



## **RBS detergents for laboratories**



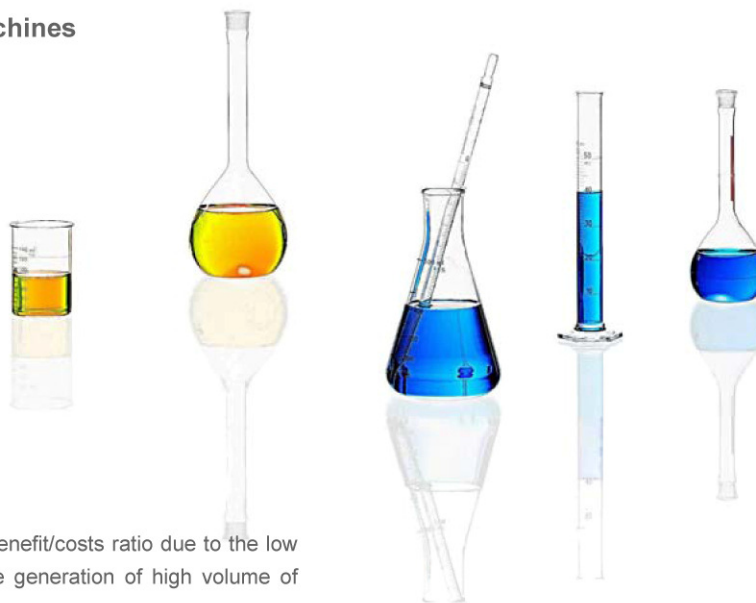
## Competence & experience

With more than 50 years of experience, Chemical Products s.a. is a trusted leader in the development, manufacturing and supply of cleaning agents. Chemical Products offers a complete range of high performance detergents that meet and fulfil the specific needs in laboratories of control, analysis, research and development in universities, research institutes, clinics and hospitals, industry ...

The quality management system of Chemical Products s.a. has been certified as meeting the requirements of the quality systems ISO 9001 : 2000, ISO 13485 : 2003 and the European directive 93/42/CEE Annex V related to medical devices.

**RBS products are mainly intended for water-based cleaning processes of glass-ware and laboratory equipment :**

- **Manual cleaning**
- **Immersion**
- **Ultrasonic baths**
- **Automatic washing machines**



### Efficiency at low concentration

RBS detergents present favourable benefit/costs ratio due to the low working concentration that allows the generation of high volume of cleaning solution.

For a concentration of 2%, 1 litre of RBS product allows the preparation of 50 litres of the cleaning solution. For a concentration of 0.3%, 1 litre of RBS product generates 333 litres of the cleaning solution.

### Compatibles with most materials

At the recommended use concentrations, RBS detergents show excellent compatibility with most materials including stainless steel, chromed steel, plastic, rubber, porcelain, ceramic ...

Solutions for neutral washing are proposed for supports made of sensitive materials.

### Developed with biodegradable ingredients

RBS products have been designed taking into account the environmental dimension and the most recent regulations on the matter, thanks notably to the use of biodegradable surfactants.

Customers who opt or support the use of phosphates-free products will find in RBS range the adequate product that meets their needs.

### Free rinse

RBS products rinse away easily and completely without leaving any traces or films that may interfere with further analysis.

### Easy and safe to use

Thanks to their high emulsifying, wetting and detergency power, RBS detergents allow the removal of hard to clean residues.

They constitute excellent alternative to hazardous acid mixtures and solvents and allow safe working conditions for both user and cleaned items.

In normal working conditions, RBS cleaning solutions do not produce either atmospheric emissions, health risks or unpleasant smell.

## Cleaning glassware and laboratory equipment

### Alkaline washing

Removal of organic residues, oils, greases, ointments, balsams, distillation and biological residues, cell cultures ...



#### RBS T 105

##### Liquid alkaline detergent

##### High wetting and emulsifying power

Recommended for manual cleaning, immersion and ultrasonic cleaning of glassware and laboratory equipment made of plastic, stainless steel, porcelain ...

Use concentration : 2% v/v in water.

pH 2% : 11.8

##### Phosphates-free version

#### RBS T 115

Particularly adapted for use in laboratories of water control and analysis where the presence of interfering traces of phosphates is undesirable.

Use concentration : 2% v/v in water.

pH 2%: 11.7



### Manual cleaning

### Immersion

### Ultrasonic baths



### Neutral washing

Recommended for cleaning supports made of sensitive materials (non-ferrous metals such as aluminium, zinc ... or alloys having similar properties).



#### RBS T 230

##### Liquid neutral detergent

Suitable for immersion and ultrasonic cleaning processes. Recommended for cleaning glassware and laboratory equipment sensitive to acidic or basic solutions ...

Excellent compatibility with most materials.

Efficiently removes fatty residues, oils, biological residues, chemical solutions ...

Use concentration : 4% v/v in water.

pH 4%: 7.3

### Acidic washing

Removal of inorganic salts and residues, scale and calcareous deposits, metal oxides (rust) ...



#### RBS T 305

##### Descaler and oxides remover

##### Acidic detergent based on phosphoric acid

Recommended for manual cleaning of equipment and surfaces in laboratories.

Particularly adapted for regular maintenance of surfaces and animal cages in research units, veterinary institutions and pharmacological laboratories.

RBS T 305 gives brightness and original aspect to the cleaned items and surfaces.

Use concentration : 2-5% v/v in water.

pH 2%: 1.5

##### Citric acid - based version

#### RBS T 310

Acidic detergent developed without mineral acids.

Use concentration : 2-5% v/v in water.

pH 2%: 2.2



## Automatic washing

### Glassware and laboratory equipment



#### Alkaline washing cycle

##### RBS 50

Non foaming liquid alkaline detergent

Removal of organic residues, oils, greases, ointments, balsams, distillation and biological residues, cell cultures ...

Especially developed for automatic cleaning of glassware and laboratory equipment made of stainless steel, plastic, porcelain ...

RBS 50 contains active chlorine well known for its decontaminating properties. Combined with the use of the neutralizing agent **RBS NA 2**, it offers perfect result and optimal cleanliness without traces or films.

Use concentration : 0.3% v/v in water. pH 0.3%: 10.4

Recommended for use in laboratories of water control and analysis where the presence of interfering traces of phosphates is undesirable. Combined with the use of the neutralizing agent **RBS NA 1**, it offers perfect cleanliness without traces or residues.

Use concentration : 0.3% v/v in water. pH 0.3%: 11.7

High efficiency in the removal of biological residues, fatty matters, oils, distillation residues ...

Use concentration : 0.3% p/v in water. pH 0.3%: 10.6

Also available in more alkaline version : **RBS SOLID A 430** and phosphates-free version : **RBS SOLID pF**



##### Phosphates-free version

##### RBS B 023

##### RBS SOLID

Alkaline detergent in powder form

#### Neutralization & rinsing cycle

Removal of residual traces of insoluble carbonates and inorganic salts both on the cleaned items and the internal components of the machine.

##### RBS NA 1 & RBS NA 2

Acidic neutralizing and rinsing agents

RBS NA 1 contains organic acids.

RBS NA 2 contains phosphoric acid.

The use concentration for the two products is 0.1% v/v in water.

#### Final rinsing

#### Drying

## Neutral washing cycle

Recommended for cleaning supports made of sensitive materials (non-ferrous metals such as aluminium, zinc ... or alloys having similar properties).



### RBS B 106-H2

#### Neutral liquid detergent

Suitable for the mechanical cleaning of glassware and laboratory equipment sensitive to acidic or basic solutions.

Excellent compatibility with most materials.

Efficiently removes fatty residues, oils, biological residues, chemical solutions ...

Use concentration : 0.5% v/v in water. pH 0.5%: 7.8

## Acidic washing cycle

Removal of inorganic residues and salts, calcareous deposits, metal oxides (rust) ...

### RBS B 136

#### Descaler and oxides remover

#### Acidic detergent based on phosphoric acid

Recommended for the mechanical acidic cleaning of laboratory equipment. Particularly adapted for regular maintenance of animal cages in research units, veterinary institutions and pharmacological laboratories.

RBS B 136 gives brightness and the original aspect to the cleaned items

Use concentration : 0.3% v/v in water. pH 0.3%: 3.0



## Recapitulative table

	Process				Use			Physical and chemical properties										Working concentration (pH)
	Manual	Immersion	Ultrasonic bath	Washing machine	Cleaning - Degreasing	Descaling - Desoxidizing	Prewash - Neutralization	Concentrated liquid	Powder	Acid	Neutral	Alkaline	Foaming	Non foaming	Phosphates-free	Contains phosphoric acid	Contains organic acid	
RBS T 105	●	●	●		●			●				●	●					2% (11,8)
RBS T 115	●	●	●		●			●				●	●		●			2% (11,7)
RBS T 230	●	●	●		●			●			●		●					4% (7,3)
RBS T 305	●	●	●		●	●		●		●			●			●		2% (1,5)
RBS T 310	●	●	●		●	●		●		●			●				●	2% (2,2)
RBS 50				●	●			●				●		●				0,3% (10,4)
RBS B 023				●	●			●				●		●	●			0,3% (11,7)
RBS NA 1				●		●	●	●		●				●			●	0,1% (3,6)
RBS NA 2				●		●	●	●		●				●		●		0,1% (2,4)
RBS B 106-H2				●	●			●			●			●				0,5% (7,8)
RBS B 136				●	●	●		●		●				●		●		0,3% (3,0)
RBS SOLID				●	●				●			●		●				0,3% (10,6)
RBS SOLID pF				●	●				●			●		●	●			0,3% (10,7)
RBS SOLID A 430				●	●				●			●		●				0,2% (11,3)



## Residues

Organic residues such as greases, oils, ointments, balsams, biological residues, proteins, blood residues, cell cultures, fermentation residues, DNA & RNA ... are to be removed using alkaline detergents.

Insoluble inorganic residues and mineral salts such as metal oxides, scale, calcium carbonates ... are to be removed using acidic detergents.

## Materials to clean

The glassware is immersed in the cleaning solution for up to 30 minutes at a temperature between 20°C and 50°C, rinsed with tap water and then with deionized water.

In washing machine, follow instructions and washing times recommended in the manufacturer proposed programs.

Avoid cleaning temperature higher than 65°C, particularly for volumetric glassware ( flasks, burettes, pipettes ...). Such temperature may damage the graduations and lead to volume change due to the glass corrosion.

Items made of polyolefin plastic (LDPE, HDPE, PP, PMP...) generally present smooth surfaces that are not wettable and may be easily cleaned with an alkaline detergent. Items made of polystyrene PS or polycarbonate PC should be cleaned with neutral detergents. Long exposition to alkaline detergent may affect the rigidity of the plastic. It is recommended to check the chemical compatibility of items made of plastic and then select the cleaning conditions and the adequate detergent.

Supports made of stainless steel can generally undergo both alkaline and acidic treatment without restrictions. It is however recommended to avoid the use of chlorine based detergents that may cause corrosion damages.

Items made of non ferrous metals such as aluminium, zinc, tin or their alloys should be cleaned with neutral detergents.



**For more information  
on products properties and uses,  
specifications and safety data sheets  
are available.**

**RBS products are packed in 5 l bottles  
made of polyethylene,  
a recyclable plastic.  
For others pack sizes, contact us.**





## Processes

### Manual, immersion and ultrasonic baths

For manual cleaning process, items are first impregnated or soaked into the cleaning solution that ensures the wetting and penetrating action. The mechanical action of a brush or a sponge will then allow the removal and dispersion of the soils.

The manual process is recommended for cleaning items and parts of medium size (glassware, container ...) allowing the use of brushes or sponges.

When cleaning by immersion, the removal of residues and soils is entirely assured by the wetting, emulsifying and dispersing power of the cleaning solution.

In order to reduce the immersion time, increase the concentration of the cleaning agent or the temperature of the cleaning solution. The use of an ultrasonic bath allows the reduction of the cleaning time thanks to the mechanical action of the ultrasounds waves. The process is then more efficient, rapid and easy to control. It is particularly suitable for cleaning items and instruments of small size with hoses, joints, articulations ...

### Automatic washing

The automatic cleaning process offers the best protection for the glassware and laboratory equipment in comparison with the manual, immersion and ultrasonic cleaning processes. The items are only exposed to the cleaning solution jet for a relatively short time. The treatment in automatic machine offers the following advantages:

- Reproducible process
- Quality control/validation
- Reduced handling
- Protection of personnel
- Economical

During the automatic washing, the acidic prewash cycle may be necessary to improve the alkaline cleaning quality. It allows the removal of carbonates, hydroxides, proteins and organic bases such as amines known as hard to remove with the alkaline washing.

### Rinsing

The rinsing cycle is particularly important. An efficient rinsing should remove all detergent residues that may interfere in further analysis and reactions (serologic, cell cultures ...).

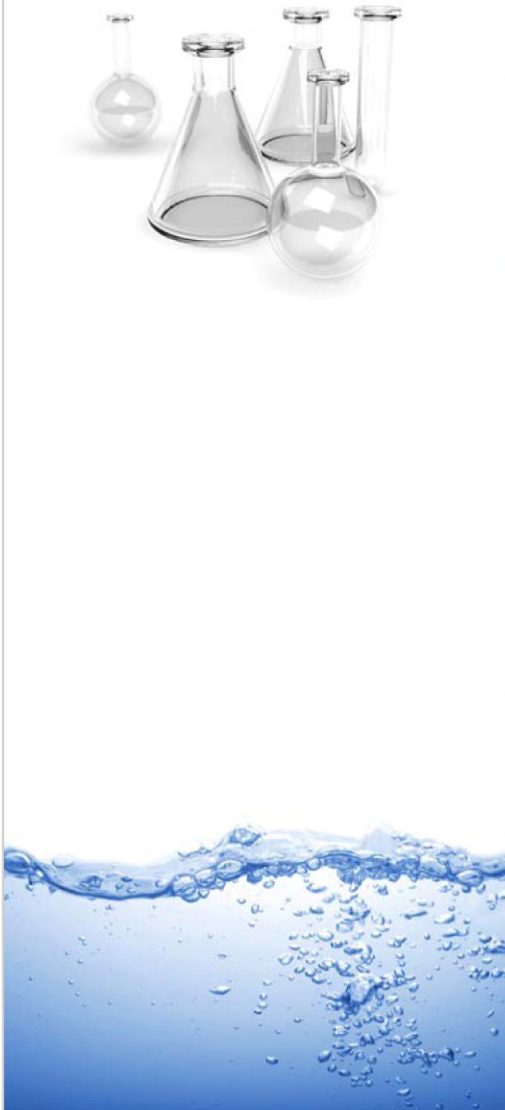
After each warm washing, it is recommended to immediately rinse the items with tap water and perform a final rinse with deionized water.

In automatic washing machine, the acidic rinsing allows the neutralization of residual alkaline traces of the main washing cycle and thus prevents the calcareous deposits to form on both the cleaned items and the internal components of the machine.

### Drying

Test and culture tubes, bottles, flasks ... should be dried on a simple or air pulsed drying rack. Drying oven at 80-90°C is also often used.

In automatic washing machine, the cleaned items easily dry due to the residual heat of the washing and rinsing cycles. The use of an acidic rinsing product containing surfactants that increase the surface tension of the rinsing water helps to accelerate the rinsing water evacuation and activates the drying (rinse aid product available: RBS R 60 or RBS R 60 pF).



## RBS HDS 12

### Soft liquid handsoap

Especially adapted for frequent hand washing in laboratories.  
Helps to protect and moisturize hands skin.

## RBS HDS 15

### Bactericidal soft liquid handsoap

Recommended for mild hygienic hand washing and decontamination.  
Its neutral pH allows frequent use with prolonged dermal protection.  
Contains moisturizing agents, quaternary ammonium compounds and glycerine.  
Available with pleasant green tea perfume.

## RBS HDS GEL

### Hydro-alcoholic gel

Suitable for hand disinfection in laboratories.  
Helps to prevent propagation of contagious germs.  
Available with pleasant green tea perfume.  
Conforms to EN 1040 and EN 1275.  
Recommended for hygienic hand disinfection according to EN 1500.  
Active against Influenza A H1N1 virus according to EN 14476.

## RBS HDS LOTION

### Hydro-alcoholic lotion

Decontaminating lotion based on alcohol for hand disinfection.  
Active against bacteria and fungi.  
Conforms to EN 1040 and EN 1275.



RBS HDS range is available in:

500 ml "transparent" bottle with dispenser (available only in box of 12 x 500ml).

RBS HDS GEL is also available in 100 ml disc cap bottle (box of 24 x 100 ml).



## RBS HDS range

Advanced solutions  
for hand hygiene



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