the cleaner completely and pump it through the hose into a suitable container. Depending on the manufacturer, the tube with the melting plate above the reservoir may be tilted, allowing direct cleaning of the reservoir. The plate can then be cleaned from below with a non-metallic spatula (e.g. wood, Teflon, or plastic). Alternatively, the cleaner can also be filled directly into the reservoir in granulate form. After completing the cleaning process, melt a small additional amount of 761.7 or 761.9. Reconnect the application head and flush the by-pass or pressure relief valve, then discharge the cleaner through the application head. Finally, the unit should be switched off so that, after sufficient cooling, any cleaner cartridge used can be removed from the container. Then empty the system completely via the hose and the head. The unit can now either be switched off or refilled with new adhesive.

4.2 Major cleaning with KLEIBERIT 826.0

The bulk melter should have a major cleaning once or twice a year. This could be done during annual shut down or at the end of the year. A standard clean has to precede a major clean. After finishing the standard clean fill KLEIBERIT 826.0 into the tank (1 to 2 4.5kg canister, depending on the tank volume). All areas of the system should then be heated to 180°C.

Once this temperature has been reached, place the hose end, without the applicator head into the tank. It is important that a sieve is attached to the hose end, to ensure all contamination can be removed from the system. Now the pump can be turned on. The KLEIBERIT 826.0 will circulate in the system. The cleaning / circulation process should last for 1-3 hours. Stubborn contamination of adhesive can be removed with a non metallic spatula (wood, teflon or plastic).

The cleaner can be filled back into the canisters after the cleaning process has finished. Depending on the PUR remains in the system, the cleaner KLEIBERIT 826.0 can be used 2-4 times. After cleaning has been completed the sides of the tank can be wiped down with a paper towel or lint free cloth. To remove every trace of the KLE IBERIT 826.0 from the pump and hose, cleaner KLEIBERIT 761.7 or 761.9 have to be filled into the system again. The machine is now ready to be switched off. Before use the next time it has to be ensured that no 826.0 has remained in the system. In any case purge the pump and the hose with adhesive before the applicator head is applied to the hose.

5. Cleaning of drum un-loader

5.1 Standard cleaning with KLEIBERIT 761.7 or 761.9

Firstly raise the platen of the adhesive. Adhesive remaining on the platen can be scraped of with a non metallic spatula (wood, teflon or plastic). Attach appropriate KLEIBERIT 761.7 or 761.9 in a suitable packaging and start to melt the cleaner. Remove the application head from the hose. Purge the cleaner from the drum through the pump and the hose into an empty container i.e. a drum. As soon as the drum is empty a further another drum of cleaner can be used. The pump can be switched of in certain intervals to allow the cleaner to can react with remaining adhesive to clean the inside of the system efficiently. After the cleaning process it completed the drum with the cleaner can be left attached to the system. This allows the system to remain sealed and it can now be turned off or is ready for to be use with adhesive.

5.2 Major cleaning with KLEIBERIT 826.0

A major cleaning of the drum un-loader has to be preceded by a standard cleaning process. Ensure that any adhesive remains and any other contamination have been removed from the system.

Fill KLEIBERIT cleaner 826.0 into an empty and clean drum. Attach the drum to the system and heat all components to 180°C. Switch on the pump, and pump the cleaner through the hose into an empty drum. As soon as the drum with the cleaner is empty switch it with the

now filled drum. This cycle should last between 1-3 hours. This process should be monitored as the drums have to be switched over ever time the drum is empty. The pump should be turned off in certain intervals to ensure the cleaner can react with the contamination inside the system. Remove the drums when the cleaning process is completed and attach the drum with the KLEIBERIT 761.7 or 761.9 to the system. Purge the remaining KLEIBERIT cleaner 826.0 completely out of the system. The system can now be turned of or is ready for use with adhesive.

5.3 Intensive standard cleaning with KLEIBERIT 761.6

Cleaning with KLEIBERIT 761.6 can be regarded as an intensive standard cleaning process. In this process, the advantages of KLEIBERIT 761.7 and KLEIBERIT 826.0 are combined in one product. The cleaning procedure can be applied equally to drum melters, tank melters, and bag melters. In addition, various types of nozzle application heads can also be cleaned with KLEIBERIT 761.6. The following example describes the cleaning process using KLEIBERIT 761.6 on a tank melter in combination with a wide-slot nozzle. Depending on the tank size, insert the appropriate amount of KLEIBERIT 761.6 into the emptied tank, while observing the safety precautions that also apply to PUR hotmelts. For optimal effectiveness, the cleaner should be completely melted at 150 °C. The components to be cleaned, such as hoses, should be heated to the same temperature.

After melting, start the pumping process until the cleaner emerges from the open hose end. Then stop the pumping process for approximately 30 minutes to allow the cleaner time to take effect. Next, position the hose end with the opening facing downward over a collection container and pump for about 5–10 seconds at a moderate speed. Then stop again for about 30 minutes. Depending on the degree of contamination, this procedure should be repeated several times. If the system has not been cleaned for a long time, the cleaner may remain in the system for several hours, provided the usual safety precautions are observed. Once no particles or similar residues are visible in the freshly discharged melt, the wide-slot nozzle can be reattached to the open hose end. The cleaning of the nozzle is then carried out in the same manner as for the tank and hose. When no more particles or residues are visible in the freshly discharged melt, the cleaner remaining in the system can be completely pumped out. Afterwards, new filters must be installed in the nozzle and the pump.

When restarting a cleaned system, ensure that no blue-colored cleaner remains in the system. This is achieved by pumping freshly melted PUR hotmelt through the system until the blue color of the cleaner is no longer visible. The best results are achieved when the PUR hotmelt used for the flushing phase is processed at the lower processing temperature specified in the respective technical data sheet. Seal any unused portions of a container tightly to protect them from moisture for later use.

Cleaning

6. Cleaning of application rollers

When working with PUR has finished the application system has to be emptied, if required remove remaining adhesive by reversing the system. Immediately afterwards allow KLEIBERIT cleaner 761.8 or 760.3 (see pictures) to melt and using the reverse allow the cleaner so remove all remaining PUR hotmelt. The rollers must be completely together. Depending on the contamination this process has to be performed 1-2 times. The rollers should be run for 5-10 mins in reverse. Afterwards remove the cleaner with a clean cloth (see pictures). Please note gloves must be worn and general safety instructions must be followed. Cross linked PUR hotmelt can only be removed mechanically.

7. Cleaning of slot nozzles, slot coaters and contact free systems

The cleaning of slot nozzles, slot coaters and contact free systems is done with the same afore mentioned cleaners. The cleaner (761.7/.9) is pumped through application unit via the cleaned melting system and the hose. This cleans the application unit. This cleans the unit, before the unit is beginning used again all remaining cleaner has to be purged out with the help of PUR adhesive.

7.1 Long production stops without cleaning

The variety of different application units and their manufacturers, and the variety of the different reactivity of the used adhesive make the experience values of the user and the specialist of KLEIBERIT essential. Generally speaking it is possible, for a closed system which is still loaded with adhesive, to be left without heating for 72 hours. Information provided by the equipment manufacturer as well as information provided by KLEIBERIT must be observed.

A Application units which are sealed air tight mechanically

When work stops the system is sealed whilst still hot. With a slot nozzle for example this is done via the width adjustment. The heat can

now be turned off. To guarantee a seal the nozzle can be coated with KLEIBERIT 761.7/.9 cleaner (block format). This coat must be removed before the next process is started.

B Application units which are not sealed mechanically

When works stops the application unit is sealed with KLEIBERIT 761.7/.9 cleaner (block format). This can either be applied to the unit or the unit (still hot) can be pressed into the cleaner block. This ensures that the cleaner will seal the unit completely and not humidity can enter the system. Is the nozzle to big to be sealed by the block, an appropriate form can be filled with cleaner granulate and the unit can be pressed into this. Ensure that the head is completely coated.

7.2 Major cleaning / cleaning tips

Cleaning instruction of the equipment manufacturers have to be observed. Nozzles and heads which can be disassembled can also be "boiled" out with KLEIBERIT 826.0 cleaner. It is recommended that after every major cleaning the seals are changed.

7.3 Tray cleaning

The dedicated stainless steal tray (i.e. in the shape of a pizza pan) is filled with KLEIBERIT 826.0 and heated to approximately 160 °C. After that, the nozzles and other parts to be cleaned are placed in the cleaner for 1-3 hours, depending on contamination.

7.4 Heated vessel cleaning

KLEIBERIT 826.0 is heated up in a dedicated heated stainless steel vessel (i.e. industrial deep fat fryer). Heat the cleaner to approx. 160 °C and then submerge the parts, i.e. nozzles. Leave the parts in the cleaner for several hours.

7.5 Cleaning of metallic parts

With KLEIBERIT 822.8, metallic objects can be effectively freed from contaminants such as polyurethanes. Slot nozzles, hand application devices, steel rollers, and other machine parts can be cleaned using cleaner 822.8.

The respective components should preferably be immersed in a cleaning bath. At room temperature, the exposure time is approximately 4 hours. When the temperature is increased to around 50 °C, the exposure time is approximately 1 hour. Please be sure to observe the relevant safety regulations (protective gloves, safety goggles, etc.).

8. Cleaning of press rollers, machine parts, transport rollers and tools

All machine parts requiring cleaning should be cooled down to room temperature. Depending on their size the parts can be coated with a brush or a clean cloth with KLEIBERIT 820.0 or 823.3 cleaner. The cleaner should be left for 30 to max. 60 mins.

The loosened PUR hotmelt remains should then be removed mechanically. Minor contamination can be removed mechanically without the soaking time.

9. Technical information

Product	760.3	761.0	761.7	761.8	761.9	820.0	822.8	826.0
Viscosity [mPa.s] at 120°C	-	110,000	11,000	-	60,000	–	–	–
Specific gravity (g/m³)	1.19	approx. 0.98	approx. 0.98	approx. 0.98	approx. 0.90	approx. 0.83	1.05	–
Delivered as ...	powder	granulate/cartridges/ aluminum tins/ pouch bag	granulate/ block	granulate/ block	granulate/ block	liquid	liquid	liquid
Color	white	mahogani	blue	white	green	clear	clear/ slightly oily	clear/oily

Overview

10. Cleaner and packaging formats

Packaging	760.3	761.0	761.6	761.7	761.8	761.9	820.0	822.8	826.0
HolzHer 0.2 kg can		●	●	●		●			
Alu bag in fiber drum 1.5 kg				●					
Alu bag in fiber drum 1.8 kg			●						
Alu bag in fiber drum 15 kg				●		●			
Alu bag in fiber drum 18 kg			●						
Stand-up pouch 0.22 kg				●					
Stand-up pouch 0.4 kg			●						
US pail (Ø 285 mm) 15 kg				●					
US pail (Ø 285 mm) 18 kg			●						
Pail (Ø 280 mm) 15 kg				●					
Pail (Ø 280 mm) 18 kg			●						
Aluminum cartridges (200 m l) 0.1 kg				●					●
Aluminum cartridges (310 ml) 0.25 kg				●					
PE bag 20 kg				●					
Paper bag 20 kg	●								
Drum 150 kg				●		●			●
Plastic pail 20 kg	●				●				
Fiber drum 136 kg					●				
Bottle 0.756 kg (toluene free)							●		
Bottle 0.756 kg							●		
Canister 4.5 kg (toluene free)							●		
Canister 4.5 kg							●	●	●
Export can 20 kg							●		
Can 24 kg							●		
Can 22 kg (toluene free)							●		
Can 32 kg									●
Drum 215 kg									●

KLEIBERIT SE & Co. KG
Max-Becker-Str. 4
76356 Weingarten/Germany
Phone: +49 7244 62-0
Email: info@kleiberit.com
www.kleiberit.com