During wide-ranging discussions and engagement with our customers and industry experts in the healthcare sector, the impact of disposable medical products on the environment is an area needing constant improvement.

Haines® is committed to reducing the impact that our products have on the environment and providing information guidelines to help with the correct disposal once the products have been used.

The single-use nature of many products often means that reuse and recycling can be a challenge. However, there are always actions to avoid and reduce and we are continuously exploring where there are opportunities to recycle and recover.

HAINES® MEDICAL AUSTRALIA. ALWAYS THINKING. ALWAYS THERE.
Specialists in Disposable and Single Patient Use products

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MEDICAL AUSTRALIA

COMPOSTABLE PRODUCTS

Haines® Medical Australia

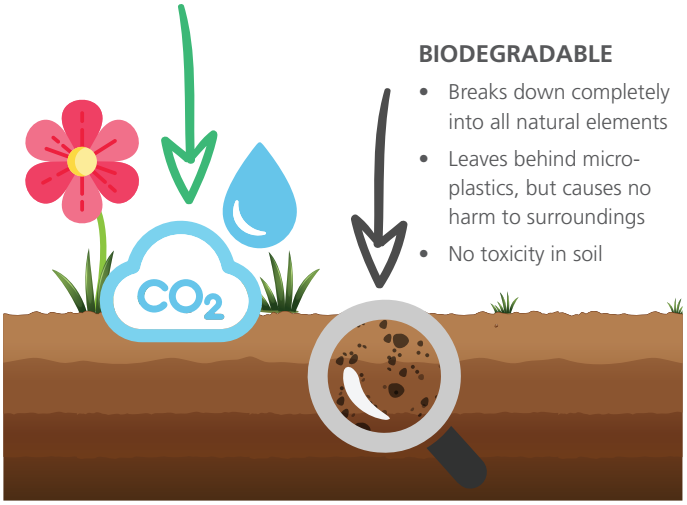
Difference between Compostable and Biodegradable

When a product is claimed to be compostable it means that it's capable of being fully broken down into soil, within **90 days**, leaving no toxicity behind.

Biodegradable products are capable of decomposing at some point but usually needs help from biological agents such as bacteria, this process can take years.

COMPOSTABLE

- Breaks down completely into all natural elements
  90% or more to CO_2; remaining to water & biomass = valuable compost
- No micro-plastics
- No toxicity in soil



BIODEGRADABLE

- Breaks down completely into all natural elements
- Leaves behind micro-plastics, but causes no harm to surroundings
- No toxicity in soil

****Compostable is ALWAYS biodegradable, BUT biodegradable is rarely compostable****

What is the EN13432 standard?

The criteria for the industrial compostability of packaging are set out in the European standard EN 13432. EN 13432 requires the compostable products to disintegrate after 12 weeks and completely biodegrade after six months. That means that 90 percent or more of the product material will have been converted to CO_2. The remaining share is converted into water and biomass – i.e. valuable compost[1].

OK compost | TÜV AUSTRIA | INDUSTRIAL

Packaging or products featuring the **OK Compost** label (based on European standard EN 13432: 2000) are guaranteed as biodegradable & compostable in an industrial composting plant and applies to all components, inks and additives. Any product featuring the OK compost logo complies with the requirements of the EU Packaging Directive (94/62/EEC)[2]

What happens if a compostable product is thrown in the trash?

Composting is a very specific process which does not occur in landfills. Microorganisms, carbon, water, oxygen and nitrogen are all essential parts of the compost process and these factors need to be present in the right circumstances (such as in a compost pile) for composting to occur. However, if compostable products are placed in an open landfill or dump where oxygen is available, they will decompose at a rate like other biodegradable materials in the same setting[3].

Haines® products that are compostable:

Compostable trays & dishes

Disposable Paper Pill Cup

STEPS TO RECYCLE NON-CONTAMINATED **COMPOSTABLE** PRODUCTS

1. Place in compost or green waste bin
2. Confirm with local waste management provider if it can go into the Co-Mingled recycling (Yellow Bin service) stream
3. Place in General Waste

1. *https://www.european-bioplastics.org/faq-items/what-are-the-required-circumstances-for-a-compostable-product-to-compost/*
2. *http://www.tuv-at.be/green-marks/certifications/ok-compost-seedling/*
3. *https://www.livescience.com/63597-compost-trash-in-landfills.html*

RECYCLABLE PRODUCTS

Haines® Medical Australia

Recycling items helps to reduce environmental impact and avoid the need to use raw materials. Metals, glass, plastics and paper go to a facility where they are sorted and sent to facilities for remanufacturing materials into new products.

What generally happens to plastics?

Haines® products made from plastics that can be recycled:

Disposable Curtains

Disposable Linen

Disposable Staff & Patient Apparel

Polypropylene and SMS products can be identified by the recycling code number 5.

HOW CAN HAINES® HELP YOU?

Meet with you to discuss what products are currently being used

Work with you and your waste provider or alternate provider to provide a suitable solution

Provide samples with your waste provider to confirm the correct waste stream

Waste provider to supply appropriate bin for recycling

WASTE MANAGEMENT

Haines® Medical Australia

ANY 'VISIBLE SIGNS OF CLINICAL WASTE ON THE PRODUCT' MUST BE DISPOSED WITHIN A CLINICAL WASTE BIN AND DEEMED AS CONTAMINATED WASTE.

State waste management providers

If your current waste provider cannot provide a recycling solution for the products, then contact the following national waste management provider.

SA	SUEZ ResourceCo (Danielle Olrich: 08 8345 7841)
NSW	SUEZ (13 13 35) (michelle.runge@suez.com)
ACT	SUEZ (13 13 35)
VIC	Cleanaway (13 13 39) or SUEZ (13 13 35) (shanan.darroch@suez.com)
QLD	SUEZ (13 13 35) (cathy.hollis@suez.com)
NT	Northern Territory Recycling Solutions (NTRS) (Peter Siebrecht: 08 89472721)
WA	SUEZ (13 13 35) (lina.galluzzi@suez.com)
TAS	N/A worried about contamination being 'medical' waste

For more information about each of your product, please refer to appendix 1 - What the product is made from and how it can be recycled.

PRODUCT RECYCLING GUIDE

Haines® Medical Australia

● **Can** be recycled ● **Maybe** recycled, need to confirm with waste company ● **Cannot** be recycled

	Item	Description/Comment	Recyclable?
	Disposable Curtains		
●	**Disposable Curtains with Mesh**	Main: Polypropylene / Mesh: Polyester Eyelets: Polypropylene	Can be accepted as "seconds" plastic for recycling so the polyester mesh and hard plastic can be left attached. If they were removed, cost to customer for collection/recycling would be less than mixed plastics collection. Confirm with your waste management provider
●	**Disposable Curtains**	Main: Polypropylene / Eyelets: Polypropylene	Can be accepted as "seconds" plastic for recycling so the polyester mesh and hard plastic can be left attached. If they were removed, cost to customer for collection/recycling would be less than mixed plastics collection. Confirm with your waste management provider
●	**Curtain hooks**	Polypropylene (PP)	Yes, made from hard Polypropylene.
	Linen, Covers, Apparel		
●	**Fitted propylene (SMS) sheet with elastic**	SMS Material / Elastic is made from Isoprene	Yes. The elastic is OK as it is a very small volume in the overall product and can be handled by the processors. Confirm with your waste management provider
●	**Disposable Pillow cases**	Cover: SMS Material	Yes. Being made from 100% Polypropylene this product is 100% Recyclable.
●	**Disposable Pillow**	Cover: Polypropylene (PP) / Filling: Polyester	The polyester filling and the polypropylene cover would need to be separated in order for the PP cover to be recycled. Confirm with your waste management provider
●	**Disposable Towel**	Made of viscose	Not recyclable.
●	**Flat Sheet**	SMS Material	Yes. Being made from 100% Polypropylene this product is 100% Recyclable.
●	**Waterproof Flat Sheet**	Micro-porous backing	Not recyclable.
●	**ProDRAW (transfer sheet)**	SMS Material	Yes. Being made from 100% Polypropylene this product is 100% Recyclable.
●	**Trolley Cover**	Polypropylene (same material as Disposable Curtains) with Metal Zip	Yes. The Zip would need to be removed as this is contamination of the plastic and the processors will not accept.
●	**Disposable Gowns**	SMS Material	Yes. Being made from 100% Polypropylene this product is 100% Recyclable.
●	**Bouffant Cap**	PP Material / Elastic is made from Isoprene	Yes. The elastic is OK as it is a very small volume in the overall product and can be handled by the processors. Confirm with your waste management provider
●	**Isolation Gown**	SMS Material / Cuffs: Polyester	Yes. Being made from 100% Polypropylene this product is 100% Recyclable. Confirm with your waste management provider how to recycle the cuffs
●	**Scrubs**	SMS Material	Yes. Being made from 100% Polypropylene this product is 100% Recyclable.
●	**Disposable Headphone Covers**	SMS Material / Elastic is made from Isoprene	Yes. The elastic is OK as it is a very small volume in the overall product and can be handled by the processors. Confirm with your waste management provider
●	**Non-Slip SallySocks**	Sock: 88% polyester & 12% spandex / Grip: PVC	Can be provided to the patient to reuse. This is a Single Patient Use product.

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Haines® Medical Australia

PRODUCT RECYCLING GUIDE

Haines® Medical Australia

● **Can** be recycled ● **Maybe** recycled, need to confirm with waste company ● **Cannot** be recycled

	Item	Description/Comment	Recyclable?
	Tourniquets		
●	**Single Patient Use Tourniquet**	Buckle: Acrylonitrile butadiene styrene (ABS) Strap: Polyester & Spandex	Confirm with your waste management provider
●	**Disposable Tourniquet**	Thermoplastic elastomers (TPE)	Confirm with your waste management provider
●	**Reusable Tourniquet**	Buckle: Acrylonitrile butadiene styrene (ABS) Strap: Polyester & Spandex	Confirm with your waste management provider
●	**Single Patient Use Pressure Strap**	Strap: Polyester & Spandex	Confirm with your waste management provider
	Absorbent Sheets		
●	**TouchDRY Absorbent Pad Range**	Backing: Non-Woven PE & PP Top Sheet: Non-Woven PP Middle: Super Absorbent Polymer (SAP)	Mixed material product making it a hard product to recycle. SAP is currently not biodegradeble. Deemed as medical waste.
	Slide Sheets and Tubes		
●	**SlipperySally**	Polyester Taffeta with silicon coating	Confirm with your waste management provider
●	**SallyTube**	Polyester Taffeta with silicon coating	Confirm with your waste management provider
●	**SallyActive**	Polyester Taffeta with silicon coating	Confirm with your waste management provider
●	**SallyStocking Aid**	Polyester Taffeta with silicon coating with Polyester strap	Confirm with your waste management provider
●	**Patient Use Plastic Bags**	Polyethylene (PE)	Soft plastic recycling. If it has patient details it must be securely disposed of
	SallySlings & SallyBoard		
●	**Repositioning**	Main: Polyester Straps: PP (Polypropylene)	Confirm with your waste management provider
●	**General Purpose**	Main: Polypropylene PP Straps: Polyester	Confirm with your waste management provider
●	**Limb Lifter**	Main: Polypropylene PP Straps: Polyester Foam: Polyurethane	Confirm with your waste management provider
●	**Sit to Stand**	Main: Polyester Viscose Straps: Polypropylene PP Clips: Polyamide 6 (Nylon)	Confirm with your waste management provider
●	**Pannus Sling**	Main: Polypropylene PP Straps: Polyester Foam: Polyurethane	Confirm with your waste management provider
●	**Patient Transfer Boards**	Unithene LH901 (high density polyethylene (HDPE)	Confirm with your waste management provider

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PRODUCT RECYCLING GUIDE

Haines® Medical Australia

● **Can** be recycled ● **Maybe** recycled, need to confirm with waste company ● **Cannot** be recycled

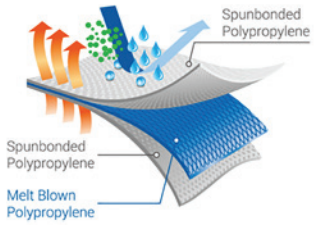
	Item	Description/Comment	Recyclable?
	Air-Assisted Lateral Transfer Mats		
●	**Air-Assisted Transfer Mat - Single Patient Use**	Top layer: 100% Non-Woven Polypropelene with Polyurethane coating Base layer: 100% Nylon with Polyurethane coating Straps: Polypropylene Strap buckle: Hard Plastic (PB-001) Button: Non-ferrous metal	Confirm with your waste management provider
	Cleaning Products		
●	**Disposable Microfibre Mops**	Top layer: Microfibre Middle fleece: 100% RECYCLED polyester Base: Polypropylene (PP)	Mixed material product making it a hard product to recycle. Also being a cleaning product, this product is deemed as medical waste.
●	**Disposable Wipes**	Non-Woven Microfiber (80% Polyester & 20% polyamide)	Being a cleaning product, this product is deemed as medical waste.
	Paper & Suger Cane Products		
●	**Disposable Paper Pill Cup**	100% Wood pulp Fibres	Can be placed into paper recycling bins
●	**Compostable Trays and Dishes**	100% Sugarcane Fibres	Can be placed into compost bins

ANY 'VISIBLE SIGNS OF CLINICAL WASTE ON THE PRODUCT' MUST BE DISPOSED WITHIN A CLINICAL WASTE BIN AND DEEMED AS CONTAMINATED WASTE.

Haines® Medical Australia

GLOSSARY

Polypropylene (PP) material: Also known as polypropene, polypropylene is a thermoplastic polymer used in a wide variety of applications. It is produced via chain-growth polymerisation from the monomer propylene.



Spunbond Meltblown Spunbond (SMS) Material: SMS material consists of 100% polypropylene (PP) material, it's a tri laminate non-woven fabric. It is made up of a top layer of spunbond polypropylene, a middle layer of meltblown polypropylene and a bottom layer of spunbond polypropylene. Making it water resistant and breathable.

Non-woven fabric: Is when fabrics are made by placing fibers together, then using heat, chemicals, or pressure to combine them into a cohesive fabric-like material.

Polyester Taffeta: Is made from a plain weave of polyester fibers, whereby the warp (vertical) and weft (horizontal) yarns are woven into a basic crisscross formation. Allowing the material to be lightweight, durable and ideal for slide sheets.

Isoprene: Is the main component of natural rubber, used to make rubber bands.

Sugarcane fibre: is the dry, fibrous pulp that remains after sugarcane stalks are crushed to extract their juice.

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December 2019

Update on Waste and recycling in Australia

The impact of disposable medical products on the environment is a key concern that our customers and healthcare industry experts have been advising us. The overwhelming response has been the desire for product manufacturers and waste providers to partner with the industry to drastically reduce the amount of waste generated in their healthcare facilities.

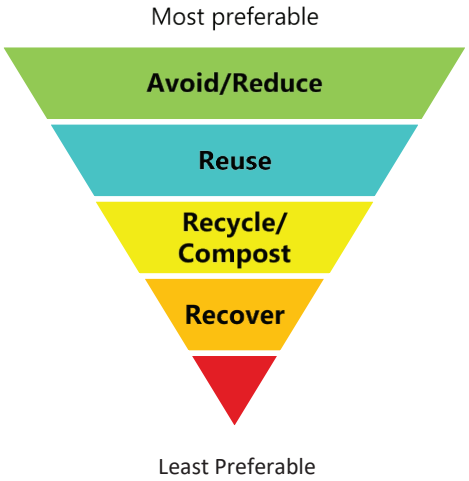
As a trusted supplier and manufacturer for over 40 years, Haines Medical recognises our role in ensuring a healthier environment and we are committed to exploring ways to reduce the impact of our products.

We have listened your feedback and have engaged Rawtec,[1] a leading waste and recycling consultancy, agency to assist us. The waste and recycling industry is continually changing and we want to make sure that we can provide the healthcare industry up to date information to ensure that you can make your own positive changes and protect the earth for future generations. The following document provides an update on trends and development, including:

- The waste management hierarchy and circular economy and how they relate to single use items.
- What is the China National Sword Policy and what has changed?
- Upcoming bans on waste exports – what's covered and what are likely impacts and outcomes.
- Examples of recycling Haines Medical products.
- What Haines Medical is exploring to increase recycling of our products and how we can work with you.

Waste management hierarchy and the circular economy

The waste management hierarchy is an internationally recognised approach to waste management and resource recovery.



[1] rawtec.com.au

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Preference should go to the activities higher on the inverted pyramid, like avoiding and reducing waste and reusing products where appropriate, before alternative options are required.

Recycling items helps to reduce environmental impact and avoid the need to use raw materials. Metals, glass, plastics and paper go to a facility where they are sorted and sent to facilities for remanufacturing materials into new products. Items suitable for composting are sent to commercial facilities where they are processed and made into compost to improve soil health.

Items should be certified compostable to the Australian Standard AS 4736 or European Standard EN 13432. This ensures that they are made from materials such as corn starch or sugarcane fibre that will break down under in a commercial composting facility. Items that are labelled 'biodegradable' or 'degradable are not suitable for composting (these plastics will not breakdown into CO_2, water and biomass within the process like certified compostable products do). These non-compostable certified products contaminate the compost with small plastic pieces.

If items cannot be recycled, then they may be suitable to be recovered for energy. The last resort should be disposal to landfill.

The circular economy is a rapidly developing focus around the world. The world economy has traditionally been linear, where raw materials are used to create products which are then discarded. A circular economy targets the whole system and aims to keep materials continuously in the system at their best use, at the highest value and avoid waste. Items are designed so they can be repaired and reused, remanufactured when this is no longer possible and then finally recycled as the last resort, where they start their journey again.

Haines Medical is committed to and guided by the principles of the waste management hierarchy and circular economy. The single-use nature many of our products often means that reuse and recycling can be challenging, however, there are actions to avoid and reduce and we continuously investigate opportunities to recycle and recover. We will continue to explore opportunities to make our product more circular through the types of materials they are made of.

Changes in the global recycling industry

In January 2018, China implemented the National Sword policy, which restricted the types of acceptable materials it would receive and placed strict limits on contamination. China developing its own domestic recycling industry, therefore recyclables that were previously sent to China needed alternative markets, many of which are also now unavailable.

This global change means the value of recyclables has reduced significantly and for some plastics materials there is a net cost to recycle. However, if facilities can collect products separately (as clean as possible) and in a bulk quantity, then the likelihood of being able to recycle these items may increase. There will likely still be a cost, but it may be lower than sending them to landfill.

Australian Government ban on waste exports

Closer to home, in August 2019 the Australian Government outlined a possible export ban on waste. This is currently being further refined and it is likely that from 1 July 2020 a staged ban will come into effect, including:

- All waste glass by July 2020.
- Mixed waste plastics by July 2021.
- All whole tyres including baled tyres by December 2021.
- Remaining waste products, including mixed paper and cardboard, by no later than 30 June 2022.

Mixed plastic waste is the most relevant to Haines Medical. The Australian waste and recycling industry is working hard to develop solutions for these materials. However, there is still work and Government support required to develop onshore reprocessing and recycling capabilities. We will continue to explore local opportunities to recycle our products and communicate these with you as they are confirmed.

Recycling examples of Haines Medical products

As outlined above, there are currently a range of challenges within the waste and recycling industry. Some of our products are already easily recyclable:

- Disposal paper pill cup - this can be recycled in a regular paper/carboard recycling bin. Paper can be recycled multiple times back into paper, reducing the need for using virgin materials.
- Kidney dish - This can be recycled through an organics recycling stream for commercial composting. Be sure to check with your provider that they will accept these items at their facility.

Haines Medical also provide products that are 'technically' recyclable, however confirming a facility will receive them is essential:

- Disposable curtains (100% non-woven Polypropylene) and disposable linen (SMS non-woven PP, Spunlace)
- Single Patient Use Slide Sheets, Reusable Slide Sheets and Tubes, all made from Polyester Taffeta.

Both the Non-woven PP and Polyester Taffeta materials should be assessed by recyclers to confirm their suitability. If they cannot be recycled, then they may also be suitable for energy from waste facilities. There is now energy from waste options available in both SA and NSW that may be able to recovery energy from Haines products.

Each service provider or facility will be able to confirm the preferred aggregation and collection method. Heavily soiled or items used in a high infection risk area should not be recycled and disposed of according to local regulations.

Options Haines Medical are exploring

We are committed to reducing the impact that our products have on the environment and improving the processes around managing them once they have been used. The waste management Hierarchy and Circular Economy principles will continue to guide us as we explore opportunities to make positive changes to our products and ensure they are responsibly made and managed.

- We are regularly in contact with waste and recycling providers to discuss what options there are for our products. Please contact us and we can provide options for you to explore in your area. Likewise, if you know of any recycling options within your area, please let us know as we continue to update the community.
- Whilst the waste and recycling industry is realigning, one of the current opportunities is sending our products to energy from waste facilities. There are multiple locations in Australia where waste is turned into a fuel used by heavy industry instead of natural gas.
- More of our products will soon be certified compostable. This includes injection and anaesthetic trays, denture cups and under-pads. Once they are certified they then can be collected and sent to a commercial composter to be turned in compost to improve soil health.
- We are considering a reverse logistics system where facilities can return used products (clean and separated) to Haines Medical. This will allow us to aggregate materials into large volumes that make it viable for a recycler to receive and process, instead of individual facilities sending small amounts at a time.

Please don't hesitate to contact us to discuss options to manage and recycle our products in your area or how we can partner with you to ensure you have the systems in place to maximise the recovery of these materials.

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