

The logo features the word "toxfree" in a stylized, lowercase font. The "tox" is in a dark green color, and "free" is in a lighter green. Above the text is a circular icon composed of several curved, leaf-like segments in shades of green and blue, resembling a stylized sun or a flower.

**PLASCON**

# CASE STUDY

## AUSTRALIAN NATIONAL HALON BANK AND DESTRUCTION FACILITY

WASTE TREATED – OBSOLETE AND UNUSABLE OZONE DEPLETING SUBSTANCES AND  
GREENHOUSE GASSES.

NATIONAL HALON BANK IN MELBOURNE, AUSTRALIA

### Background

Australia, along with many other countries, is a signatory to the Montreal Protocol, an international treaty to phase out the use of ozone depleting chemicals.

There are many substances that deplete atmospheric ozone the most common being various forms of CFC's and Halon gases. CFC's were commonly used in refrigeration systems and Halons are used in fire extinguishing applications.

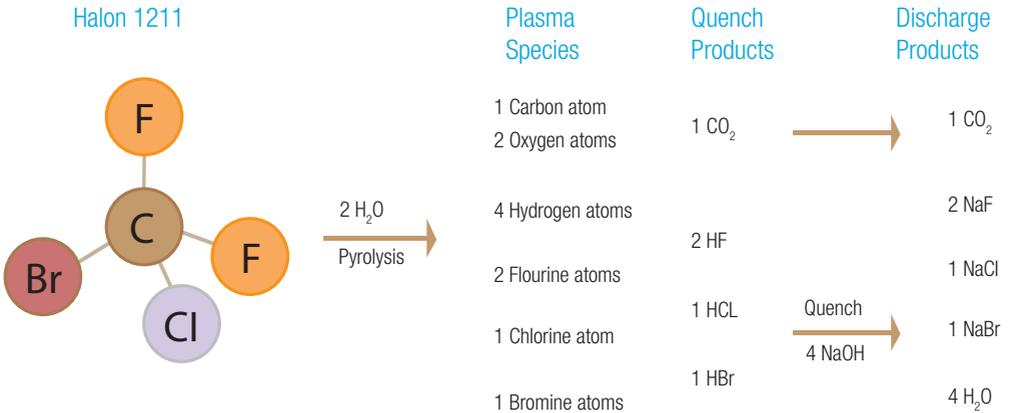
In compliance with its obligations under the Montreal Protocol the Australian Government established a National Halon collection scheme in 1993.



Subsequently a National Halon Banking and Destruction Facility was established in 1996. The destruction of Halons and CFC's at the National Halon Bank is carried out under contract to the Australian Government by BCD Technologies Pty Ltd using SRL Plasma Pty Ltd's original PLASCON® plant.

## Chemistry

An example of the decomposition chemistry for an ozone depleting substance follows:



Note: A flare is not required as there is sufficient oxygen in the process inputs to favour the formation of carbon dioxide over carbon monoxide.

## Waste Treated

The Halons and CFC's were first decanted from small vessels into large bulk storage tanks before being pumped into the PLASCON® plant for destruction. Many different CFC mixtures can be destroyed at any one time, with the PLASCON® plant automatically adjusting for any changes in the feed composition.



## Operational Efficiency

The commercial destruction of ODS commenced in early 1997 and in less than 3 years over 1,000 tonnes of material was destroyed. Halon can be destroyed at an average destruction rate of 115 kg/h, achieving a Destruction Efficiency (DE) of >99.9999%. When the volume of waste permits, the plant operates 24 hours a day, with one manned shift for general monitoring and maintenance. CFC destruction began in 1998, with a destruction rate of 70 kg/h, 24 hours/day. The DE achieved at 70 kg/h CFC is in excess of 99.9999%. The Montreal Protocol mandated destruction efficiency is 99.99%.

The dioxin/furan emissions from the Tottenham PLASCON® plant are below detectable limits using the I-TEQ (International Toxic Equivalent) standard.