



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Safe Use of Greywater

A guide to what kind
of greywater can be
re-used where, and
how to use it safely



Making progress possible. Together.

Introduction

By re-using some water, we can save water and money. Typically, 50-80% of indoor water used in the home can be re-used as greywater. However, there are some significant health and hygiene risks that need to be well managed as greywater often contains harmful bacteria/germs, and the way it is used can result in disease. Follow the advice in this booklet to use different types of greywater safely and effectively.

Note: This guide applies to greywater which is used within 24 hours, and for general (manual) 'bucketing' use in, for example, formal dwellings, businesses, sports and other clubs, schools and places of worship.

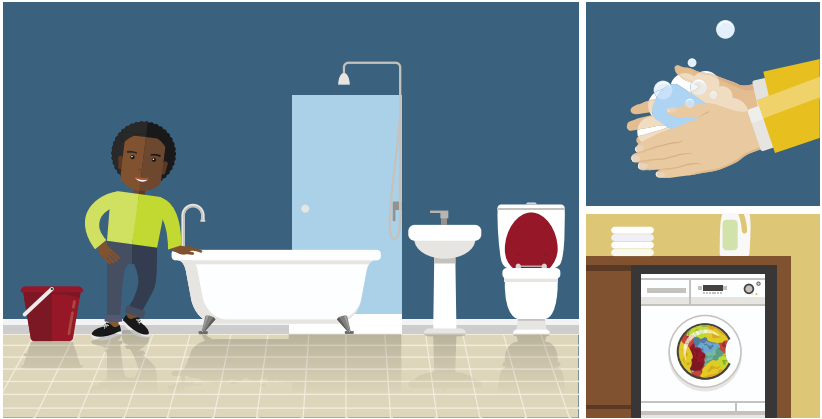
If greywater is stored for longer than 24 hours it needs treatment such as filtration and disinfection as advised by a specialist.

Use greywater for flushing toilets as the priority, and not for garden irrigation or washing vehicles which are not essential uses. In times of extreme water shortage, some levels of restrictions may not allow greywater use for garden irrigation and/or washing vehicles.

This guide is intended specifically for urban consumers in drought periods. The City also advises that users must perform their own safety checks and use their own discretion.



What is greywater?



Greywater is: untreated wastewater which comes from baths and showers (body washing) and handwash basins. Laundry water from washing machines or hand washing only qualifies as greywater for re-use if environmentally-friendly detergents have been used. Greywater can contain the following, depending on the source: bacteria, pathogens, organic material, oil and grease, soap and detergent residue, pesticide residue, dirt, lint, sodium, nitrates and phosphates, high salt and pH levels, bleach, hair and skin particles.

Greywater is not: toilet water (which contains faecal matter and germs/pathogens) or water from spas, Jacuzzis and pools. Water from kitchen sinks and dishwashers contains grease, fats, oils, bacteria and food/other solid particles and must not be re-used.

Greywater use is entirely at the risk of the consumer. The City cannot be held liable for any consequential damage or loss arising directly or indirectly therefrom (as per the City's Water By-law).

General rules for greywater use

WHAT TO DO

- Sanitise your hands after use
- Use environmentally-friendly detergents and soaps where possible
- To install an alternative water system (e.g. borehole) that requires plumbing work, see conditions for safe and legal installation at www.capetown.gov.za/thinkwater and consult a specialist.

WHAT NOT TO DO

- Don't store for longer than 24 hours as this will lead to bad odour, slime build-up and health risks. If you do, it needs filtration, disinfection and treatment as advised by a specialist
- Don't use if any household member is sick
- Don't re-use nappy-washing water
- Don't allow children and animals to come into contact with greywater
- Don't ever ingest/swallow greywater
- Don't spray greywater. Spraying disperses and spreads pathogens (through aerosols)
- Don't allow greywater to leave the property and flow into storm water drains or stream/ivers
- Once you have used some greywater, don't use that same greywater for anything else.






Uses of greywater

SOURCE OF GREYWATER	POSSIBLE CONTENTS	USE
<p>'Warm-up'/ lag water</p> <p>Cold water that runs while waiting for hot/warm water from taps or shower heads. This is water from the geyser which typically gets cold in the pipes leading from the geyser to your tap, while waiting for use.</p>	<p>This is still good quality water and is 'low risk' if used immediately and collected in clean, sanitary containers and not combined with other water sources. Not recommended for drinking. If it comes into contact with human bodies or potentially unclean surfaces then it is considered to be greywater.</p>	<ul style="list-style-type: none"> • Flushing toilets • Cleaning indoor surfaces • Laundry washing • Dishwashing
<p>Shower and bath water</p>	<p>Bacteria, hair, organic material, skin particles, lint, oil and grease, soap and detergents.</p>	<ul style="list-style-type: none"> • Flushing toilets* • Cleaning vehicles* • Garden irrigation*
<p>Laundry water - from washing machine or handwashing</p> <p>The rinse water from a washing machine cycle has the lowest risk if you are able to capture it separately from the general water. Preferably use to wash vehicles as other greywater can leave a residue. Rinse water can also be used for the next wash cycle.</p>	<p>Dirt, lint, organic material, oil and grease, sodium, nitrates and phosphates (from detergent), high salt and pH levels, bleach.</p>	<ul style="list-style-type: none"> • Flushing toilets* • Cleaning vehicles* • Garden irrigation*
<p>Hand basin washing water</p>	<p>Bacteria, organic material, oil and grease, soap and detergent residue.</p>	<ul style="list-style-type: none"> • Flushing toilets* • Cleaning vehicles* • Garden irrigation*
<p>Vegetable and fruit rinsing water</p>	<p>Bacteria, organic matter, and pesticide residue.</p>	<ul style="list-style-type: none"> • Flushing toilets* • Cleaning vehicles*

*Use with caution. See "Greywater conditions of use" on page 6.

Greywater conditions of use for flushing toilets, cleaning vehicles and garden irrigation

USE	CONDITIONS OF USE TO REDUCE RISKS
 <p data-bbox="163 595 241 639">Flushing toilets</p>	<ul data-bbox="311 379 899 719" style="list-style-type: none"> • Use a jug and carefully pour greywater directly into the toilet bowl. Avoid splashing as it may spread pathogens through aerosols, particularly from faecal matter. Keep the toilet and surrounding area disinfected. • If you are using jugs or buckets to manually flush the toilet, do not pour it into the cistern as the greywater can flow back into the drinking water system and contaminate it – which is a health hazard for people on your property as well as others in the area. Even if you have turned off the ‘angle valve’/stopcock which is usually at the base of the toilet, this cannot prevent backflow. If you have a greywater system installed, the drinking water supply should be completely disconnected from the toilet. Regularly check for leaks as greywater can clog up the valve mechanism.
 <p data-bbox="163 920 241 965">Cleaning vehicles</p>	<ul data-bbox="311 750 899 1050" style="list-style-type: none"> • Use greywater to wash vehicles with discretion as very soapy water may leave a residue. • Environmentally-friendly detergents, soaps and shampoos must be used in the washing machine if this water is to be re-used. This avoids harmful chemicals entering the stormwater or surface water systems which could contaminate them. • If possible, wash the car on permeable ground (grass or dirt), away from any surface water, so that the water does not run off hard surfaces (driveways, road, and pavements, etc.) into stormwater systems. The run-off may contain oils, dirt and hazardous chemicals, which are harmful to water systems and the environment.
 <p data-bbox="163 1236 241 1305">Irrigating food gardens</p>	<ul data-bbox="311 1078 916 1386" style="list-style-type: none"> • Prioritise use of low-risk water e.g. rinse water from the washing machine. • Care should always be taken to ensure greywater never comes into contact with the above-ground part of fruit or vegetable plants being grown. Water the roots only. • To avoid direct contact with edible food plants, use drip irrigation with a thick layer of mulch on top. No greywater on leafy vegetables (e.g. spinach) and root vegetables (e.g. carrots). • Always wash fruit and vegetables before food preparation, and cook root vegetables first if they’ve had (sub-surface) greywater irrigation. Avoid hosing, spraying or misting methods of irrigation.

Greywater should always be used for flushing toilets as an essential use priority, before garden irrigation or washing vehicles. In times of extreme water shortage, some levels of restrictions may not allow greywater use for garden irrigation and/or washing vehicles.

USE	CONDITIONS OF USE TO REDUCE RISKS
 <p data-bbox="232 879 325 999">Irrigating non-food gardens i.e. lawn and plants</p>	<ul data-bbox="385 416 992 1347" style="list-style-type: none"> • Greywater can make the soil alkaline and adds salt which builds up and damages soil quality. Some plants can't grow in that kind of soil. Seek advice from garden centres or experts, and use with discretion. • Spread the water across the garden to avoid soil clogging or pooling, which attracts mosquitoes and leads to grey/green slime areas developing. • Do not irrigate within 48 hours of rain, as it may pool on the surface if the soil is wet. • Do not use hosing, spraying (or misting) methods when watering to prevent spreading and breathing in airborne germs. The use of sprinklers is discouraged, but if you do, then ensure it is low spray with large water droplets. Rather use drip/sub-surface irrigation, with a layer of mulch on top. • Avoid/ limit the use of greywater in parts of the garden where people and animals go. • Water the garden at night to avoid human contact for 8 hours after irrigating and to reduce evaporation. • Environmentally-friendly detergents, soaps and shampoos must be used in the washing machine if this water is to be re-used. These are low in phosphorus, sodium, boron and chloride and reduce negative impacts on soils, plants and ultimately the water system. Phosphate is particularly dangerous to the environment. • Rinse water from the washing machine (if not used for the next wash cycle, vehicle washing or toilet flushing) has the lowest risk for plants. If you are able to capture it separately from the general water, prioritise its use in the garden. • Only water well-established plants with greywater and monitor them for signs of stress (e.g. yellowing, wilting or mottled colour). Rather use alternative water (e.g. rainwater harvesting) for new plants. • Consider planting salt-tolerant plants, if plants show stress from irrigation with greywater.

Use water wisely, and help others to do so too. See other useful guides and information about water restrictions, the City's Water By-law and saving water at www.capetown.gov.za/thinkwater

Don't delay - report burst pipes, faulty meters and water restriction offences:

- Call **0860 103 089** (choose option 2: water-related faults)
- SMS **31373** (maximum of 160 characters)
- Email water@capetown.gov.za
- Online through our Service Requests tool at www.capetown.gov.za/servicerequests

Further resources and information on the current status of our water system are available at www.capetown.gov.za/thinkwater

Produced by the Water and Sanitation Department of the City of Cape Town.

October 2017

Please note that this document may be updated from time to time. Visit www.capetown.gov.za/thinkwater to check for the most recent version as a free electronic download.

www.capetown.gov.za/thinkwater



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.