



Plastic Reuse & Recycling Program – Celebrating 35+ Years

HydroChem’s plastic reuse & recycling program has been running continuously for over 35 years. In this time, over **1.5 million drums** have been reused within HydroChem’s production chain - saving over **1,800 tons** of HDPE plastic going to landfill.

Background

HydroChem began operations in Melbourne in 1979 – at a time when Village People’s “YMCA” was top of the charts.



HydroChem Team in 1984

HydroChem’s Environmental Health & Safety philosophy has remained constant:

- Operate in a manner safe to people including employees and the public
- Maintain the sanctity of the environment
- Minimise resources

As part of this philosophy, HydroChem has been running its drum reuse and recycling program since 1986. The program started as a way to minimise costs and the logistics of handling new. It was soon realised there were additional benefits through avoiding sending drums to landfill.

Issues/Challenges

Storage and transport of dangerous goods (**DG**) is highly regulated in Australia. One of the key aspects of the Regulations, is that hazardous goods must be stored in DG rated containers. These containers are sturdier than your residential plastic containers, each drum weighing approximately 1.2kg. The raw materials and blow moulding process associated with new drums is a resource intense activity.

As the name implies, DG drums are used to transport dangerous goods. Drums that have been used contain remnants of the DGs that were in the container originally. This makes the storage, handling and processing of empty drums a higher risk activity than standard plastic reuse of, for example, soft drink bottles.



Drums Stacked for Reuse & Recycling circa 1991



Aims/Objectives

- Minimise waste to landfill
- Minimise resources including raw materials and manufacturing
- Prevent potential injuries possible via chemical burns from dregs in the containers
- Prevent release of any chemical dregs to the environment

Solutions

HydroChem was an early adopter of the reduce, reuse, recycle philosophy. In 1986 HydroChem designed and installed a drum washing and recycling facility at its manufacturing plant in Cheltenham. The plant operated continuously from 1986 through to 2016 when HydroChem moved to its advanced manufacturing facility in Braeside.



Semi-automated drum washing carousel designed and installed in 2016

Features of the system include:

- All drums for reuse and recycling are double washed using **recycled water**
- All drums for reuse and recycling are pressure washed using clean water “final rinse”
- All water used in the process is processed in the onsite waste water facility which is monitored by the local water authority

Benefits

HydroChem reuses over 55,000 drums per year in its manufacturing process. The benefits are multiple but include:

- Saving limited resources
- Minimising industrial manufacturing inputs

This is achieved whilst:

- Protecting the safety of our workers
- Protecting the environment



Reused drums ready for delivery to client sites throughout Australia

Results

- Over 55,000 drums recycled every year
- Recycled water used in 2/3 of the rinse cycle
- All waste water processed via on site wastewater facility

To date over **1.5 million drums** have been reused within HydroChem’s production chain - saving over **1,800 tons** of HDPE plastic going to landfill.

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