cleaner

Extran® detergents

The perfect solution for
cleaning your laboratory utensils

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the U.S. and Canada.

MilliporeSigma

Extran® – reliable all-purpose detergents

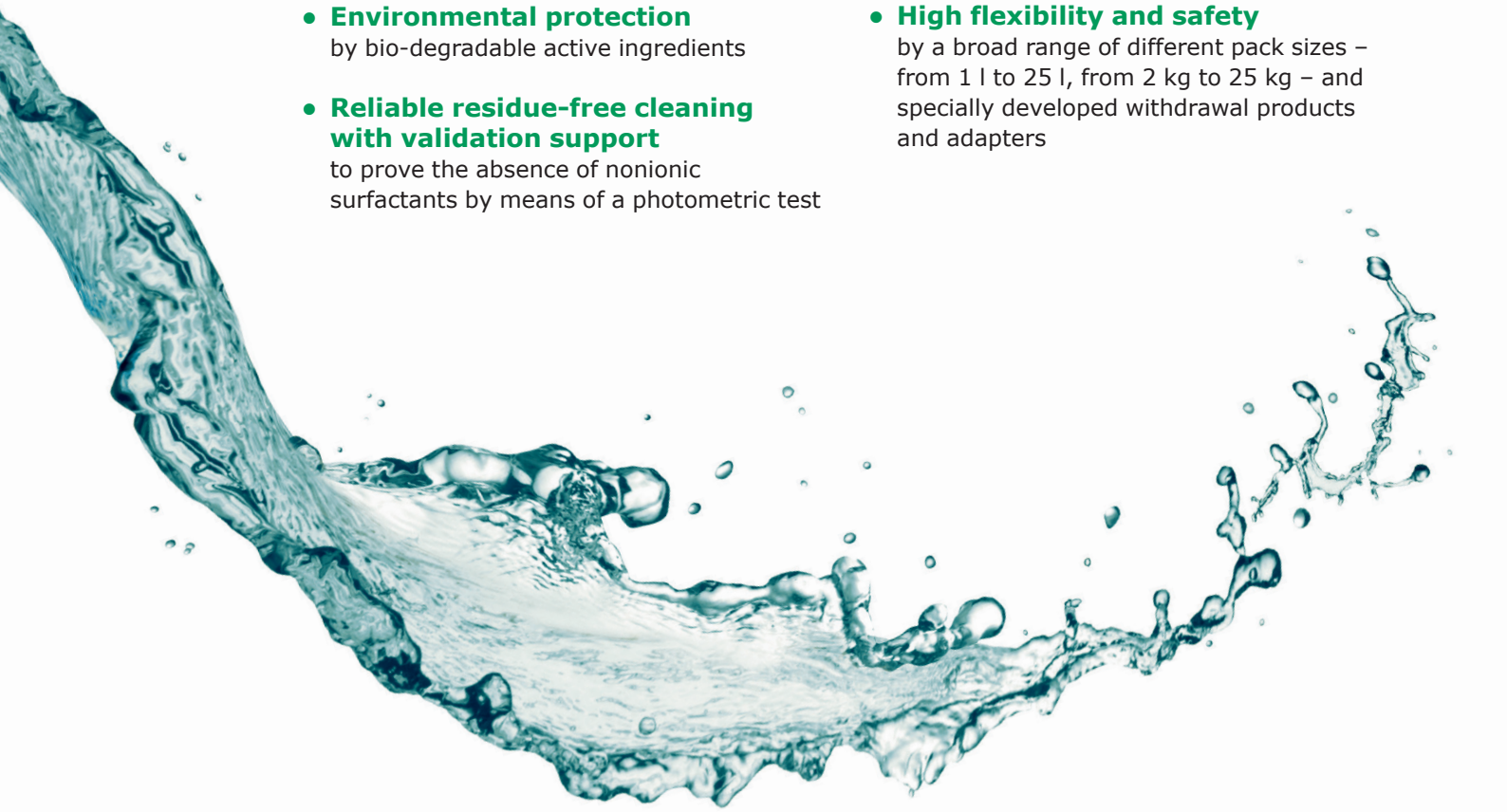
Thorough, residue-free cleaning is essential for reliable processes. This applies to both: laboratories and production facilities. Everything that comes into contact with chemicals or biological substances must be free of impurities, both before and after use.

Put your trust in many years of Extran® experience from EMD Millipore and use our detergents for **manual cleaning** (MA) or **machine cleaning** in laboratory washing machines (AP).

Your advantages

Extran® is a reliable cleaning agent of consistent composition that ensures proper scientific working procedures and avoids a frequently modification of processes and applications.

- **Reliable results**
  by long-term detergent experience, constant product quality and composition, outstanding solubility and flowability
- **Environmental protection**
  by bio-degradable active ingredients
- **Reliable residue-free cleaning with validation support**
  to prove the absence of nonionic surfactants by means of a photometric test
- **Health protection**
  no known allergy risk or smell nuisance because Extran® is free of scent, dyestuff, oxidants, chlorine, enzymes and NTA. Extran® replaces toxic cleaning agents
- **Save time and money**
  with highly concentrated Extran® detergents and technical application support
- **High flexibility and safety**
  by a broad range of different pack sizes – from 1 l to 25 l, from 2 kg to 25 kg – and specially developed withdrawal products and adapters



Validation support

As international and national laws and regulations are becoming ever strict, many facilities are increasingly dependent on being able to prove residue-free cleanliness. For this purpose EMD Millipore's photometric determination method provides a practical, easy to perform cleaning validation support.

1. Validation of the analytical system that is used

It needs to be assured, that the analytical system (e.g. the photometer) that is used, is capable to detect the residues in the range of concentration that is relevant for the desired cleaning validation.

2. Sample preparation

Usually surfaces are analyzed due to their quantitative content of a desired analyte. The sample preparation should be included to the validation of the system to determine the recovery rate.

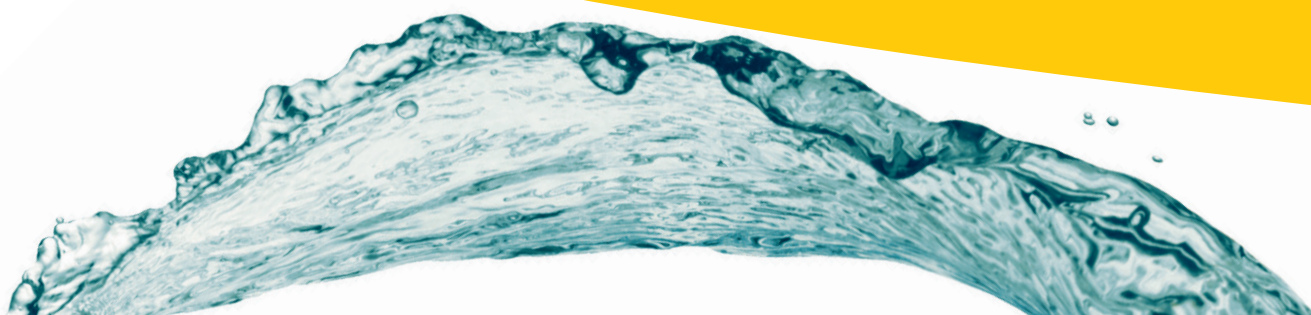
3. Analysis of the sample

Any analysis needs to be reproducible and the procedure needs to be deined precisely. This steps are described at EMD Millipore's Application aid "Surfactants (nonionic) in Extran® rinse solutions". Please see our web documentation for valid application notes.

For more information please visit us at EMDmillipore.com/extran

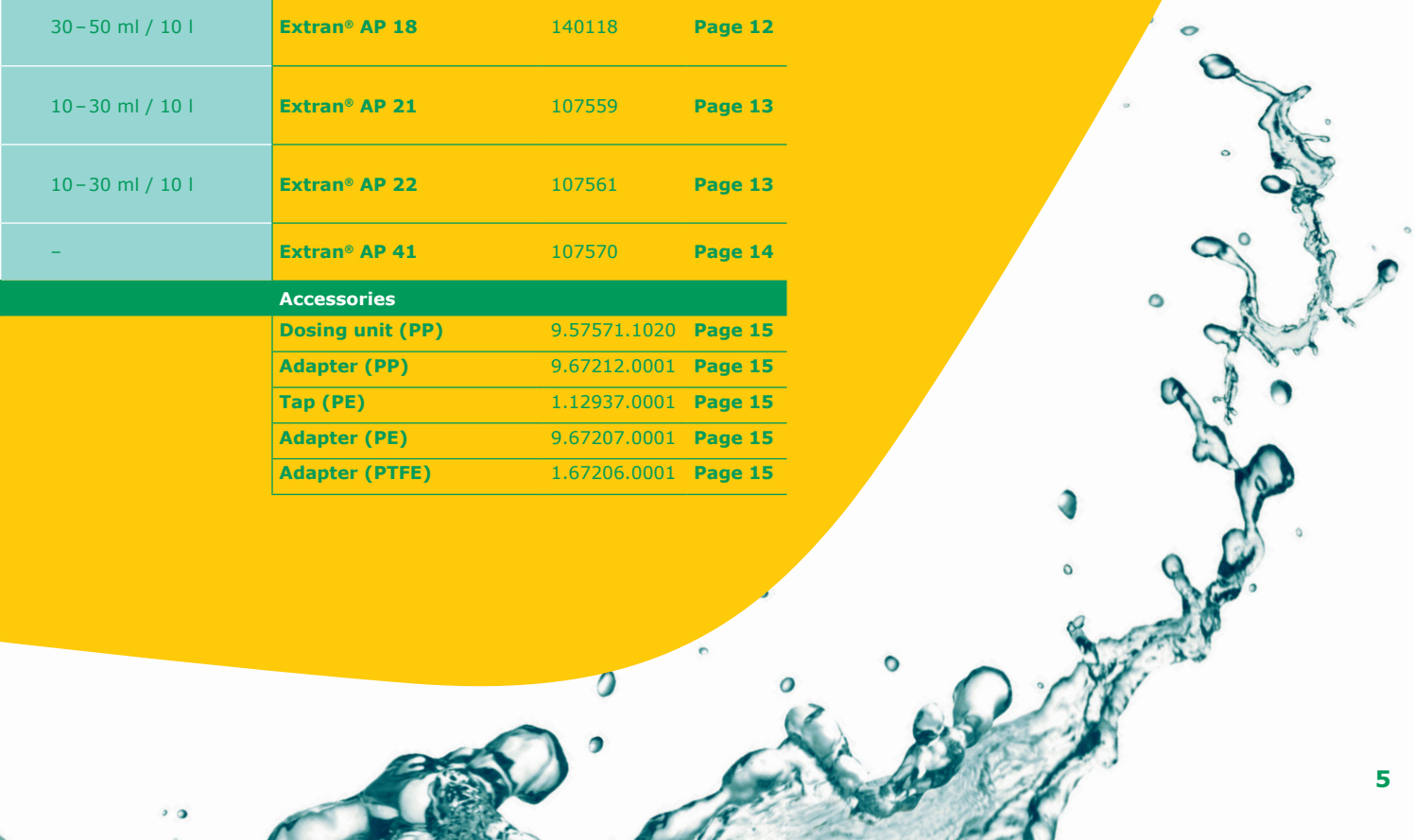
cleaning applications

Properties							Cleaning applications						Application
Liquid	Powder	Mildly alkaline	Alkaline	Neutral	Acidic		Food residues	Fat / wax / silicones (oils, greases, resins)	Organic residues	Inorganic residues	Colours / lacquer pigments	Blood / cells / proteins	Instructions
Manual washing													
•			•				•		•	•	•	•	Universal cleaning agent for heavy contamination. Even for water up to 40 °C hardness. Also for the cleaning of tables, tiles, floors in the laboratory. Also suitable for ultrasound cleaning.
•				•				•		•			Universal cleaning agent for precision measuring devices made from glass, quartz and sensitive metals. Also suitable for ultrasound cleaning.
•			•			phosphate-free		•			•		Universal cleaner for heavy contamination. Can also be used in very hard water without limitations. Environmentally-friendly since phosphate and NTA-free. Also suitable for ultrasound cleaning.
Machine washing													
	•	•						•		•			Gentle cleaning e.g. in analytical laboratories. Cleaning effect equivalent to Extran® AP 14, liquid.
	•		•				•		•	•	•	•	Active cleaning. Especially of starch and protein residues. Cleaning effect equivalent to Extran® AP 15, liquid.
•			•			with detergents	•		•			•	Active cleaning. Especially of fat residues.
•			•				•	•		•	•	•	Active and NTA-free cleaning in machines with liquid dosing. Environmentally-friendly, since phosphate-free and NTA-free. Cleaning effect equivalent to Extran® AP 12 powder.
•		•								•			Gentle and NTA-free cleaning in machines with liquid dosing e.g. in analytical laboratories. Cleaning effect equivalent to Extran® AP 11 powder.
•					•	with phosphoric acid			•				Pre-wash for residues of carbonates, hydroxides, proteins, amines, etc. Rinsing with neutralising effect. Also for gentle main wash cycle. Prevents calcareous deposits.
•					•	with citric acid			•				Gentle pre-wash and rinsing with neutralising-effect. Prevents calcareous deposits. Environmentally-friendly since phosphate-free.
•						enzymatic	•	•					For laboratories with medical and dental untensils. For the removal of mucus, saliva, blood etc. Temperature: 55 – 65 °C.



Product information

Concentration	Product	Ordering information	
	Manual washing		
2 – 5 – 20 %	**Extran® MA 01**	107555	**Page 06**
2 – 5 %	**Extran® MA 02**	107553	**Page 07**
2 – 5 – 20 %	**Extran® MA 05**	140000	**Page 07**
	Sodium hydroxide solution	105588	**Page 08**
	Chromosulphuric acid for cleaning glass vessels	102499	**Page 09**
	Machine washing		
20 – 40 g / 10 l	**Extran® AP 11**	107558	**Page 10**
20 – 40 g / 10 l	**Extran® AP 12**	107563	**Page 11**
20 – 40 g / 10 l	**Extran® AP 13**	107565	**Page 11**
30 – 50 ml / 10 l	**Extran® AP 17**	140006	**Page 12**
30 – 50 ml / 10 l	**Extran® AP 18**	140118	**Page 12**
10 – 30 ml / 10 l	**Extran® AP 21**	107559	**Page 13**
10 – 30 ml / 10 l	**Extran® AP 22**	107561	**Page 13**
–	**Extran® AP 41**	107570	**Page 14**
	Accessories		
	Dosing unit (PP)	9.57571.1020	**Page 15**
	Adapter (PP)	9.67212.0001	**Page 15**
	Tap (PE)	1.12937.0001	**Page 15**
	Adapter (PE)	9.67207.0001	**Page 15**
	Adapter (PTFE)	1.67206.0001	**Page 15**



Manual washing

Application

The Extran® MA types for manual washing are universally applicable concentrates for the production of water baths which work reliably and without residue.

- Water is used to prepare the cleaning solution. If slight sedimentation of the hardener occurs, more Extran® must be added. De-mineralized water boosts the cleaning effect
- For cleaning, the items to be cleaned are simply immersed completely in the solution
- Once cleaning is finished, they are rinsed first with tap water and then with demineralised water
- The baths can be used for a longer time without a noticeable decrease in the cleaning effect
- If necessary, the rinsing liquid can be supplemented with fresh Extran®
- The length of application is less than 2 hours
- For "difficult cases" such as plaster, blood or heavy oil, the items to be cleaned are simply left in the bath a little longer
- Heat speeds up the cleaning process
- Extran® is also ideally suited to ultrasound cleaning

Extran® MA 01 liquid, alkaline

Ingredients

Ionic and non-ionic surfactants, phosphates, excipients in low quantities

Use

Universal cleaner for the removal of heavy contamination. In wiping tables, tiles, floors. In soaking for the automated cleaning of laboratory equipment.
Do not use on alkali-sensitive materials such as aliminium.

Properties

- liquid
- alkaline
- chlorine-free
- free from odorants/dyestuffs

Dosing

The ideal dosage depends on the hardness of the water and the level of contamination of the item to be cleaned.
Recommended application concentrations:

- For normal contamination: 2 %
- For heavier contamination: 5 %
- For very tough stains up to 20 %

pH value (5 %; water) 11.0 – 12.0

Ordering information

Extran® MA 01 liquid alkaline	Pack size	Packaging	Ord. No.
	1 l	PE bottle	1.07555.1000
	2.5 l	PE bottle	1.07555.2500
	5 l	PE bottle	1.07555.5000
	10 l	PE can	1.07555.9010
	25 l	PE can	1.07555.9025
Accessories: Dosing unit (PP) 20 – 28 ml for 1 l Extran® bottle			9.57571.1020

Extran® MA 02 liquid, neutral

Ingredients
Ionic and non-ionic surfactants, phosphates, excipients in low quantities

Use
Universal cleaner for the gentle cleaning of appliances made from alkali-sensitive metals such as aluminum, zinc and alloys with similar behavior. Suitable for metal appliances and precision measuring devices made from glass and quartz such as burettes, pipettes, cells, blood gas analyzers and other medical equipment which is sensitive to aggressive detergents and also rarely has problematic contamination.

Properties
- liquid
- neutral
- chlorine-free
- free from odorants/dyestuffs

Dosing
The ideal dosing depends on the hardness of the water and the level of contamination of the item to be cleaned.
Recommended application concentrations:
- For normal contamination: 2 %
- For heavy contamination: 5 %

pH value (5 %; water) 6 – 8

Ordering information

Extran® MA 02 liquid neutral	Pack size	Packaging	Ord. No.
	2.5 l	PE bottle	1.07553.2500
	5 l	PE bottle	1.07553.5000
	10 l	PE can	1.07553.9010
	25 l	PE can	1.07553.9025

Extran® MA 05 liquid, alkaline, phosphate-free

Ingredients
Anionic and non-ionic surfactants, alkalescent additives, free of NTA (nitrilotri acetic acid)

Use
Universal cleaner for the removal of heavy contamination. Unlimited use also possible with very hard water. Do not use on alkali-sensitive materials such as aluminum.
Use is especially recommended anywhere where micro-phosphate tests are carried out.

Properties
- liquid
- alkaline
- chlorine-free
- free from odorants/dyestuffs
- phosphate-free

Dosing
The ideal dosage depends on the hardness of the water and the level of contamination of the items to be cleaned.
Recommended application concentrations:
- For normal contamination: 2 %
- For heavy contamination: 5 %
- For very tough stains up to 20 %

Sequestering agent content (alkalimetric) 8.5 – 10.0 %
Free alkali (as NaOH) 1.5 – 2.5 %

Ordering information

Extran® MA 05 liquid alkaline phosphate-free	Pack size	Packaging	Ord. No.
	2.5 l	PE bottle	1.40000.2500
	5 l	PE bottle	1.40000.5000
	10 l	PE can	1.40000.9010
	25 l	PE can	1.40000.9025

Sodium hydroxide solution

Ingredients
Sodium hydroxide

Use
Basic cleaning agent in various concentrations (10 %, 32 % and 49 – 51 %) in premium EMD Millipore quality. The high purity of these solutions make these sodium liquids suitable above all for cleaning applications in which residues from surfactants or complexation agents are to be avoided. Through the use of these prepared solutions, the time-consuming and dangerous breakdown of solid sodium hydroxide can be avoided.

Properties
- liquid
- strongly alkaline
- chlorine-free

Ordering information

Sodium hydroxide solution	Pack size	Packaging	Ord. No.
Min. 10 % (1.11)			
	1 l	PE bottle	1.05588.1000
	10 l	PE can	1.05588.9010
Purity around 32 % (1.35)			
	2.5 l	PE bottle	1.05587.2500
	5 l	PE bottle	1.05587.5000
	25 l	PE can	1.05587.9025
	200 l	PE barrel	1.05587.9200
50 %			
	2.5 l	PE bottle	1.58793.2500
	5 l	PE bottle	1.58793.5000
	25 l	PE can	1.58793.9025

Chromosulphuric acid for cleaning glass vessels

General information

Chromosulphuric acid is an excellent cleaning agent for tough cases, for example when working with carcinogenic substances. Carcinogenic residues can be oxidatively destroyed by treatment with chromosulphuric acid. The effect is based on the chromium(VI) oxide CrO_3, a very strong oxidation agent. During the oxidation process, the red-brown chromium(VI) oxide is reduced to the green trivalent state of chromium. The depletion level can thus be assessed from the change in color without further testing: fresh chromosulphuric acid is red-brown, used is green in color.

Removal of Residues

Chromium solutions must be treated as special waste and their disposal left to a company responsible for this. Neutralize any spilled acid with sodium hydrogen carbonate or lime sand. Never mop up with wadding, pulp, textiles or sawdust.

Safety advice

Extreme care must be taken when working with chromosulphuric acid due to its corrosive and highly oxidizing properties and the possibility of the formation of poisonous chromium(VI) vapour. Due to the large amount of heat generated when mixed with water, chromosulphuric acid must never be diluted by adding water (strongly corrosive splashes!). If dilution is necessary, this can only be done by adding the acid to water while stirring. The equally very poisonous chromium(VI) oxide chloride (chromylchloride) is formed when chlorides are present in the residues to be removed. For all these reasons, cleaning procedures using chromosulphuric acid should only be undertaken in a well-ventilated area. Furthermore, protective clothing, impermeable gloves and protective goggles are to be worn. Instructions for safe use are printed on the label of every pack.

Ordering information

Chromosulphuric acid	Pack size	Packaging	Ord. No.
	1 l	glass bottle	1.02499.1000
	2.5 l	glass bottle	1.02499.2500

automated cleaning

The various types of Extran® AP were created in cooperation with leading appliance manufacturers especially for use in laboratory washing machines and tested in these machines for suitability. As well as a distinctive cleaning power with extensive universal effects, the very low formation of foam is also an important property. The good solubility in water of all components minimises residues on appliances which have been cleaned.

To neutralize displaces alkali residues and remove remaining traces of alkali, an acid rinser should be used after every main wash cycle.

All neutralising agents are suitable.
- Extran® AP 21 acidic with phosphoric acid
- Extran® AP 22 acidic with citric acid

alkaline

Extran® AP 11 powder, mild alkaline

Ingredients
Phosphates, alkali salts

Use
Universal cleaning agent for the gentle cleaning of alkali-sensitive items. Cleaning of items which cannot be tainted with allergenic detergents, such as jewellery, glasses. A corrosion inhibitor is included for the intensive prevention of corrosion of glass and ceramics. Extran® AP 11 mild alkaline does not foam even during heavy agitation of the solution in a washing machine.

Properties
- in powder form
- chlorine-free
- mild alkaline
- contains a corrosion inhibitor
- free from surfactants
- free from odorants/dyestuffs

Dosing
The ideal dosage depends on the hardness of the water and the level of contamination of the items to be cleaned.
- Under normal conditions, the concentration for application is 0.2 – 0.4 %, i.e. 20 – 40 g of Extran® AP 11 are used for around 10 l of water
- The pH value of a 0.3 % solution when ready for use is pH = 11.3

pH value (1 %; water) ≥ 11.5 – 12.5

Ordering information

Extran® AP 11 powder mild alkaline	Pack size	Packaging	Ord. No.
	2 kg	PE bottle	1.07558.2000
	10 kg	PE drum	1.07558.9010
	25 kg	PE drum	1.07558.9025

Extran® AP 12 powder, alkaline

Ingredients
Phosphates, sodium hydroxide, alkali salts

Use
Active universal cleaning agent for the main wash cycle, which cleans even heavily soiled items and removes dried or burned-on residues. Particularly suitable for the removal of starch and protein residues. Extran® AP 12 alkaline does not foam even during heavy agitation of the solution in a washing machine.

Properties
Extran® AP 12 is free from organic surfactants and emulsifiers.
- in powder form
- alkaline
- surfactant-free
- chlorine-free
- free from odorants/dyestuffs

Dosing
The ideal dosing depends on the hardness of the water and the level of contamination of the item to be cleaned.
- Under normal conditions, the concentration for application is 0.2 – 0.4 %, i.e. 20 – 40 g of Extran® AP 12 are used for around 10 l of water

pH value (1 %; water) ≥ 12.5

Ordering information

Extran® AP 12 powder alkaline	Pack size	Packaging	Ord. No.
	2 kg	PE bottle	1.07563.2000
	10 kg	PE drum	1.07563.9010
	25 kg	PE drum	1.07563.9025

Extran® AP 13 powder, alkaline with detergents

Ingredients
Non-ionic surfactants, phospates, sodium hydroxide, alkali salts

Use
Intensive cleaning agent for the main wash cycle Particularly effective against grease and oil deposits. Other organic and inorganic residues are also removed.

Properties
Extran® AP 13 contains organic surfactants and emulsifiers and foams little. The product contains complexing agents and can therefore be used even in hard water without further additions.
- in powder form
- alkaline
- chlorine-free
- contains a corrosion inhibitor
- free from odorants/dyestuffs

Dosing
The ideal dosing depends on the hardness of the water and the level of contamination of the item to be cleaned.
- Under normal conditions, the concentration for application is 0.2 – 0.4 %, i.e. 20 – 40 g of Extran® AP 13 are used for around 10 l of water

pH value (1 %; water) ≥ 12.5

Ordering information

Extran® AP 13 powder alkaline with detergents	Pack size	Packaging	Ord. No.
	2 kg	PE bottle	1.07565.2000
	10 kg	PE drum	1.07565.9010
	25 kg	PE drum	1.07565.9025

alkaline

Extran® AP 17 liquid, alkaline

Ingredients
Complexing agent, sodium hydroxide solution

Use
Active universal cleaning agent for the main wash cycle which cleans and removes even heavily soiled items. Particularly suitable for the removal of starch and protein residues. Extran® AP 17 alkaline does not foam even during heavy agitation in a washing machine.

Properties
Extran® AP 17 is free from organic sufactants and emulsifiers, but contains complexing agents and can therefore be used in both soft and hard water.

- liquid
- alkaline
- phosphate-free
- free from surfactants
- chlorine-free
- free from odorants/dyestuffs

Dosing
The ideal dosage depends on the hardness of the water and the level of contamination of the items to be cleaned.

- Under normal conditions, the concentration for application is 0.3 – 0.5 %, i.e. 30 – 50 ml of Extran® AP 17 are used in around 10 l of water

Sequestering agent content (complexometric) 29.5 – 34.5 %
Free alkali (as NaOH) 4.3 – 5.3 %

Ordering information

Extran® AP 17 liquid alkaline	Pack size	Packaging	Ord. No.
	2.5 l	PE bottle	1.40006.2500
	5 l	PE bottle	1.40006.5000
	10 l	PE can	1.40006.9010
	25 l	PE can	1.40006.9025
Accessories: Adapter (PP) for 10 l and 25 l Extran® canister (KS 60 x 6 to 54 mm)			9.67212.0001

Extran® AP 18 liquid, mild alkaline

Ingredients
Complexing agents, alkali salts

Use
Universal cleaning agent for the gentle cleaning of alkali-sensitive items. Cleaning of items which cannot be tainted with allergenic detergents, e.g. jewellery, glasses. Extran® AP 18 mild alkaline does not foam even during heavy agitation in a washing machine.

Properties
Extran® AP 18 mild alkaline is a liquid main cleaning agent with mild alkaline properties for automatic dosage.

- liquid
- mild alkaline
- phosphate-free
- surfactant-free
- chlorine-free
- free from odorants/dyestuffs

Dosing
The ideal dosing depends on the hardness of the water and the level of contamination of the item to be cleaned.

- Under normal conditions, the concentration for application is 0.3 – 0.5 %, i.e. 30 – 50 ml of Extran® AP 18 are used for around 10 l of water

Sequestering agent content (complexometric) 33.0 – 36.0 %
Free alkali (as ammonia) 3.0 – 4.0 %

Ordering information

Extran® AP 18 liquid mild alkaline	Pack size	Packaging	Ord. No.
	2.5 l	PE bottle	1.40118.2500
	5 l	PE bottle	1.40118.5000
	10 l	PE can	1.40118.9010
	25 l	PE can	1.40118.9025
Accessories: Adapter (PP) for 10 l and 25 l Extran® canister (KS 60 x 6 to 54 mm)			9.67212.0001

acidic

Extran® AP 21 liquid, acid with phosphoric acid

Ingredients
Phosphoric acid

Use
The acid special cleaner can be used both as a pre-wash agent and a rinsing agent with a neutralising effect. When used as a pre-wash agent, it primarily dissolves carbonates and hydroxides from the residues. Protein substances and organic bases, such as amines, are often removed better in an acidic pre-wash as in an alkaline main wash cycle. As a rinsing agent, i.e. after the alkaline main wash cycle, it is especially suitable for removing remaining traces of alkali on the cleaned material or, in the case of solution carry-over, for neutralisation. This acidic cleaning agent is also well suited to the removal of calcareous deposits in the washing machine.

Properties
Extran® AP 21 is an acidic pre-wash and neutralisation agent with a phosphoric acid base.

- liquid
- acidic
- free from odorants and dyestuffs
- surfactant-free
- chlorine-free

Dosing
Added automatically using a dosing device or manually.

- The concentration for application is around 0.1 – 0.3 %, i.e. 10 – 30 ml of Extran® AP 21 are added to around 10 l of water

Ordering information

Extran® AP 21 acidic with phosphoric acid	Pack size	Packaging	Ord. No.
	2.5 l	PE bottle	1.07559.2500
	10 l	PE can	1.07559.9010
	25 l	PE can	1.07559.9025
Accessories: Adapter (PP) for 10 l and 25 l Extran® canister (KS 60 x 6 to 54 mm)			9.67212.0001

Extran® AP 22 liquid, acid with citric acid

Ingredients
Citric acid, non-ionic surfactants, low levels of excipients, phosphate-free

Use
The acidic special cleaner can be used both as a pre-wash agent and a rinsing agent with a neutralising effect. When used as a pre-wash agent, it primarily dissolves carbonates and hydroxides from the residues. Protein substances and organic bases, such as amines, are often removed better in an acidic pre-wash as in an alkaline main wash cycle. As a rinsing agent, i.e. after the alkaline main wash cycle, it is especially suitable for removing remaining traces of alkali on the cleaned material or, in the case of solution carry-over, for neutralisation. This acidic cleaning agent is also well suited to the removal of calcareous deposits in the washing machine.The product is recommended for cases in which gentle conditions must be maintained for particular reasons. Particularly suitable for the gentle removal of calcareous deposits, e.g. on taps or sensitive metal and glass surfaces.

Properties
Extran® AP 22 is an acidic pre-wash and neutralisation agent with a citric acid base.

Dosing
Added automatically using a dosing device or manually.

- The concentration for use is around 0.1 – 0.3 %, i.e. 10 – 30 ml Extran® AP 22 are used for around 10 l of water

Free acid (as citricacid) 32.0 – 35.0 %

Ordering information

Extran® AP 22 acidic with citric acid	Pack size	Packaging	Ord. No.
	2.5 l	PE bottle	1.07561.2500
	10 l	PE can	1.07561.9010
	25 l	PE can	1.07561.9025
Accessories: Adapter (PP) for 10 l and 25 l Extran® canister (KS 60 x 6 to 54 mm)			9.67212.0001

Extran® AP 41 powder, enzymatic

Ingredients
Enzymes, phosphates, alkali salts

Use
Alkaline cleaning agent for use in washing machines. Especially for the removal of dried tissue and saliva residues, of mucus, protein and blood, in catheters, breathing tubes, breathing bags etc.

Ideal conditions for cleaning are between 55 and 65 °C, since the enzymes do not work above 70 °C. We recommend Extran® AP 22 acidic with citric acid as an acidic rinsing agent.

Dosing
The recommended concentration for application is 0.3 %, i.e. 30 g of Extran® AP 41 are used for each 10 l wash cycle.

pH value (1 %; water) 11.0 – 12.0

Ordering information

Extran® AP 41 powder enzymatic	Pack size	Packaging	Ord. No.
	2 kg	PE bottle	1.07570.2000
	25 kg	PE drum	1.07570.9025

connective accessories

It all comes to the dosage

To support accurate dosage and safe handling in manual cleaning, EMD Millipore supplies 1 liter Extran® bottles with a special dosing aid. The bottle and attachment are perfectly matched to facilitate dosage. Since neither too little nor too much detergent is used, you benefit from reliable cleaning as well as economical use. The reusable Extran® dosing aid can also be ordered separately if required.

Features and Benefits

- **High convenience:** The system is easy to handle and greatly facilitates dosage
- **Safety:** Accurate dosage of detergents prevents excess chemicals in the workplace
- **Economy:** The dosing aid provides precise and accurate dosing and avoids unnecessary expenditure of cleaning agents

Ordering information

Product	Pack size	Ord. No.
Dosing unit (PP) for 1.07555.1000	20 ml	9.57571.1020

The universal adapter

The Extran® universal adapter enables secure connections between various machines and EMD Millipore's 10 l or 25 l cleaning canisters. It is particularly useful for cleaning equipment, as larger quantities of detergent are required. The adapter ensures canisters remain spray-safe and tightly connected to the machines. This not only avoids spillages and increases user safety, but also prevents external contamination. Thanks to its universal design, the Extran® adapter overcomes worldwide differences in cleaning equipment and connection systems.

Features and Benefits

- **Safety and health protection:** Spillage is avoided due to secure connection between canister and machine
- **Reliability:** Analysis is protected from external contamination, ensuring reliable results

Ordering information

Product	Ord. No.
Adapter (PP) for 10 l and 25 l Extran® canister (KS 60 x 6 to 54 mm)	9.67212.0001

Taps and adapters

Additional products for direct withdrawal and increased connectivity of our Extran®-pack sizes are available with main scope on your safe and individual daily work.

Ordering information

Product	Ord. No.
Tap (PE) attachable, self-venting, for 5 l, 10 l and 25 l PE-canisters with KS 60 x 6 external thread	1.12937.0001
Adapter (PE) for EMD Millipore-bottles with S 40 thread to S 38	9.67207.0001
Adapter (PTFE) for EMD Millipore-bottles with S 40 thread to GL 45	1.67206.0001

We provide information and advice to our customers to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

For further information on our products, contact:

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