

| PRODUCT | PERFORMANCE | | | | | SPECIFICATIONS | | | | | | | COSTS | | |
|--|--|------------------------|----------------------------|-----------------------------|-------------------|-------------------------------------|-----------------|------------------|----------------------|---------|---------------------|----------------------------|---------|-------------------|------------|
| | Brand / detergent (in order of dirt removal score within groups) | Dirt removal score (%) | Grass stain: above average | Tomato stain: above average | OK for the garden | Waste water recycling (TDS, g/wash) | Washes per pack | Packet size (kg) | P or NP on packaging | Enzymes | Optical brighteners | OK for front loaders | Contact | Cost per wash (c) | Price (\$) |
| FRONT LOADER DETERGENTS | | | | | | | | | | | | | | | |
| Omo Front Loader Small & Mighty 2X Concentrate | 86 | ✓ | ✓ | (C) | ****23 | 19 | 0.875 | P | yes | yes | yes | www.omo.com.au | 47 | 8.98 | |
| Radiant Micro Max High Performance Front Loader & HE | 81 | ✓ | ✓ | | ***30 | 11 | 0.5 | P | yes | yes | yes | www.radiantlaundry.com.au | 57 | 6.29 | |
| Cold Power Advanced Front Loader & HE 2X Ultra Concentrate (A) | 79 | ✓ | ✓ | ✓ | **49 | 16 | 1 | P | yes | yes | yes | www.colgate.com.au | 62 | 9.93 | |
| Biozet Attack Front Loader Fresh & Vibrant | 78 | | ✓ | ✓ | **45 | 40 | 2 | NP | yes | yes | yes | www.biozet.com.au | 45 | 17.99 | |
| Duo Ultra Concentrate Front Loader & HE Linen Fresh | 73 | | ✓ | | **40 | 9 | 0.5 | NP | yes | ns | yes | www.duolaundry.com.au | 33 | 2.99 | |
| Ecostore Front Loader Plant and Mineral Based Laundry Powder | 68 | | | ✓ | ****28 | 29 | 1 | (D) | | | yes | www.ecostore.co.nz | 24 | 6.99 | |
| Spree Front Loader & HE Lavender Fresh 2X Ultra Concentrate (A) | 67 | | | ✓ | **44 | 8 | 0.5 | NP | ns | ns | yes | www.colgate.com.au | 35 | 2.79 | |
| Surf Front Loader Small & Mighty Tropical 2X Concentrate | 65 | | | | ***37 | 10 | 0.5 | P | ns | yes | yes | www.surflaundry.com.au | 37 | 3.69 | |
| TOP LOADER DETERGENTS | | | | | | | | | | | | | | | |
| Omo Top Loader Small & Mighty 2X Concentrate | 77 | ✓ | | | ****24 | 20 | 0.875 | P | yes | yes | | www.omo.com.au | 45 | 8.98 | |
| Biozet Attack Fresh & Vibrant | 75 | ✓ | ✓ | ✓ | ***36 | 19 | 1 | NP | yes | yes | | www.biozet.com.au | 42 | 7.99 | |
| Coles Smart Buy Laundry Powder Concentrate Lemon Fresh (B) | 75 | ✓ | | | •129 | 7 | 1 | P | ns | ns | yes | www.coles.com.au | 37 | 2.59 | |
| Seventh Generation Natural Laundry Detergent | 75 | ✓ | ✓ | | *53 | 15 | 1.36 | (D) | yes | | yes | www.seventhgeneration.com | 46 | 6.93 | |
| Radiant Micro Max High Performance Top Loader 2X Ultra Concentrate | 74 | ✓ | | | ***30 | 11 | 0.5 | P | yes | yes | | www.radiantlaundry.com.au | 57 | 6.29 | |
| Dynamo (With a Boost of Sard) Oxy Plus 2X Ultra Concentrate (A) | 73 | ✓ | ✓ | | ****28 | 9 | 0.5 | P | yes | yes | | www.colgate.com.au | 64 | 5.79 | |
| Drive Top Loader 2X Concentrate | 69 | ✓ | | | ***36 | 22 | 1 | P | yes | yes | | www.unilever.com.au | 45 | 9.99 | |
| Cold Power Advanced 2X Ultra Concentrate (A) | 68 | | | | ***37 | 8 | 0.5 | P | yes | yes | | www.colgate.com.au | 73 | 5.84 | |
| Duo Ultra Concentrate Top Loader Linen Fresh | 59 | | ✓ | ✓ | **44 | 10 | 0.5 | NP | yes | ns | | www.duolaundry.com.au | 30 | 2.99 | |
| Fab Sunshine Fresh 2X Ultra Concentrate (A) | 53 | | | ✓ | **43 | 8 | 0.5 | NP | | yes | | www.colgate.com.au | 50 | 3.99 | |
| Spree Lavender Fresh 2X Ultra Concentrate (A) | 53 | | | ✓ | **41 | 9 | 0.5 | NP | | yes | | www.colgate.com.au | 32 | 2.79 | |
| Surf Small & Mighty Cool Fresh 2X Concentrate | 51 | | ✓ | | **42 | 10 | 0.5 | P | ns | yes | | www.surflaundry.com.au | 36 | 3.69 | |
| Ecostore Plant and Mineral Based Laundry Powder | 48 | | ✓ | ✓ | ****21 | 27 | 1 | (D) | | | yes | www.ecostore.co.nz | 26 | 6.99 | |
| Planet Ark Aware Eco Choice Front & Top Loader (A) | 45 | | | ✓ | ***34 | 33 | 1.5 | (D) | | | yes | www.planetark.org (E) | 22 | 7.39 | |
| Earth Choice Top Loader | 44 | | ✓ | ✓ | ****28 | 31 | 1.5 | NP | ns | ns | | www.naturesorganics.com.au | 29 | 8.99 | |

Using the Table

Wastewater recycling - the lower the number and the more stars, the better it is for recycling.
 ****= <30g/wash; ***=<40g/wash; **=<50g/wash; *=<60g/wash; • no stars >60g/wash.

Packet size/Washes per pack - this is the most popular size that CHOICE found in stores, and is calculated on the number of washes using the recommended dose for a normal wash.

Price - this is the price that CHOICE paid for the pack size listed.

Data correct as at August 2009.

Table Notes

ALDI products were being reformulated and weren't available in time for our test.

(HE) High efficiency.

(ns) Not stated.

(A) Formulation changes planned over the next few months.

(B) Not a 2x concentrate – has more than double the recommended dose of all other products on test.

(C) OK for garden at quarter dose.

(D) No P or NP on label, but has no phosphorus.

(E) Austech Products has purchased the Aware brand and manufacturing rights; reformulation planned.

Laundry Detergents



CHOICE magazine's best laundry detergents for performance, price, recycling water and your garden!



Great for your laundry, great for recycling, helping your garden grow!

The following contains excerpts from CHOICE, November 2009.

Some laundry detergents make the process of recycling water easier than others.

Due to recent drought conditions, water utilities are doing more to recycle wastewater for use in industry, agriculture and urban irrigation. Yet, as people conserve water, less wastewater is being discharged and we are experiencing higher concentrations of detergent ingredients in wastewater. This limits the potential use of recycled water and greywater, as higher levels of detergent can be detrimental to plant growth and soil structure.

We understand that while you may want to do your bit for water conservation and recycling, when it comes to choosing laundry detergent, you still want a bright, fresh wash and to keep an eye on your budget. That is why City West Water recently partnered with the Water Services Association of Australia and CHOICE to conduct an independent study into laundry detergents, with the aim of uncovering the brands with the lowest chemical load and that were best for:

- recycling water from our treatment plants
- minimising impacts on inland ecosystems
- washing performance
- price
- using greywater on your garden.

The main concern is the high levels of total dissolved solids – mostly salts, including phosphates, nitrates, sulphates and sodium – in laundry detergents. Removing tonnes of salt from wastewater is a very energy intensive and expensive process because a reverse osmosis or other type of desalination plant is required. Then there is the problem of how to best dispose of the salts once they are removed – particularly for inland cities and towns.

A more sustainable and economical solution is to use detergent with the lowest total dissolved solids. The table on this brochure includes a column titled 'Waste Water Recycling', where you can find which detergents score best for water recycling and choose your laundry detergent wisely. You don't have to forsake the quality of wash to have a more water recycling friendly laundry.

Experimenting with lower doses of detergent could save you money

As part of the study, CHOICE conducted an experiment with one laundry detergent to see if there was a noticeable difference in dirt removal if the dose of detergent was reduced.

CHOICE discovered that using just one-quarter of the recommended dose still produced a high quality wash. So not only is reducing the detergent load per wash better for recycling and reuse on your garden, your box of detergent lasts four times longer, saving you money!

Why not try reducing the detergent dose in your next load and see if it affects the quality of your wash!

Results of the study

The table on this brochure lists the brands tested in order of the quality of washing performance, from best to worst, and provides additional information about which detergents are most suitable for greywater use on gardens and are better for recycling (including the volume of total dissolved solids in every dose – the more stars and the lower the number, the better). The table also provides information relating to specific ingredients and packaging, as well as the price of each product and the cost per wash.

The study also confirmed that 2x ultra-concentrated detergents, usually sold in a smaller pack, give the same number of washes per pack as standard concentrates. This means you can generally use half as much and get the same quality wash.

Important information about using greywater on your garden

When using washing machine water as greywater on your garden, there is some important information to keep in mind:

- it is better for your garden to use only water from the rinse cycle as there is a lower concentration of detergent in the water
- alternate the use of greywater with drinking water (in line with restrictions) or rainwater from a tank or when rain occurs
- reducing the amount of detergent you use will make the greywater better for your garden.

Front loader detergents generally have a lower volume of total dissolved solids per wash, but there is a higher concentration of these in the greywater produced, due to less water being used in the wash cycle than there is in top loaders.

For more information on safely using greywater, see EPA Victoria's website www.epa.vic.gov.au.

Key categories tested

Packet size – Check the results table for the number of washes per pack – the more you get, the less package waste, so the better for the environment. Buying larger packs, will usually be more cost-effective, but transfer bulk purchases to an airtight container to maintain detergent performance.

'P' or 'NP' on packaging – 'P' means low phosphorous (<7.8g/wash) and 'NP' is for no phosphorous or less than 0.5 per cent. This is a voluntary labelling scheme. Phosphates, which contain phosphorus, help soften the water and keep extracted dirt in suspension. But high levels of phosphorus can lead to excessive growth of blue green algae in inland waterways.

Enzymes – These target protein, starch or biological-based stains such as grass or blood. Different enzymes target different stains. Enzymes are known to cause irritation, so should be avoided by those with sensitive skin.

Optical brighteners – These coat the fabric with fluorescers that absorb UV light and re-emit it as blue light, making the clothes look whiter and brighter even though they don't actually remove any dirt. Products with brighteners are also best avoided by people with sensitive skin.

Cost per wash – Although unit pricing (usually per 100g) is a great way to compare costs, it's not accurate for laundry detergents because of the vastly different dose recommendations between brands – so use CHOICE's cost-per-wash figures for a better comparison. Further, try using a fraction of the dose, as it may save you money and still give you clean clothes while helping the environment.

Methodology

Dirt removal score – CHOICE's testers measure out the recommended detergent dose for a normal load, and use it to wash specially soiled swatches (stained with nut oil, milk and a pigment) attached to laundry items in cold water (20 degrees Celsius). Using a spectrophotometer, which measures how much light reflects off the swatches after filtering out any effects of optical brighteners, they measure how much dirt is removed. These readings are more accurate than the human eye – differences of about 6% are noticeable.

Stain removal – In addition, CHOICE include swatches with two very common stains, according to their product use survey: grass (which tests detergents for their action on general stain removal and enzymes that target proteins) and tomato (enzyme "cocktail" action and bleaching effect). Above average performers are noted in the table.

OK for the garden – To find out which detergents are safe to use as greywater on a garden or lawn, Lanfax Laboratories (which specialises in soil, water and waste water analysis), test the total wash water from these detergents for various chemicals and their pH value. While none of the products are completely harmless, the ones noted in the results table are suitable for intermittent use on a home garden or lawn with an area of 150 – 200 square metres. These detergents have low salinity (<2dS/m), sodium (<20g/wash), relatively low pH (<10.8) and low phosphorous (<1g/wash) when diluted with 60 litres for front-loading detergents and 115 litres for top-loading ones. It is safe to use just the rinse water from any detergents, but where there is a tick in this column, the wash water from these powders can also be used intermittently.

Wastewater recycling tests were conducted by a collaboration of CHOICE, Water Services Association of Australia and City West Water. Detergents were analysed for total dissolved solids (TDS), which hinder the recycling process at wastewater treatment plants. A lower TDS value means it's better for recycling and reuse.

City West Water Limited ABN 70 066 902 467

247–251 St Albans Road
Locked Bag 350
Sunshine Victoria 3020 Australia

Visit us online at www.citywestwater.com.au