

## CL-MDF-ST-I-EE (Alkaline Solution)

PRODUCT DATA SHEET  
EDITION 01 – 11 June 2013

### PRODUCT DESCRIPTION

CL-MDF-ST-I-EE Alkaline solution is a cleaning agent for the cleaning of:

- Tin and Tin/Lead stripping machines and rinse modules.
- Dry film stripping machines.

The cleaning of the dry film developing/stripping plants should include the use of decontamination solution CL-DF-ST-I-EE Acid solution.

The application of CL-MDF-ST-I alkaline solution alone satisfies the cleaning of Tin and Tin/Lead stripping-plant.

CL-MDF-ST-I-EE Alkaline Solution allows a comprehensive and thorough cleaning of resist stripping and developing machines (in connection with cleaning agent CL-DF-ST-I-EE Acid Solution) and:

- Achieves an improvement of the developing/stripping quality through an optimal cleaning.
- Reduces the maintenance time of the plant to ¼ of the previous time required.
- Removes residues and reduces the usual need to prick out the spray nozzles.
- The automatic cleaning process improves the safety and reduces accident risk during the cleaning.
- Hygiene risks for the operators and service people will therefore be reduced.
- This cleaning process, operated in a closed loop circuit eliminates pollution of the equipment's direct environment, that is unavoidable with traditional cleaning procedures.
- Traditional and well-proved waste water processes, applied in plating areas, finally guarantee a non-polluting processing of the waste solutions generated with the cleaning process.

### PHYSICAL PROPERTIES

State	Liquid
pH	> 14.0
Colour	Light Blue / Green
Odour	Odourless
Boiling Point	116°C to 119°C
Combustibility	Not flammable
Self-Combustibility	Not self-igniting
Density (at 20°C)	1.4g/cm <sup>3</sup>

## CLEANING PROCEDURE

CL-MDF-ST-I-EE Alkaline solution can be used in all standard Tin and Tin/Lead stripping machines and dry film developing/stripping machines.

### Cleaning process for Tin and Tin/Lead stripping machines:

1. Empty the stripping machine. It is advantageous, to pre-rinse the bath with DI-water.
2. Fill the emptied equipment to 50 % with DI-water.
3. Add carefully 16% - 20% concentrated cleaning agent CL-MDF-ST-I-EE alkaline solution, according to the state of the machine and the intensity of cleaning required.
4. Fill the equipment up to 100% with DI-water.
5. Run the machine at a suitable rate between 30 and 45 minutes at a temperature of 25°C to 30°C (according to state of the machine).
6. Empty the bath and rinse with DI-water.
7. Refill the equipment according to the specifications.
8. Resume the production.

### Cleaning process of the rinsing modules:

1. Empty the rinse modules. It is advantageous to pre-rinse the bath once with DI-water.
2. Fill the rinse modules up to 50 % with DI-water.
3. Add carefully 16% - 20% concentrated cleaning agent (according to state of the machine).
4. Fill to 100% with DI- water.
5. Switch on the circulation of the rinse modules for a period of 30 minutes (according to state of the machine).
6. Empty the rinse modules.
7. Fill the rinse modules and resuming production.

## CLEANING PARAMETERS

Parameters	Range	Optimum
Temperature	20 – 30°C	
Contact Time	30min – 45min	
Frequency	Stripping bath: two weeks Rising modules: once a week	
All other parameters	Same as for the cleaning machine	

## CLEANING RESULTS

The cleaning result depends on contamination level of the machine and the rinse modules.

The cleaning can be repeated several times.

It is also possible to increase the concentration of the cleaning agent.

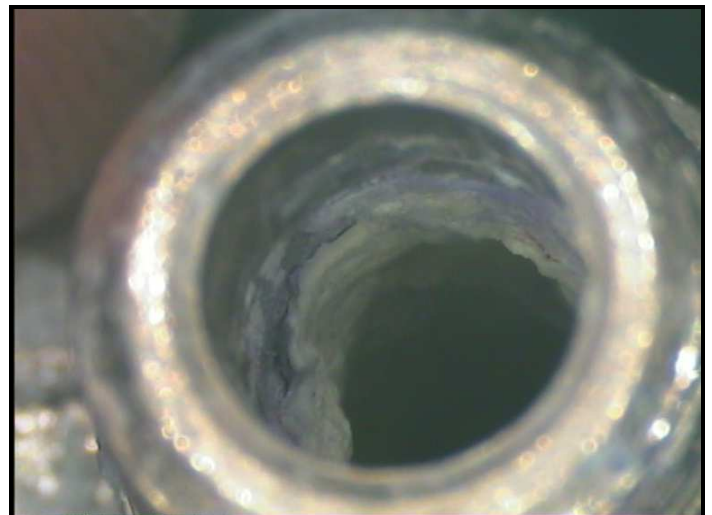
Nozzle before cleaning



Treatment: 30min at 25°C



Nozzle after cleaning



## PACKAGING

25 litre or 200 litre polyéthylène drums.

## DISPOSAL

### Processing of the used cleaning agent for stripping bath and plant:

- Adjust the pH-value to 5 to 6 with 96% sulphuric acid [H<sub>2</sub>SO<sub>4</sub>] or with 33% hydrochloric acid [HCl].
- Precipitation with sodium sulphide [Na<sub>2</sub>S].
- Neutralisation with Calcium Hydroxide [Ca(OH)<sub>2</sub>] or caustic soda [NaOH].
- React with Calcium Hydroxide [Ca(OH)<sub>2</sub>] and ferric-chloride [FeCl<sub>3</sub>].
- Flocculation with a flocculation amine.
- Decant resultant liquor.
- Adjustment of the pH-value with caustic soda, to 7 or as agreed with the local water authority.

### Processing of the used cleaning agent for the rinsing bath:

- Precipitate with sodium sulphide [Na<sub>2</sub>S].
- React with Calcium Hydroxide [Ca(OH)<sub>2</sub>] and ferric-chloride [FeCl<sub>3</sub>].
- Flocculation with a flocculation amine.
- Decant off the resultant liquor.
- Adjustment of the pH-value with caustic soda as above.

Dispose of spent solutions in accord with local regulations.

## STORAGE

Only store CL-MDF-ST-I-EE Alkaline solution in original containers, upright, away from direct sunlight and in a dry area at 10 – 32°C.

Keep container closed when not in use.

## HANDLING PRECAUTIONS

CL-MDF-ST-I-EE Alkaline solution is strongly alkaline and can cause burns to skin and eyes.

Protective clothing such as impervious gloves, apron, boots, and chemical safety goggles should be worn when handling this product.

**READ MATERIAL SAFETY DATA SHEET PRIOR TO HANDLING THIS PRODUCT**

**In case of order please indicate this code:**

**CL-MDF-ST-I-EE (Alkaline Solution)**

**GC2410**

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