ACIDIC CLEANER

COSA™ CIP 77

Liquid acid detergent

Liquid, acid detergent based on inorganic acid in the pharmaceutical and cosmetic industries

Why COSA CIP 77?

Effective

COSA CIP 77 is an acid detergent based on inorganic acid, used in clean-in-place (CIP) pharmaceutical equipment including homogenisers, tanks and pipelines as well as fermenters and similar equipment. It is especially suitable for the removal of iron-oxide-red pigments.

Quality assurance

COSA CIP 77 is surfactant-free and can be controlled using conductivity. COSA CIP 77 is supported by a complete validation package including techniques for determining acceptable residual levels and analytical methods for residue quantitation.

Documentation package

- Certificates of Analysis (CoA)
- Analytical Method Descriptions Residue Analysis
- Ecological Assessment (EA)
- Toxicological and Limit Setting Information (PDE)
- Safety Data Sheet (SDS)

Subject to incoming goods control			
Appearance	Clear, yellow-brown liquid	**Density**	1.53 - 1.57 g/cm³ (at 20°C)
Titration	**Use solution:** 50 mL (1% solution) **Titrant:** 1.0 mol/L Sodium hydroxide (NaOH) **Endpoint:** pH value = 8.3 **Consumption:** 7.0 - 7.4 mL % Acidity (expressed as Phosphoric Acid): $\%\ \text{Acidity as } H_3PO_4 = \frac{(\text{mL NaOH to pH 8.3})*(1.0\ \text{mol/L})*(49)*(100)}{\text{Sample weight [g]}*(1000)}$ **% Alkalinity (expressed as H_3PO_4):** 68.60 - 72.52%		

Properties		
Concentrate	**Storage stability**	0°C - 40°C
	Frost resistance	Short time of frost is possible, product has to be homogenised after thawing
	TOC	0.61%
Application solution	**pH**	1.5 - 1.9 (1%, 20°C, deionised water)
	Conductivity	8.1 mS/cm (1%, 20°C, deionised water)
	Foam behaviour	Non-foaming
	Rinse behaviour	Final rinse with water of minimum drinking water quality, ensuring all soil and product residues are removed. No specific requirements for water temperature.
	Water quality	Minimum drinking water quality
Material compatibility	**Metals**	COSA CIP 77 is, under the application described below, compatible with: austenitic CrNi steels (quality at least din 1.4301 = Aisi 304)
	Plastics	COSA CIP 77 is, under the application described below, compatible with: PE, PP, PTFE, PVDF

ECOLAB®

GLOBAL EXPERTS IN CONTAMINATION CONTROL

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Application

Mode of application	**Standard CIP processes** After the alkaline cleaning and intermediate rinse a 0.5 - 2% COSA CIP 77 solution is used at 60 - 80°C for 20 - 30 minutes. **Specific procedure to remove iron oxide red pigments** **Concentration:** 5 - 10% COSA CIP 77 **Temperature:** 60 - 85°C **Contact time:** 20 - 30 minutes **General cleaning** **Concentration:** 1 - 3% COSA CIP 77 **Temperature:** 5 - 85°C **Contact time:** depending on the degree of soiling Concentration, temperature and cleaning time can be optimised by evaluation of respective cleaning trials. Final rinse with water of minimum drinking water quality, ensuring all soil and product residues are removed.

Monitoring

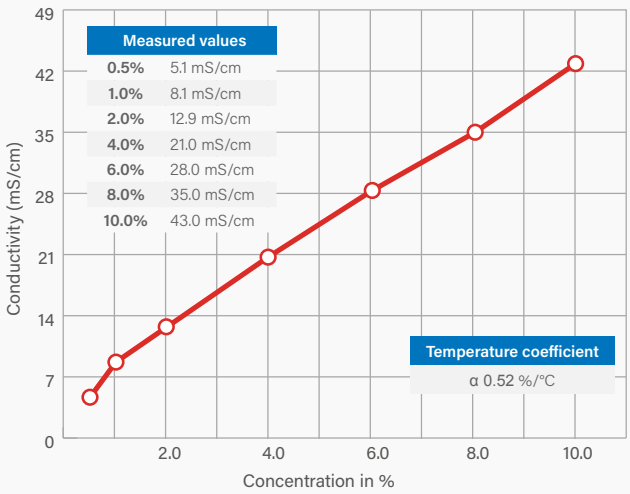
Titration	**Receiving flask:** 50 mL application solution **Titration solution:** 1 n sodium hydroxide solution (NaOH)	**Indicator:** phenolphthalein **Titration factor:** 0.14 Volume added in mL x 0.14 = % COSA CIP 77
Conductivity	Specific conductivity of COSA CIP 77 (see graph below)	
Concentration control	The dosage of COSA CIP 77 can be carried out conductivity-controlled, volume proportional to the water flow cyclic and time proportional. We recommend the use of P3-Elados-EMP-diaphragms pumps for metering and for control and phase separation of the COSA CIP 77 solution the use of P3-LMIT 09 inductive conductivity meters.	

Ecological evaluation

Evaluation	◥ Predominantly inorganic product ◥ Excellently biodegradable: the organic component fulfills the stringent requirements of the OECD for a classification as "readily biodegradable", i.e. it is readily and eventually completely biodegradable in the environment ◥ Consider maximum permissible limits for pH values
P-content	24.40%
N-content	0.00%
COD	15 - 20 mg O_2/g

The complete ecological evaluation is available on the cleaning validation website **www.ecolab-cleaning-validation.com**

Specific conductivity (20°C, 0 °dH)



Safety

The relevant hazard identifications of COSA CIP 77 are given in the Safety Data Sheet available at safetydata.ecolab.eu. If any questions arise in this context please contact your Ecolab representative.

A Toxicological Hazard Assessment is also available on the cleaning validation website **www.ecolab-cleaning-validation.com**

For product ordering information, please contact your Ecolab Account Manager or email infoLS@ecolab.com

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