



Technologies

TECHNICAL BULLETIN

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PARCO CLEANER 1523

LOW TEMPERATURE, LIQUID CLEANER

1. INTRODUCTION

Parco Cleaner 1523 is a multi package, low temperature, liquid cleaner formulated to prepare ferrous, zinc and aluminium surfaces to receive uniform, dense, crystalline conversion coatings. The medium to heavy-duty cleaning solution is designed specifically for use in the automotive industry. The treatment solution may be applied by spray or immersion and is very effective in removing metal working fluids and soils.

2. OPERATING SUMMARY

Chemicals:	Bath Preparation:	
	Spray	Immersion
Parco Cleaner 1523A	10.5 kg (7.0 litres) Per 1000 litres	18.0 kg (12.0 litres) Per 1000 litres
Parco Cleaner 1523S	1.3 kg (1.3 litres) Per 1000 litres	2.3 kg (2.3 litres) Per 1000 litres

Operation and Control:		
Free Alkali, points	3 to 7	3 to 12
Total Alkali/Free Alkali Ratio	<2.5	<2.5
Time, minutes	½ to 2	2 to 3
Temperature, °C	43°C to 60°C	43°C to 60°C

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3. MATERIALS

Parco Cleaner 1523A
Parco Cleaner 1523R (Optional)
Parco Cleaner 1523S
Testing Reagents and Apparatus

4. EQUIPMENT

The process tank, housing, pumps and piping for use with this solution may be constructed of mild steel. In spray application, maintenance will be simplified if nozzles are fabricated from 300 series stainless steel. The heat exchanger plates should be polished 316 stainless steel. If gas fired burner tubes are used, they should be made of schedule 80 mild steel pipe or equivalent. All process circulating pump seals, valve seats, door seals, and other elastomers which come in contact with the working process solution should be Teflon™. Viton™ may be used but its life will be shorter. EPDM elastomer should be avoided.

Automatic process control equipment, which promotes consistent quality and controlled costs, is available for automatically controlling this process. Auxiliary equipment, which is engineered and specified for this process, include air operated chemical transfer pumps, chemical metering pumps, reliable level controls, solenoid valve assemblies and bulk storage tanks. All chemical pump seals, valve seats and other elastomers which come in contact with the concentrated solution should be Teflon™ or Hypalon™.

Our sales representative should be consulted for information on automatic process control equipment for this process and any additional questions. In addition the "Parker Amchem Equipment Design Manual" may be consulted.

5. TREATING WITH PARCO CLEANER 1523 SOLUTION

Buildup:

Spray: 10.5 kg (7.0 litres) of **Parco Cleaner 1523A** and 1.3 kg (1.3 litres) of **Parco Cleaner 1523S** per 1000 litres of solution volume.

Immersion: 18.0 kg (12 litres) of **Parco Cleaner 1523A** and 2.3 kg (2.3 litres) of **Parco Cleaner 1523S** per 1000 litres of solution volume.

Fill the tank about three-fourths full with water. Add the proper amount of each chemical and circulate. Add sufficient water to bring the solution up to the working level and then heat to the operating temperature. Test for free alkali and adjust if necessary before processing any work.

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TREATING WITH PARCO CLEANER 1523 SOLUTION (continued)

Operation:

Time: 30 seconds to 3 minutes.

Temperature: 43°C to 60°C

After the best values for time and temperature have been established, they should be maintained closely. Temperature should be held within $\pm 3^\circ\text{C}$.

6. TESTING AND CONTROL

Never pipette by mouth, use a pipette filler.

Free Alkali:

Pipette a 10 ml sample into a 150 ml beaker. Add 5 drops of Indicator 3. Titrate with Titrating Solution 20 until one drop discharges the last of the pink colour. The ml of Titrating Solution 20 used is the Free Alkali value in points.

Spray	Immersion
3 – 7 points (ml)	6 – 11 points (ml)

Free Alkali range: Within ± 0.5 point of the value found to give the best results.

To increase value 1 point: 1.9 kg of **Parco Cleaner 1523A** per 1000 litres of solution volume (1.3 litres per 1000 litres).

Parco Cleaner 1523R is an alkaline package beneficial in maintaining a higher cleaner pH than when using **Parco Cleaner 1523A**. Typically, the cleaning solution is prepared using **Parco Cleaner 1523A** and then replenishing using **Parco Cleaner 1523R**. The replenishing rate for **Parco Cleaner 1523R** is equal to that of **Parco Cleaner 1523A**.

Parco Cleaner 1523S is added to the solution to assist in cleaning and it should be added each time **Parco Cleaner 1523A** or **Parco Cleaner 1523R**, is added to the tank. Add 1.4 kg (1.4 litres) of **Parco Cleaner 1523S** for each 15.0 kg (10.0 litres) of **Parco Cleaner 1523A**. Consult our representative as to the correct rate of addition prior to using.

The strength of the solution in kg per 1000 litres or in litres per 1000 litres can be determined from the free alkali points using the equations or the table below.

kg **Parco Cleaner 1523A** per 1000 litres = 1.95 x points.
litres **Parco Cleaner 1523A** per 1000 litres = 1.3 x points.

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TESTING AND CONTROL (continued)

<u>kg per 1000 litres</u>	<u>litres per 1000 litres</u>	<u>Points</u>
8.8	6	4.5
11.7	8	6.0
14.7	10	7.5
17.6	12	9.0
20.5	14	10.5
23.5	16	12.0
26.4	18	13.5
29.3	20	15.0

The cleaning solution strength may be increased or reduced depending upon the type of soil, the time available and the characteristics of the equipment in which it is used.

Additional **Parco Cleaner 1523S** may be required to restore surfactant lost when a thermal oil separator is used or to improve detergency and cleaning ability. Our representative can assist in determining if this addition is required.

Total Alkali

Pipette a 10 ml sample into a 150 ml beaker. Add 5 drops of Indicator 2. Titrate with Titrating Solution 20 from blue through green until one drop discharges the last of the green colour. The ml of Titrating Solution 20 used is the Total Alkali in points.

The Total Alkali value is used to calculate the alkali ratio.

Total Alkali/Free Alkali Ratio

As the cleaner is used and becomes contaminated, the total alkali value will rise. Thus, the ratio of the total alkali value to the free alkali value will also rise and this becomes a useful measure of the degree of contamination of the cleaner solution. The solution may be periodically dumped or continuously overflowed or autodrained to keep the total alkali to free alkali ratio from exceeding the maximum value determined for the system.

Total Alkali/Free Alkali Ratio should be monitored. The value under typical cleaning conditions should not be allowed to exceed 2.5.

7. STORAGE REQUIREMENTS

No special storage requirements are needed for **Parco Cleaner 1523A** or **Parco Cleaner 1523R**. However, extreme temperatures should be avoided when storing **Parco Cleaner 1523S**. Indoor storage at or near ambient temperature is recommended.

8. WASTE DISPOSAL INFORMATION

Applicable regulation covering disposal and discharge of chemicals should be consulted and followed.

Disposal information for the chemicals, in the form as supplied, is given on the Material Safety Data Sheet for each product.

The processing bath is alkaline. Neutralisation of rinse water or processing solution may be required prior to discharge to the sewer.

The processing bath and sludge which accumulates in the bath can contain ingredients other than those present in the chemical as supplied and analysis of the solution and/or sludge may be required prior to disposal.

9. PRECAUTIONARY INFORMATION

When handling the chemical products used in this process, the first aid and handling recommendations on the Material Safety Data Sheet for each product should be read, understood and followed.

The processing bath is alkaline and may cause irritation of the skin and eyes. Do not get in eyes, on skin or on clothing. In case of contact, follow the recommendations on the Material Safety Data Sheet for **Parco Cleaner 1523A, Parco Cleaner 1523R, Parco Cleaner 1523S**.

DISCLAIMER

Any information given is, to the best of our knowledge, the best currently available, with respect to our products and their use, but it is subject to revision as additional knowledge and experience is gained. Such information is offered as a guideline for experimentation only and is not to be construed as a representation that the material is suitable for any particular purpose or use. Customers are encouraged to make their own enquiries as to the material's characteristics and, where appropriate, to conduct their own tests in the specific context of the material's intended use. This information is not a license to operate under nor is it intended to suggest infringement of any patent. We guarantee a uniform quality standard for this product. The only conditions and warranties accepted by Henkel in relation to this product or process are those implied by either Commonwealth or State statutes.

Testing Reagents and Apparatus.
(Order only those items which are not already on hand)

Parco Cleaner 1523

Quantity Item

3*	.....	Beaker, 150-ml
2	.....	Bucket, Graduated, Plastic
1	.....	Burette Assembly, 25-ml Automatic
500 ml	.....	Indicator 2 (Bromocresol green)
500 ml	.....	Indicator 3 (Phenolphthalein)
2	.....	Indicator Dropping Bottle
2*	.....	Pipette 10-ml Volumetric
1	.....	Pipette Filler
1	.....	Scale, 10 kg Capacity
1	.....	Thermometer, Stainless Steel
1 lt	.....	Titration Solution 20 (0.1N H ₂ SO ₄)

* Includes one more than actually required, to allow for possible breakage.