

# OUR ENVIRONMENT OUR HERITAGE



## NATIONAL CHEMICALS MANAGEMENT STRATEGY 2007 - 2017



The *National Chemicals Management Strategy (NCMS) 2007 - 2017* was developed in 2007. The main purpose of this strategy is to reduce the risks to human health and the environment from chemicals through their sustainable management. A life cycle management approach is promoted at all stages of chemical applications - procurement, transportation, storage, utilisation, treatment and disposal - focusing on the main user sectors of agriculture, health, education and industry. Part of the strategy is publicised and published below:

### INTRODUCTION

The use of chemicals has become indispensable in many development activities in Samoa particularly in agriculture, health, education and industry. According to the Department of Statistics Samoa expended about \$60 million in 2006 for the procurement of chemicals as well as another \$122 million spent to import petroleum products. While there is growing national need for chemicals they can also cause health and environmental problems if not effectively controlled. This National Chemicals Management Strategy 2007-2017 (NCMS) provides a framework for the sustainable management of all chemicals through the various stages during their life-cycle - procurement, transportation, storage, distribution, use and waste disposal.

Chemicals are widely distributed in the environment. Therefore, there are many possible sources of exposure to these chemicals for humans. Chemicals can enter our body by ingestion, inhalation or by absorption through the skin and different chemicals will cause different adverse effects. In fact, not all chemicals absorbed into the body will cause adverse effects; however, it depends not only on the chemical to which one is exposed but also on the type/route of exposure and level/dose of exposure. Effects of chemicals can pose serious health defects in the respiratory system, liver, kidney, nervous system, immune and reproductive systems. Cancer is one of the leading causes of death due to exposure to chemicals. Hazardous chemicals not only have adverse effects on human health but can also disrupt ecological systems that exist in rivers, lakes oceans, seas, forests and soils. The discoveries of a growing hole in the stratospheric ozone layer, is evidence of the enhanced greenhouse effect, due to chemical contamination and pollution.

There is growing concern over the use of persistent organic pollutants (POPs) and persistent toxic substances (PTS) as exposure to such would cause significant public health and environmental problems. Of the 12 types of POPs controlled under the Stockholm Convention for POPs, eight are present in Samoa including aldrin, chlordane,

dieldrin, DDT, PCBs, dioxins and furans and HCB (impurities). These chemicals are among the most dangerous that have ever been created - they are transported by air, water and migratory animals over long distances, often miles from their original sources. They dissolve in water, can easily enter the food chain, are absorbed readily in fatty tissues and can remain active for years before they break down. They are known to cause or contribute to a number of major health problems in humans including immune system alterations; reproductive deficiency; neuro-behavioural impairment and various forms of cancers.

PTS have similar properties to those of POPs and their sources, however, environmental concentrations and effects are to be addressed such as endosulfan, pentachlorophenol, lindane, organic mercury, organic lead and polynuclear aromatic hydrocarbons and other heavy metals.

### PRIORITY CONCERNS

There is concern over each stage in the chemical life cycle - procurement, storage, transportation, distribution, utilization and waste disposal:

#### Procurement:

A variety of chemicals are imported from a number of countries in various forms and categories poses a range of problems which raises enormous concerns. The absence of facilities and mechanisms to identify what chemicals are actually brought into this country is a serious concern for Samoa. This is to protect against chemicals that are not needed and also for the purpose of identifying chemicals which are prohibited from entry into the country. Some chemicals may be imported in bulk and then repackaged without adequate labeling, resulting in accidental poisonings.

Chemicals imported for industrial, agricultural or consumer purposes maybe sit in a stockroom until the containers deteriorate and the contents spill out or seep down into the groundwater. More importantly, is the lack of adequate legislation to control the importation, distribution, use and disposal of these toxic chemicals to cater for a satisfactory control process.

#### Storage, Transport & Distribution:

To ensure rapid and convenient access to chemicals, chemical users usually order chemicals and store them in their own laboratories / chemical storage areas. One drawback of such a practice is that unused chemicals often end up staying on shelves beyond their shelf life is there is no established system to encourage chemical transfer and exchange. The transport and distribution of chemicals from place to place require proper handling, packaging and safety measures to prevent from leaking and inhaling of chemical odor / vapor.

### MANAGEMENT APPROACHES

There are number of principles that would guide the implementation of the NCMS in order to promote long-term sustainability:

#### Risk-based Principle:

- considers both the intrinsic hazard of a substance as well as the potential for exposure and the implementation of appropriate risk management strategies to reduce or control exposure. Risk-based approaches would allow continued safe use of some high hazard chemicals, as long as their applications and uses are controlled to restrict or prevent exposure.

#### Good governance:

- concept that transparent, accountable, and honest governance is an important component of sustainable development and an essential element for the prevention and punishment of illegal traffic in hazardous and toxic materials.

#### Right to Know:

- this is a specific aspect of public access to environmental information: the concept that the public has the right to know information regarding the risks to human and environmental health from chemicals including chemical accidents and waste disposal and treatment.

You can view the full version of this strategy at our website [www.mnre.gov.ws](http://www.mnre.gov.ws) or obtain a copy from our office - DBS building - Level 3 / 5

**Produced by the Ministry of Natural Resources and Environment**