Extran® detergents

the perfect solution for cleaning your laboratory utensils

Merck Millipore is a division of MERCK

Extran® detergents

Extran® laboratory cleansers are the perfect solution for cleaning your laboratory utensils to Merck Millipore's well-known quality standards.

Reliable processes in laboratories and product facilities are only possible with thorough, residue-free cleaning.
Only in this way is it possible to ensure proper scientific working procedures. Everything that comes into contact with chemicals or biological substances must be free of impurities, both before and after use.

Make use of the since many years successful established Extran® of Merck Millipore.

The ideal all-purpose cleaner

Depending on the type of contamination and the material to be cleaned, the Extran® range of products offers the ideal solution for the cleaning of your laboratory utensils and production locations.

Put your trust in many years of Extran® experience from Merck Millipore and use our detergents for manual cleaning or machine cleaning in laboratory washing machines.

Both processes generally require different detergents.

You can find more details on this later on in this brochure.

For further information, new additions to the range, safety data sheets and of course our certificates of analysis, please see our website: www.merckmillipore.com, please search for "Extran".

Your advantages

- ## Extran® cleans reliably, leaving no residues.

  This prevents residues from being transferred into the next analysis or test.

- ## Residue-free cleaning with Extran®.

  Merck Millipore provides a practical and easy-to-use application aid to prove the freedom from residues of nonionic surfactants after the cleaning process by means of a photometric test.

  This helps you in preparing your own individual cleaning validation, saving you time and money.

- ## Extran® is free from scents and dyestuffs and does not contain chlorine or other toxic ingredients.

  It thus prevents odors, protecting the health of the laboratory staff in the process. Our laboratory cleansers are also free of silicones and oxidants.

- ## The active ingredients in Extran® are biodegradable.

  Extran® is manufactured under stringently controlled production conditions and fulfils the requirements of environmental protection.

  In almost all cases, Extran® makes the use of chromosulphuric acid, which is still common on the market, unnecessary. It is thus gentle on the environment and on the health of staff.

- ## Extran® as an all-purpose cleaner.

  Extran® was developed especially for use in laboratories, but can also be used in production faclities. The consistent composition means that processes and applications do not have to be constantly adjusted.

Cleaning Applications

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		Extran® MA 01	Extran® MA 02	Extran® MA 03	Extran® MA 05	Sodium hydroxide solution	Decalcification solution		Extran® AP 11	Extran® AP 12	Extran® AP 13	Extran® AP 14	Extran® AP 15	Extran® AP 16	Extran® AP 17	Extran® AP 21	Extran® AP 22	Extran® AP 33	Extran® AP 41
Alkyd resins		●	–	●	●	–	–		–	●	–	–	–	–	–	–	–	–	–
Aluminum		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–
Amines		–	–	–	–	–	●		–	–	–	–	–	–	–	●	●	–	–
Analytical laboratories		●	●	●	●	–	–		●	–	–	●	–	●	–	–	–	–	–
Balsam resin		●	–	●	●	–	–		–	●	–	–	●	–	●	–	–	–	–
Bitumen		●	–	●	●	–	–		–	–	–	–	–	–	–	–	–	–	–
Blood		●	–	●	●	–	–		–	●	–	–	–	–	–	–	–	–	–
Brass		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–
Breweries		●	●	●	●	●	–		●	●	●	–	●	–	●	–	–	–	●
Bronze		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–
Calcareous deposits on equipment		–	–	–	–	–	●		–	–	–	–	–	–	–	●	●	–	–
Carbonates		–	–	–	–	–	●		–	–	–	–	–	–	–	●	–	–	–
Cells		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–
Chemical glassware		●	●	●	●	–	–		●	–	–	●	–	●	–	–	–	–	–
Culture media		–	–	–	–	–	–		–	●	–	–	●	–	●	–	–	–	–
Dairies		●	●	●	●	●	–		●	●	●	–	●	–	●	–	–	–	–
Distillation residues		●	–	●	●	–	–		–	–	●	–	●	–	●	–	–	–	–
Enzyme test receptacles		●	●	●	●	–	–		●	●	●	●	●	●	●	●	●	●	●
Fat residues		●	–	●	●	–	–		–	–	●	–	–	–	–	–	–	–	–
Felt-tip pen		●	●	●	●	–	–		●	●	●	●	●	●	●	–	–	–	–
Foam		–	–	–		–	–		–	–	–	–	–	–	–	–	–	I	–
Food industry		●	●	●	●	●	–		●	●	●	–	●	–	●	–	–	–	–
Food waste		●	●	–		–	–		●	●	●	●	●	●	●	–	–	–	–
Glass and porcelain equipment		●	●	–	–	–	–		–	●	–	–	●	–	●	–	–	–	–
Grease for joints		●	–	–		–	–		–	●	●	–	●	–	●	–	–	–	–
Heavy oils		●	–	–	–	–	–		–	●	–	–	●	–	●	–	–	–	–
Hydroxides		–	–	–	–	–	●		–	–	–	–	–	–	–	●	●	–	–
Laboratory floors		●	–	–	–	●	–		–	–	–	–	–	–	–	–	–	–	–
Lenses for glasses		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–
Metal equipment		–	●	–	–	–	–		●	–	–	●	–	●	–	–	–	–	–
Mucus		–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	●
Neutralisation		–	–	–		–	●		–	–	–	–	–	–	–	●	●	–	–
Nickel		●	●	●	●	–	–		●	●	●	●	●	●	●	●	●	●	●
Oil		●	–	–	–	–	–		–	●	–	–	●	–	●	–	–	–	–
Petri dishes		●	●	●	●	–	●		●	●	●	●	●	●	●	●	●	●	●
Phosphate analysis equipment		–	–	●	●	–	–		–	–	–	–	–	–	–	–	–	–	–
Pipettes		–	●	–	–	–	–		●	–	–	●	–	●	–	–	–	–	–
Plaster residues		●	●	–	–	–	●		●	●	–	–	–	–	–	–	–	–	–
Plastic equipment		–	–	–	–	–	–		●	–	–	●	–	●	–	–	–	–	–
Precision equipment		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–
Protein residues		●	–	●	●	–	–		–	●	–	–	●	–	●	–	–	–	–
Proteins		●	–	●	●	–	–		–	●	–	–	●	–	●	–	–	–	–
Quarz equipment		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–
Rubber		–	●	–	–	–	–		●	–	–	●	–	●	–	–	–	–	–
Saliva		●	–	●	●	–	–		–	–	–	–	–	–	–	–	–	–	●
Silicones (oils, greases, resins)		●	–	–		–	–		–	●	●	–	●	–	●	–	–	–	–
Stainless steel		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
Thin film plates		●	–	●	●	–	–		●	–	–	●	–	●	–	–	–	–	–
Tiles in laboratory		●	–	–	–	●	–		–	–	–	–	–	–	–	–	–	–	–
Tough residues		–	–	–	–	●	–		–	●	–	–	●	–	●	–	–	–	–
Ultrasound		●	●	●	●	–	–		–	–	–	–	–	–	–	–	–	–	–
Wax		●	–	●	●	–	–		–	–	–	–	–	–	–	–	–	–	–
Zinc		–	●	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–

It all comes down to the dosage

For cleaning to be effective and reliable, the detergent must be dosed precisely. This also ensures that the agent is used economically: too little cleans insufficiently, too much leaves residues. That is why Merck Millipore offers 1l bottles with dosing aids, which ensure efficient dosing and are safe to handle when cleaning manually. The dosing aid can also be ordered separately if required and can be reused again and again.

The advantages of the 1 l bottle Extran® MA 01 for you:

- More convenient: the new 1 l bottle, onto which the separately available dosing unit can be easily mounted, is easy to handle and thus allows increased convenience when cleaning.
- Cost effectiveness: modern dosing systems are a prerequisite for top cleaning results and optimum profitability. Precise and accurate dosing is the basis of cost effectiveness, made possible using the measuring unit tailored to the 1 l bottle.
- Safety: the new dosing unit makes repeatable dosing and better control over the concentration possible. This ensures workplace safety and the health of staff.

Ordering information

Extran® MA 01 liquid alkaline	order number	size pack	packaging
	1.07555.1000	1 l	PE bottle
	9.57571.1020	20 ml	dosing unit for 1.07555

One for all: the universal adapter

Larger packing units, such as the 10 l and 25 l cans, are used for cleaning equipment. In this, it is important for workplace safety that the cans are connected tightly to the machines so that no spraying can occur. Around the world, various types of cleaning apparatus are used with very individual connection systems. Merck Millipore has developed a universal adapter especially for this. With its help, different types of machine can be safely connected to the detergent containers. This avoids detergent being lost, while simultaneously enabling reliable cleaning.

The advantages of the adapter for 10 l and 25 l cans for you:

- Safety: if the can is connected tightly to the machine, spillage is avoided and the health and personal safety of the staff is thus protected.
- Reliability: External contamination (from the air) can be avoided, thus preventing analytical results from being corrupted or influenced and ensuring reliable and exact results.

Ordering information

The universal adapter (order number 9.67212.0001) made from PP for 10 l and 25 l Extran® cans is available for the following detergents:

Extran® AP 21	order number	size pack	packaging
	1.07559.9010	10 l	PE can
	1.07559.9025	25 l	PE can
Extran® AP 22	1.07561.9010	10 l	PE can
	1.07561.9025	25 l	PE can
Extran® AP 14	1.07573.9010	10 l	PE can
	1.07573.9025	25 l	PE can
Extran® AP 15	1.07575.9010	10 l	PE can
	1.07575.9025	25 l	PE can
Extran® AP 16	1.40001.9010	10 l	PE can
	1.40001.9025	25 l	PE can
Extran® AP 17	1.40006.9010	10 l	PE can
	1.40006.9025	25 l	PE can

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.

The following application concentrations are recommended:

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

The pH value is

- In a 2 % solution pH = 11.6
- In a 5 % solution pH = 12.0

Ordering information

Extran® MA 01 liquid alkaline	order number	size pack	packaging
	1.07555.1000	1 l	PE bottle
	1.07555.2500	2.5 l	PE bottle
	1.07555.9010	10 l	PE can
	1.07555.9025	25 l	PE can

Accessories: 9.57571.1020 dosing feeder made from PP, 20 – 28 ml for 1 l Extran® bottle

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.

The following application concentrations are recommended:
- For normal contamination: 2 %
- For heavy contamination: 5 %

The pH value is
- In a 5 % solution pH = 7.5

Ordering information

Extran® MA 02 liquid neutral	order number	pack size	packaging
	1.07553.2500	2.5 l	PE bottle
	1.07553.9010	10 l	PE can
	1.07553.9025	25 l	PE can

Extran® MA 03 liquid, alkaline, phosphate-free

Ingredients
Anionic and non-ionic surfactants, alkalescent additives

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
- phosphate-free
- 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.

The following application concentrations are recommended:
- For normal contamination: 2 %
- For heavy contamination: 5 %
- For very tough stains up to 20 %

The pH value is
- For a 2 % solution pH = 11.6
- For a 5 % solution pH = 12.0

Ordering information

Extran® MA 03 liquid alkaline phosphate-free	order number	pack size	packaging
	1.07550.2500	2.5 l	PE bottle
	1.07550.9010	10 l	PE can
	1.07550.9025	25 l	PE can

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 tough stains. Unlimited use also possible with very hard water. Do not use on alkali-sensitive materials such as aluminum.

Use is especially recommended everywhere where micro-phosphate tests are carried out.

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

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

The following application concentrations are recommended:
- For normal contamination: 2 %
- For heavy contamination: 5 %
- For very tough stains up to 20 %

The pH value is
- For a 2 % solution pH = 11.6
- For a 5 % solution pH = 12.0

Ordering information

Extran® MA 05 liquid alkaline phosphate-fre	order number	pack size	packaging
	1.40000.2500	2.5 l	PE bottle
	1.40000.9010	10 l	PE can
	1.40000.9025	25 l	PE can

Sodium hydroxide solution

Ingredient

Sodium hydroxide

Use

Basic cleaning agent in various concentrations (10 %, 32 % and 49 – 51 %) in premium Merck 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 min. 10 % (1.11)	order number	pack size	packaging
	1.05588.1000	1 l	PE bottle
	1.05588.9010	10 l	PE can

Sodium hydroxide solution purity around 32 % (1,35)	order number	pack size	packaging
	1.05587.2500	2.5 l	PE bottle
	1.05587.9025	25 l	PE can
	1.05587.9200	200 l	PE barrel

Sodium hydroxide solution 50 %	order number	pack size	packaging
	1.58793.1000	1 l	PE bottle
	1.58793.9025	25 l	PE can

Decalcification solution citric acid base around 19 %

Ingredients

Citric acid, other organic acids in small quantities

Use

The product is recommended for cleaning instances in which particularly gentle conditions have to be maintained. Particularly suitable for the gentle removal of calcareous deposits, for example on taps or sensitive metal and glass surfaces.

The decalcification solution is made from pharmacopoeic raw materials and thus satisfies the highest quality standards.

Properties

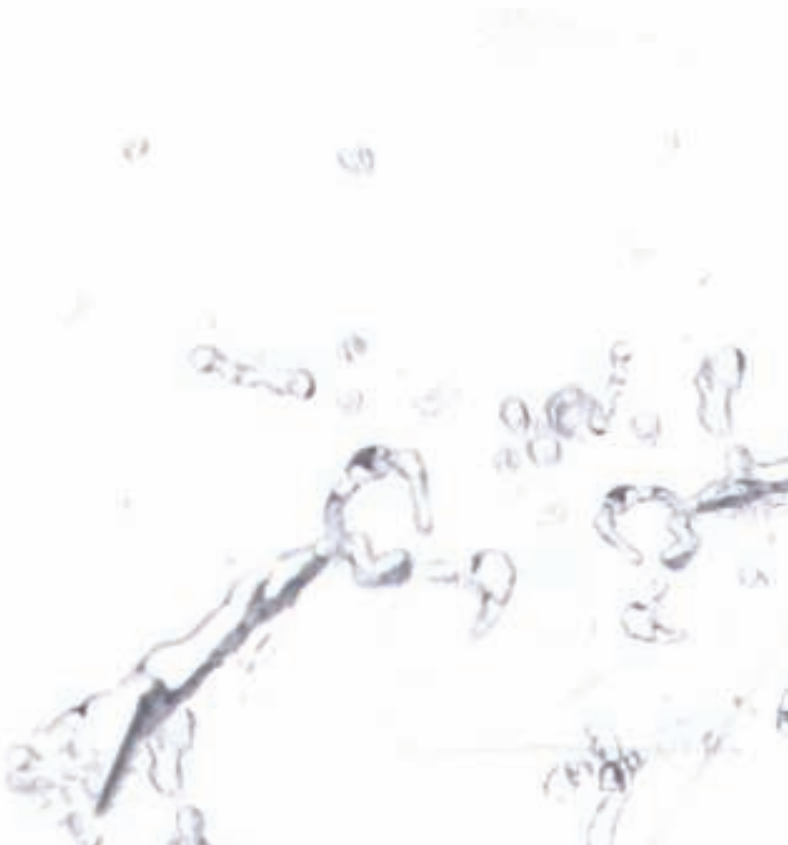
- liquid
- acidic
- phosphate-free

Dosage

The concentration for application is around 1 – 5 %, i.e. 100 – 500 ml of decalcification solution is added to around 10 l of water. The decalcification process can be accelerated by applying a little heat. Do not use on corrosive materials.

Ordering information

Decalcification solution citric acid base around 19 %	order number	pack size	packaging
	1.00240.1000	1 l	PE bottle



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.

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.

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.

Ordering information

Chromosulphuric acid	order number	pack size	packaging
	1.02499.1000	1 l	glass bottle
	1.02499.2500	2.5 l	glass bottle

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

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, but contains complexing agents and can therefore be used in both soft and hard water.

- in powder form
- alkaline
- surfactant-free
- chlorine-free
- free from odorants/dyestuffs

Dosage

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.

The pH value of the 0.3 % solution when ready to use is pH = 12.3.

Ordering information

Extran® AP 12 alkaline	order number	pack size	packaging
	1.07563.2000	2 kg	PE bottle
	1.07563.9010	10 kg	PE drum
	1.07563.9025	25 kg	PE drum

Extran® AP 15 liquid, alkaline

Ingredients

Complexing agent, sodium hydroxide solution

Use

Active universal cleaning agent for the main wash cycle, which even cleans and removes heavily soiled items. Particularly suitable for the removal of starch and protein residues.

Extran® AP 15 alkaline does not foam even during heavy agitation of the solution in a washing machine.

Properties

Extran® AP 15 is free from organic surfactants 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

Dosage

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 use is 0.3 – 0.5 %, i.e. 30 – 50 ml of Extran® AP 15 are used for around 10 l of water.

The pH value of a 0.3 % solution is pH = 12.2.

Ordering information

Extran® AP 15 alkaline	order number	pack size	packaging
	1.07575.2500	2.5 l	PE bottle
	1.07575.9010	10 l	PE can
	1.07575.9025	25 l	PE can

Accessories: 9.67212.0001 adapter made from PP, for 10 l and 25 l Extran® cans

Extran® AP 17 liquid, alkaline

Ingredients

Complexing agent, sodium hydroxide solution, free from NTA

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
- NTA-free
- free from surfactants
- chlorine-free
- free from odorants/dyestuffs

Dosage

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.

The pH value of a 0.3 % solution is pH = 12.2.

Ordering information

Extran® AP 17 alkaline	order number	pack size	packaging
	1.40006.2500	2.5 l	PE bottle
	1.40006.9010	10 l	PE can
	1.40006.9025	25 l	PE can

Accessories: 9.67212.0001 adapter made from PP, for 10 l and 25 l Extran® cans

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
- mild alkaline
- free from surfactants
- chlorine-free
- contains a corrosion inhibitor
- free from odorants/dyestuffs

Dosage

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.

Please note the information on the safety data sheet.

Ordering information

Extran® AP 11 mild alkaline	order number	pack size	packaging
	1.07558.2000	2 kg	PE bottle
	1.07558.9010	10 kg	PE drum
	1.07558.9025	25 kg	PE drum

Extran® AP 14 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 14 mild alkaline does not foam, even during heavy agitation in a washing machine.

Properties

Extran® AP 14 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

Dosage

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 Extran® AP 14 are used for around 10 l of water.

The pH value at this concentration is pH = 11.2.

Ordering information

Extran® AP 14 liquid mild alkaline	order number	pack size	packaging
	1.07573.2500	2.5 l	PE bottle
	1.07573.9010	10 l	PE can
	1.07573.9025	25 l	PE can

Accessories: 9.67212.0001 adapter made from PP, for 10 l and 25 l Extran® cans

Extran® AP 16 liquid, mild alkaline

Ingredients

Complexing agents, alkali salts, free from NTA

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 16 mild alkaline does not foam even during heavy agitation in a washing machine.

Properties

Extran® AP 16 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
- NTA-free

Dosage

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 16 are used for around 10 l of water.

The pH value at this concentration is pH = 11.2.

Ordering information

Extran® AP 16 liquid mild alkaline	order number	pack size	packaging
	1.40001.2500	2.5 l	PE bottle
	1.40001.9010	10 l	PE can
	1.40001.9025	25 l	PE can

Accessories: 9.67212.0001 adapter made from PP, for 10 l and 25 l Extran® cans

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

Dosage

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.

The pH value of a ready-to-use solution is pH = 12.2.

Ordering information

Extran® AP 13 alkaline with detergents	order number	pack size	packaging
	1.07565.2000	2 kg	PE bottle
	1.07565.9010	10 kg	PE drum
	1.07565.9025	25 kg	PE drum

Extran® AP 21 liquid, acidic with phosphoric acid

Ingredient

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

Dosage

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.

The pH value of a ready-to-use solution is pH = 2.0.

Ordering information

Extran® AP 21 acidic with phosphoric acid	order number	pack size	packaging
	1.07559.2500	2.5 l	PE bottle
	1.07559.9010	10 l	PE can
	1.07559.9025	25 l	PE can

Accessories: 9.67212.0001 adapter made from PP, for 10 l and 25 l Extran® cans

Extran® AP 22 liquid, acidic 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.

Dosage

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.

The pH value of a ready-to-use solution is pH = 3.0.

Ordering information

Extran® AP 22 acidic with citric acid	order number	pack size	packaging
	1.07561.2500	2.5 l	PE bottle
	1.07561.901010	l	can
	1.07561.9025	25 l	PE can

Accessories: 9.67212.0001 adapter made from PP, for 10 l and 25 l Extran® cans

Extran® AP 33 Defoamer

Ingredients

Inorganic polymers, low levels of excipients, contains silicon, produced without added formaldehyde

Use

If the residues to be removed foam significantly themselves, the development of foam is prevented by adding this special defoamer. Strong foamers include all kinds of emulsifiers, e.g. soaps, which sometimes only develop during the wash cycle due to the saponification of fats, and numerous protein stains.

Dosage

0.5 – 3 ml per 10 l wash cycle

Ordering information

Extran® AP 33 Defoamer	order number	pack size	packaging
	1.40007.2500	2.5 l	PE bottle

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.

Dosage

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

The pH value of a ready-to-use solution is pH = 11.4.

Ordering information

Extran® AP 41 enzymatic	order number	pack size	packaging
	1.07570.2000	2 kg	PE bottle
	1.07570.9025	25 kg	PE drum

Product	properties	pack sizes	application-concentration	pH	application instructions
Extran® for manual cleaning					
Extran® MA 01 1.07555	liquid, alkaline	1 l 2.5 l 10 l 25 l	2 – 5 – 20 %	11.6 – 12.0	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.
Extran® MA 02 1.07553	liquid, neutral	2.5 l 10 l 25 l	2 – 5 %	7.2 – 7.5	Universal cleaning agent for precision measuring devices made from glass, quartz and sensitive metals. Also suitable for ultrasound cleaning.
Extran® MA 03 1.07550	liquid, alkaline, phosphate-free	2.5 l 10 l 25 l	2 – 5 – 20 %	11.6 – 12.0	Universal cleaning agent for heavy contamination. Can also be used in very hard water without limitations. Environmentally-friendly since phosphate-free. Also suitable for ultrasound cleaning.
Extran® MA 05 1.40000	liquid, alkaline, phosphate-free, free from NTA	2.5 l 10 l 25 l	2 – 5 – 20 %	11.6 – 12.0	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.
Sodium hydroxide solution 10 % 1.05588	liquid, alkaline	1 l 10 l		14	Strong alkaline universal cleaning agent.
Sodium hydroxide solution 32 % 1.05587	liquid, alkaline	2.5 l 25 l 200 l		14	Strong alkaline universal cleaning agent.
Sodium hydroxide solution 50 % 1.58793	liquid, alkaline	1 l 25 l		14	Strong alkaline universal cleaning agent.
Decalcification solution 1.00240	liquid, acidic	1 l	1 – 5 %	3	Decalcification solution for sensitive surfaces.
Extran® for cleaning in laboratory washing machines					
Extran® AP 11 1.07558	powder, mild, alkaline	2 kg 10 kg 25 kg	20 – 40 g/10 l	11.3	Gentle cleaning e.g. in analytical laboratories. Cleaning effect equivalent to Extran® AP 14, liquid.
Extran® AP 12 1.07563	powder, alkaline	2 kg 10 kg 25 kg	20 – 40 g/10 l	12.3	Active cleaning. Especially of starch and protein residues. Cleaning effect equivalent to Extran® AP 15, liquid.
Extran® AP 13 1.07565	powder, alkaline, with detergents	2 kg 10 kg 25 kg	20 – 40 g/10 l	12.2	Active cleaning. Especially of fat residues.
Extran® AP 14 1.07573	liquid, mild alkaline	2.5 l 10 l 25 l	30 – 50 ml/10 l	11.2	Gentle cleaning in machines with liquid dosing e.g. in analytical laboratories. Cleaning effect equivalent to Extran® AP 11 powder.
Extran® AP 15 1.07575	liquid, alkaline	2.5 l 10 l 25 l	30 – 50 ml/10 l	12.2	Active cleaning in machines with liquid dosing. Environmentally-friendly, since phosphate-free. Cleaning effect equivalent to Extran® AP 12 powder.
Extran® AP 16 1.40001	liquid, mild alkaline free from NTA	2.5 l 10 l 25 l	30 – 50 ml/10 l	11.2	Gentle and NTA-free cleaning in machines with liquid dosing e.g. in analytical laboratories. Cleaning effect equivalent to Extran® AP 11 powder.
Extran® AP 17 1.40006	liquid, alkaline free from NTA	2.5 l 10 l 25 l	30 – 50 ml/10 l	12.2	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.
Extran® AP 21 1.07559	liquid, acidic, with phosphoric acid	2.5 l 10 l 25 l	10 – 30 ml/10 l	2.0	Pre-wash for residues of carbonates, hydroxides, proteins, amines, etc. Rinsing with neutralising effect. Also for gentle main wash cycle. Prevents calcareous deposits.
Extran® AP 22 1.07561	liquid, acidic, with citric acid	2.5 l 10 l 25 l	10 – 30 ml/10 l	3.0	Gentle pre-wash and rinsing with neutralising-effect. Prevents calcareous deposits. Environmentally-friendly since phosphate-free.
Extran® AP 33 1.40007	Defoamer, liquid without addition of formaldehyde	2.5 l	1 – 3 ml/10 l	–	Addition for foaming residues: proteins, fats, soaps and emulsifiers of any kind.
Extran® AP 41 1.07570	powder, enzymatic	2 kg 25 kg	30 g/10 l	11,4	For laboratories with medical and dental untensils. For the removal of mucus, saliva, blood etc. Temperature: 55 – 65°C.
In particularly difficult cases					
Chromosulphuric acid 1.02499	liquid	1 l 2.5 l 22 l	–	–	For cleaning glass containers.

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