CHEMICAL INJURY IN AUSTRALIA

THE EXTENT OF CHEMICAL PROBLEM

In *Rachel Carson’s* book “*Silent Spring*” first published in 1962 by *Houghton Mifflin* and recently published by the *Folio Society, London 2000*, the preface includes a quote by E.B. White:

“I am pessimistic about the human race because it is too ingenious for its own good. Our approach to nature is to beat it into submission. We would stand a better chance of survival if we accommodated ourselves to this planet and viewed it appreciatively instead of sceptically and dictatorially.”  **E.B. White**

I quote Rachel Carson at *page 41* of her book:

“The history of life on earth has been a history of interaction between living things and their surroundings. To a large extent, the physical form and the habits of the earth’s vegetation and its animal life have been moulded by the environment. Considering the whole span of earthly time, the opposite effect, in which life actually modifies its surroundings, has been relatively slight. Only within the moment of time represented by the present century (the twentieth century) has one species – man – acquired significant power to alter the nature of his world.

“During the past quarter-century this power has not only increased to one of disturbing magnitude but it has changed in character. The most alarming of all man’s assaults upon the environment is the contamination of air, earth, rivers, and sea with dangerous and even lethal materials. This pollution is for the most part irrecoverable; the chain of evil it
initiates not only in the world that must support life but in living tissues is for the most part irreversible. In this now universal contamination of the environment, chemicals are the sinister and little recognised partners of radiation in changing the very nature of the world – the very nature of its life.”

Page 42:

“The chemicals to which life is asked to make its adjustment are no longer merely the calcium and silica and copper and all the rest of the minerals washed out of the rocks and carried in rivers to the sea; they are the synthetic creations of man’s inventive mind, brewed in his laboratories and having no counter parts in nature.

To adjust to these chemicals would require time on the scale that is nature’s; it would require not merely the years of a man’s life, but the life of generations.”


“We are just now beginning to recognise the link between chemicals and new public health problems that challenge the tenets of traditional toxicology and medicine.

These include birth defects and other damage due to developmental toxicants, autoimmune diseases “including Lupus, Scleroderma and Sjgren’s Syndrome, chronic conditions in children (such as Attention Deficit Hyperactivity Disorder, depression, and Asthma, that have become more prevalent in the past few decades, chemical sensitivity including its overlaps with sick building syndrome, unexplained illnesses of Gulf War Veterans, Chronic Fatigue Syndrome, Fibromyalga, Toxic Encephalopathy, and new links to cancer, including childhood cancers.”
Take for example, one industry which one would have hoped, would be a fairly safe industry being hairdressing where workers can work with a range of toxins in hair dyes, conditioners and other products..

You may have seen recent reports in the press such as the *West Australian, of August 2, 2002*, that the British Medical Association released the results of a study in the Journal of Occupational and Environmental Medicine, conducted by Swedish researchers on 7,000 hairdressers which showed that hairdressers are significantly more likely to give birth to smaller babies than the general population and to have babies with birth defects.

In 1992 *Phillip J Landrigan*, in the *American Journal of Public Health, Volume 82, No. 7*, Professor and Chair in the Department of Community Medicine, Mt Sinai School of Medicine, New York, pointed out that the risks of Toxic Chemicals included lead poisoning, asbestos, childhood asthma, cancer.

He said of occupational disease that:

“Studies conducted in New York State have estimated that 50,000 to 70,000 US workers die each year of chronic occupational disease resulting from past exposure to toxic substances. These diseases encompass a broad range besides the lung cancer and mesothelioma of asbestos workers; they include cancer of the bladder in dye workers, leukemia and lymphoma in workers exposed to benzene and ionising radiation; chronic bronchitis in workers exposed to dusts; disorders of the nervous system (including possibly dementia, Parkinson’s disease, and motoneuron disease) in workers exposed to pesticides, solvents, and certain other neurotoxins, renal failure in workers exposed to lead; and cardiovascular disease in workers exposed to carbon monoxide and carbon disulfide.

A major impediment to assessing the contribution of synthetic chemicals to the causation of cancer and other workplace diseases is the fact that only 20% of the approximately
60,000 industrial chemicals in commerce have ever been tested for their carcinogenic, neurotoxic, immuno-toxic or other toxic potential. Millions of American workers are therefore exposed to chemical agents of unknown toxicity.”

Professor Landrigan pointed out:

“The tragedy of environmental diseases is that they are highly preventable.”

_The Senate Rural and Regional Affairs and Transport References Committee, in October 2000_ completed its inquiry into “Air Safety and Cabin Air Quality in the BAe 146 aircraft” and concluded:

“The Committee is also convinced that there is sufficient evidence … to justify further examination of the following factors:

- the effects on human health (of aircraft cabin contaminants),
- the cumulative physical effect of exposure to these substances which can affect particular individuals)”

Para 6.27

It would appear that over 100 flight crew have suffered illness in Australia as the result of exposure to fumes on BAe 146 aircraft.

_The report of the F111 Deseal/Reseal Board of Inquiry of the Royal Australian Airforce of July 2, 2001_ is particularly instructive.

The Board concluded
“It is estimated that in Australia, 4 times as many people die from diseases caused by exposure to hazardous substances in the workplace as die from traumatic injury on the job. The volume of occupationally caused ill health is of course much greater. The problem is insidious because the full effects of exposure often do not manifest themselves at the time, with the result that management and workers alike, fail to have proper regard to the dangers.” Page 1 – 5.

The Board noted that workers began to suffer symptoms of chemical exposure shortly after the beginning of the spray seal program on F111 aircraft but the seriousness of the problem was not recognised or responded to effectively for some years.

It concluded:

“We attribute this failure to aspects of Airforce organisation, in particular the low priority given to occupational medicine in comparison with the health needs of the air crew...”.

“...we note the preference of the medical profession for signs visible to the external observer rather than symptoms reported by patients, leading to a tendency to ignore reports of symptoms when tests proved negative”. Page 11/2

The Board concluded that there were probably in excess of 400 workers “…currently suffering symptoms which they attributed to their exposure. The symptoms include skin rash, gastrointestinal problems, headaches, memory loss and mood and neurological disorders”. Page 1, Appendix 5

“Good science, in short, is strongly biased against concluding that a relationship exists in the data”. Page 2, Appendix 5

“Epidemiological studies are not the only way to establish causation; the circumstances of particular cases can also be persuasive”. Page 3, Appendix 5.

“In a large number of individual cases presented to the Board, we find the evidence of causation to be persuasive. Especially compelling is the fact that the symptoms date from the time of exposure”. Page 3, Appendix 5

“It is on this basis that we estimate that in excess of 400 workers have suffered long term damage to their health”. Page 3, Appendix 5
In 1996 in Western Australia, Alcoa commissioned a liquor burning plant at its Wagerup Alumina Refinery and workers began reporting various symptoms of ill-health and after some years in particular, multiple chemical sensitivity was suffered by at least nine workers. Although Alcoa has denied liability, it has offered to pay each worker $350,000.00 plus guarantee total and permanent disability superannuation payment which would be likely to be in excess of $350,000.00 for each worker.

One of the categories of hazardous substance often overlooked are the industrial organic solvents derived from coal, oil and natural gas.

Important uses of organic solvents according to a *Worksafe Australia publication entitled “Industrial Organic Solvents” of November 1990* are:

- cleaning (degreasing) agents to remove oils and grease from machinery, metals, plastics and textiles.
- dry cleaning
- constituents of paints, varnishes, lacquers, thinners, waxes, floor and shoe polish, inks, adhesives
- motor fuels, antifreeze mixtures
- pharmaceutical products and preservatives
- manufacture of artificial rubber, leather, plastics, textiles and explosives
- therapeutic, pesticide, fumigant and disinfectant formulations
- extraction of fats, oils and medicinal materials from seeds, nuts and bones
- use in various chemical reactions and laboratory procedures.

Excessive chemical exposure can take place by one or more of the following routes:

- Inhalation
- Skin or eye contact by vapour or liquid
- Ingestion
THE HIDDEN MENACE OF CHEMICAL DAMAGE

Chemical damage can be insidious, especially where it is long term low dose. It can also be easily under rated where initial symptoms of physical irritation such as skin rash, itchiness, runny nose, strong smell, slight headache and other such indicators may be disregarded as being transitory or unconnected with chemical exposure. However, these symptoms can be indicative of gradual onset of very serious health consequences. Chemical exposure can be cumulative and certain toxic chemicals can bio-accumulate in body tissue.

Whilst those exposed to toxic chemicals may never notice symptoms, reproductive potential may be destroyed or tragic consequences may result for children of the exposed.

Susceptibility varies from person to person and because of the potential for insidious and cumulative damage and because often in our society certain persons have already been exposed without obvious adverse effects to one or more of a wide range of toxic chemicals, it is difficult to determine just what measure of exposure may cause damage in any individual instance.

In 1997 Professor Wai-on Phoon of Sydney University, a renowned specialist in Occupational Medicine, considered that there was abysmally poor training in occupational and environmental medicine given to medical students in Australia, and that situation seems to me to have changed little.

Thus many Doctors are ignorant of chemical illness.

The diagnosis of chemical disease is often difficult especially where it is polysystemic, (involving more than one system of the body) and because medical science is still determining or at least evaluating satisfactory objective tests for chemical illness, in the case of many relevant conditions.
Often workers exposed to toxic chemicals will suffer gradual memory loss, increasing bouts of aggression, tiredness, nightmares, and other subtle effects without realising the cause or even noticing the change.

Ignorance of the source of chemical contamination is not unusual e.g., from exhaust fumes and the inhalation of vaporised motor fuel.

Many chemical injury victims are so weakened by illness as to be hopeless advocates in their own case, let alone to be advocates for others similarly injured and advocates for the prevention of similar injury to others. **Chemical injury victims who develop Multiple Chemical Sensitivity must even isolate themselves from ordinary human society to maintain their health.**

Often mixtures of chemicals can have a multiplicative effect rather than simply an additive effect. This is called synergism. At times the effect of mixing two chemicals however, can be that each cancels out the effects of the other.

To ensure workers are not excessively exposed to airborne toxic chemicals, the airborne concentrations in workplace air of the chemicals must often be measured and monitored.

The standard measure of chemicals in the air is in milligrams per metre cubed (mg/m³) or parts per million (ppm) and the limit set for some hazardous chemicals in the workplace air is called the threshold limit value (TLV). Sometimes a time weighted average is assessed (TWA). Sometimes short term exposure limit (TLV – STEL) is fixed. Sometimes a ceiling limit is fixed (not to be exceeded even instantaneously).

The TLV’s can establish with some certainty when dangerous levels in the air have been reached, but not at what level worker exposure is safe. Since at least the early 1980’s, the American Conference of Governmental and Industrial Hygienists, in the preface to its “TLV’s for Chemical Substances in the Work Environment” page 3, warned that “…The best practice is to maintain concentrations of all atmospheric contaminants as low as is practicable.” The
Preface says at page 2 “because of wide variation in individual susceptibility, however, a small percentage of workers may experience discomfort from some substances at concentrations at or below the threshold limit; a smaller percentage may be affected more seriously by aggravation of pre-existing condition or by development of an occupational illness. See Worksafe Australia Exposure Standards for Atmospheric Contaminants in the Occupational Environment 1995 Para 2.3

Risk assessments systems to date have often ignored the most vulnerable in the population such as foetuses, children, women, the elderly, people with previous exposures, and pre-existing conditions.

TLV’s are in any event negated in cases where the worker has suffered over 8 hours per day of exposure (40 hours per week), skin contact, or is likely to have ingested the chemical concerned and TLV’s require re-evaluation where mixtures of toxic chemicals are involved, or previous excessive exposure has been suffered.

Monitoring of chemical content in air to protect the safety of workers is a highly skilled science and in my experience is often inadequate and misleading in the workplace if conducted at all. Monitoring that is conducted outside the breathing zone of the worker e.g., on a wall, or on another worker may produce dramatically different results from monitoring conducted within the breathing zone of the worker concerned. Monitoring that is conducted for a shorter period than the worker actually works may mislead. Monitoring conducted at the start of the day may mislead, compared to the results obtained at the end of the working day or at the end of a process or a series of processes when fumes may have gradually increased. Furthermore, the test equipment must be highly specialised for certain chemicals and we have had cases where monitoring was conducted giving a nil result for a chemical only to find on investigation that the testing equipment could not register that chemical, or at least not adequately measure the content in air of that chemical.
Of course monitoring on a day when there are small chemical emissions from the process conducted in the workplace on that day will give no indication of what exposure the worker may be suffering on other days where different emission levels can be expected.

In my experience, labels on containers have frequently been inadequate and at times indeed positively misleading: for example: “Avoid excessive vapours” on a container of toxic chemical where avoidance of excessive vapours is not possible without special equipment to which the label makes no reference.

Factors such as heat, ultraviolet and ionising radiation, humidity, abnormal pressure, (altitude) heavy or strenuous work and other stresses may adversely increase the toxic response to a substance, as may the effects of smoking cigarettes and ingesting alcohol.

Wearing clothing impregnated with chemical droplets or vapours (this is especially important to note where the worker has worn this clothing before and after work) may increase exposure levels and negate the TLV.

Some chemicals are purposely deodorised by the manufacturer so that the warning and deterrent effect of the pungent smell of certain dangerous chemicals is thereby removed or reduced.

Many chemicals can be absorbed through various kinds of protective clothing, and in some cases, even the gloves which have the greatest known protection to a particular chemical will eventually become permeated by the chemical and once this takes place, if a worker continues to wear the gloves, that worker may be absorbing the chemical on a continual basis whilst wearing the gloves.

Fumes, vapours or droplets of some toxic chemicals may enter through the eye if chemical resistant goggles are not worn in the workplace.
Food left uncovered in the vicinity of toxic fumes can absorb chemicals which can then be ingested by workers.

Agitation, pouring, spraying or heating of a chemical can radically increase vaporisation which can result in sudden dangerously high concentrations of the chemical in air.

In the case of some toxic chemicals even small increases in atmospheric temperature can significantly increase the content in air of the fumes of the chemical retained for example in an open container.

Again the direct heating of some chemicals can cause fumes therefrom not only to more readily vaporise but to engender far more toxic effects.

General room building ventilation is typically poorly designed for toxic fume control and can actually increase concentration of chemical fumes in the breathing zone of workers by agitating fumes or recycling fumes. Local exhaust ventilation is frequently poorly designed. The design and implementation of local exhaust ventilation systems is again part of a highly skilled science if it is to be effective. Local exhaust ventilation systems which we have seen which were implemented in the 1980’s in Western Australia have frequently caused more harm than good. For example, they may draw fumes past the worker’s face increasing inhalational exposure.

Often material safety data sheets (MSDS’s) have misleading hazard data or inadequate hazard data.

MULTIPLE CHEMICAL SENSITIVITY

Professor Cullen of Yale University and Medical Director of Alcoa gave a talk in Western Australia recently in which he said that multiple chemical sensitivity which he first identified in
1987, is a condition which appears to be life long, untreatable, and the aetiology of which is still unclear.

He left open the possibility that the causal pathway was psychological but went on to say that the usual treatments that would assist in not dissimilar psychological conditions appeared to have no effect for MCS patients and consequently he doubted the psychological pathway as a cause.

He said that in certifying workers unfit for work, he left it to workers to determine where they could safely work because their own bodies were the best indicators of where incitant toxicants were present.

An excellent paper on multiple chemical sensitivity has been prepared by Professor Chris Winder of the School of Safety Science in the University of New South Wales in the magazine “Elsevier – Toxicology Letters”. 128 (2002) 85 - 97

He identifies four relevant groups suffering multiple chemical sensitivity being industrial workers, office workers, (tight buildings), contaminated communities and individuals.

The most common symptoms he describes as:

- Respiratory symptoms
- Headaches
- Fatigue
- Flue like symptoms
- Mental confusion
- Short term memory loss
- Gastro intestinal tract difficulties
- Cardio vascular irregularities
- Genito-Urinary problems
- Muscle & joint pain
• Irritability & depression
• Eye, ear, nose and throat problems

Professor Winder powerfully argues that MCS is not a psychological condition, and says that although research into the possible mechanisms of MCS is far from complete, a number of promising avenues of investigation indicate that the alteration of the sensitivity of nervous system cells would be a possible causal mechanism of MCS.

Information is now available in particular from MCS Referral and Resources, 508 Westgate Road, Baltimore MD21229 USA that Multiple Chemical Sensitivity is recognised by 25 United States Federal Authorities including the US Department of Education, the US Department of Health and Human Services, Social Security Administration, the US Department of Housing and Urban Development, 10 Canadian authorities, 28 US State Authorities, 14 US Local Authorities. This resource centre cites recognition of the condition of MCS in 8 United States Federal Court Decisions and 21 United States State Court Decisions.

OBJECTIVE TESTS FOR SUBTLE CHEMICAL INJURY
(This overview is by no means exhaustive and is designed only to alert Plaintiff Lawyers new to the field of chemical injury, of certain options)

Dr Judy Ford a Geneticist in Adelaide, has pioneered the testing of chromosomes and in the Journal Cytobios 96, 179 to 192 (1998), she and others published an article to the effect that certain structural abnormalities found in chromosomes were 27.2 times more likely in persons exposed to toxic chemicals than in controls.

Many of you would be familiar with the Neuro psychological testing which can assist in determining the extent of mental disorder caused by chemicals.

Dr Richard Teo in New South Wales, has developed an audio-evoked potential response test which he considers can produce results which are indicative of brain dysfunction, the likely cause of which may be chemical agents.
Tests can be conducted upon the peripheral nervous system which can produce results indicative of chemical injury.

Dr Gunar Heuser an expert in neurotoxicology and immunotoxicology in California has used P.E.T and S.P.E.C.T brain scans/imaging to find what he considers is clear evidence in certain cases of brain damage as the result of chemical insult.

Dr Goran Jamal Neurophysiologist of West London, Regional Neuroscience Centre, Charring Cross Hospital, London UK has pioneered a range of tests for organophosphate injury.

**PROOF OF WORKER’S CLAIM FOR COMPENSATION AT COMMON LAW**

In cases where the Plaintiff seeks compensation for injury suffered as a result of exposure to chemicals in the workplace, the Plaintiff often has to establish a wide range of matters to succeed in negligence including:

1.1 What hazardous substance or substances was the worker exposed to? What were the products concerned, the constituents of each product, and the percentage of those constituents?

1.2 What degree of exposure did the worker suffer?

1.3 What route of exposure or exposures (skin, inhalation, ingestion)?

1.4 At what level of exposure were the chemicals considered to be dangerous by the experts in chemical safety, at the time of exposure.

1.5 What knowledge did the employer have, or should the employer have had of that danger level?
1.6 What if any health effects were known at the time to be anticipated from excessive exposure to each such relevant chemical? What if any health effects should have been known at the time by the employer (if it cannot be proved that the employer did know of such health effects?)

1.7 What symptoms appeared at what time in the Plaintiff and how contiguous was this with exposure to toxins in the workplace?

1.8 What if any part did a mixture of chemicals have including any synergism (multiplicative effect) play or potentially play, in the cause of the symptomatology?

1.9 What health effects are now known to arise from exposures such as those suffered by the Plaintiff?

1.10 In the experience of experts in the treatment of chemical injury, are the symptoms consistent with exposure to the chemicals concerned and inconsistent with other diagnoses?

1.11 What precautions were in place in the workplace at the time? What alternatives were made available to protect the worker from exposure to toxins?

1.12 What alternatives should have been put in place by the employer to ensure that the worker is not exposed and/or what precautions should have been taken by the employer to ensure that exposure of the worker to toxins was minimised?

For decades, textbooks on chemical safety have stressed that there is a hierarchy of safety control measures in the use of chemicals, so that the safest, reasonably available alternative is selected to minimise exposure. The list is not exhaustive and it is always recommended that an holistic approach to chemical safety systems be implemented.
I set out the hierarchy below, because it is so helpful in testing whether or not a Defendant has breached its duty of care.

- Elimination of that process which requires use of the toxic chemicals;
- Substitution of a non-toxic chemical in the process instead of the toxic chemical;
- Engineering controls e.g. local mechanical exhaust ventilation under a fume hood;
- Administrative controls e.g. obtaining industrial hygiene expertise to isolate risk and design, implement, monitor and maintain safe systems, training staff, implementing safe practices e.g. keeping lids on containers holding toxic chemicals at all possible times, warning and fully informing those who might be exposed;
- Personal protective equipment e.g. respiratory cartridge masks, chemical resistant gloves, chemical resistant apron, face shield, chemical resistant goggles etc..

1.13 What degree of relevant risk minimisation would have been achieved had the employer implemented those alternatives and precautions which were reasonably available but not implemented in the case being examined?

Often there are a number of different experts who will be required to prove some of the above matters including occupational hygienist, specialist in occupational medicine, specialist in chemical science, toxicologist, and where brain damage is an issue, neuropsychologist, psychiatrist, as well as the general practitioner.

A useful point to start for the lawyer advising workplace toxic exposure victims is the *National Code of Practice* produced by *Worksafe Australia of March 1994* on Control of Workplace Hazardous Substances and a raft of Australian Standards in the area of chemical safety, to say nothing of applicable State or Commonwealth legislation. Worksafe Australia has a range of other very important publications concerning chemical safety.
LEGAL PRINCIPLES ASSISTING TOXIC TORT VICTIMS

Along with a few principles specific to hazardous substance claims I have included some of the basic principles with which we are all familiar in dealing with negligence cases, because these principles can be especially helpful in pursuing workplace toxic exposure cases and because Defendant Solicitors continue to put arguments which ignore these principles:

Liability

- The employer’s duty of care to an employee “…is not merely to provide a safe system of work; it is an obligation to establish, maintain and enforce such system. Accident prevention is unquestionably one of the modern responsibilities of the employer… and in deciding whether an employer has discharged his obligation to his employees, the Court must take account of the power of the employer to prescribe, warn, command and enforce obedience to his commands.” Maclean v Tedman (1984) 155 CLR 306 at 313.

- The standard of care expected of the reasonable man requires him to take account of the possibility of inadvertent and negligent conduct on the part of others. MacLean v Tedman supra p 311

- In considering contributory negligence, the court may have regard to “…inattention bred of familiarity and repetition, the urgency of the task, the man’s preoccupation with the matter in hand, and other prevailing conditions.” “It is then for the tribunal of fact to determine whether any of these things caused some temporary inadvertence, some inattention, or some taking of a risk …excusable in the circumstances because not incompatible with the conduct of a prudent and reasonable man.” Maclean v Tedman Supra p315
Also, in considering contributory negligence, it is critical to note the far greater responsibility that will attach to a Defendant whose acts or omissions may place others in danger compared to the position of an injured person whose acts or omissions could only have in the circumstances caused danger for his own safety. *Pennington v Norris (1956) 96 CLR 10 at 16*

Although it is incumbent upon a Plaintiff to prove that the Defendant should reasonably have foreseen the risk which eventuated, even where the risk is remote in the sense that it is extremely unlikely to occur, it may nevertheless constitute a foreseeable risk. A risk which is not farfetched or fanciful is real and therefore foreseeable. *Per Mason J Wyong Shire Council v Shirt (1979-80) 146 CLR 40 at 47-48*

The duty on the employer is that of a reasonably prudent employer and it is a duty to take reasonable care to avoid exposing the employee to unnecessary risk of injury. Reasonable foreseeability will be determined by what the employer knew or ought to have known. If a reasonable person in the position of the employer could not be expected to know he may be required to get and follow expert advice. The duty of an employer to take reasonable care for the safety of his employees is a personal duty and is not discharged by entrusting it to competent delegates. An employer cannot rely upon ignorance on the part of his employees who are responsible for the supervision of the workforce. *Western Australia v Watson [1990]WAR 248 at 266 to 267*.

If sufficient facts were known which would cause a reasonable person in the position of the employer to make reasonable enquiries about the hazards of exposure, the law will say that the employer ought to have known what the employer would have found out by reasonable enquiry. *Western Australia v Watson supra p 283*. 
- It is the duty of the employer to keep reasonably up to date on contemporary knowledge both as to possible risks to his employees in his workplace and also how such risks may be avoided, although he does not have to plough a lone furrow. *See for example* Andrews v SC. Lohse and Co. (1986) A.T.R. 80 – 043 AT P 67, 889

- It is not enough for an employer to supply an employee with equipment which may protect the employee from danger. Thus in a case of contact dermatitis, the Plaintiff succeeded because although the Defendant had provided gloves, the Defendant had failed to warn the Plaintiff of the dangers of not wearing those gloves and had failed to instruct the Plaintiff to wear the gloves. *Pape v Cumbria County Council [1992] 3 All ER 211*.

- The custom in the trade or profession is likely to provide a good guide as to what might be expected of the reasonable person but is by no means conclusive. Even where the most highly trained and regarded of professions (for example, the medical profession) has an invariable practice of acting in a particular way, the Court will nevertheless determine for itself whether or not the reasonable person could reasonably have been expected to act in a different way to minimise the risk of injury to his/her neighbour. *Rogers v Whitaker (1992) 109 ALR 625 at 631 – 632*.

- In determining what the reasonable person in the position of the Defendant would be expected to do by way of response to a risk to his “neighbour” which that person could foresee “…the perception of the reasonable man’s response calls for a consideration of the magnitude of the risk and the degree of probability of its occurrence, along with the expense difficulty, and inconvenience of taking alleviating action and any other conflicting responsibilities which the Defendant may have.” *Mason J. Wyong Shire Council v Shirt 1979-80 146 CLR 40 at 47.* This definition of the balancing process is helpful in chemical poisoning cases.
because so often the response would involve the least difficult and expensive of all precautions – a warning.

**Foreseeability And Causation of Damage**

- the Plaintiff has the onus of proving that a reasonable person in the position of the Defendant would have foreseen a risk of injury of the kind (in broad terms) sustained by the Plaintiff, but the Plaintiff does not have to prove that the extent of the damage was foreseeable. So, where it was foreseeable that inhalation of dust would cause distress involving coughing, sneezing, wheezing, a dry throat, and exposure to the dust might cause dermatitis to exposed portions of the body, this was sufficient to found a claim by the Plaintiff for a debilitating lung condition caused by the dust inhalation, even though the medical profession at the time would have believed such a cause and effect sequence to be unlikely. *Clarke v Chandler Clay Pty Ltd 1984 ATR 80, 631 at 80,667 & ff per Brindsden J.*

- The failure of medical science to explain the causal pathway from a certain event or set of events to the symptomatology of a medical condition will not necessarily preclude a finding by the Court that the events caused the condition, unless the medical evidence precludes even an hypothesis to that effect. *Adelaide Stevedoring Co. Ltd v Forst (1940) 64 538 at 563.*

- Where there are possible competing causes, it is sufficient if the evidence would support an inference on the balance of probabilities that the Defendant’s negligence materially contributed to the Plaintiff’s injury. *Per Malcolm CJ Chance v Alcoa of Australia 1990 ATR 81-017 at 67, 726 & ff quoting McGee v National Coal Board (1973) 1WLR 1 at p 6 per Lord Wilberforce as explained by Lord Bridge in Wilsher v Essex Area Health Authority (1988) 2WLR 557 at 560. See also Western Australia v Watson supra p286.*
in reaching that conclusion, reliance can be placed on non-medical evidence. See Chance v Alcoa of Australia Pty Ltd supra p67, 725.

A pre-existing condition which has remained asymptomatic until the time of the accident the subject of the claim for compensation will in general have no adverse effect upon a Plaintiff’s claim unless evidence establishes with some reasonable measure of precision what the pre-existing condition was and what are its future effects, both as to their nature and their future development and progress – See Purkess v Crittenden (1965) 114 CLR 164 at 168. It should be noted, however, that if the condition had some real prospect of developing through the ordinary stresses and strains of life then a deduction will be made for that chance – Luntz Assessment of Damages (Third Edition) para 2.2.5 & ff

I adopt with great respect a submission prepared in draft recently by Barrister John Gordon, to the Federal Inquiry on Public Liability Insurance, which I think in summary is:

Where:

- Medical science cannot resolve the issue but where the chain of events compellingly suggests a connection or where reasonable medical opinion would not rule out the connection

- The tortious act has destroyed (or effectively destroyed) the means of proof or the Plaintiff’s ability to prove causation;

- There is an imbalance (in favour of the Defendant) of knowledge of the matters that caused or resulted in the breach and/or the injury (ie. emission cases, surgical malpractice etc).
…The law in Australia is as stated by McHugh J. in Chappell – v – Hart (1998) 195 CLR 232 @ 238-9:

“if a wrongful act or omission results in an increased risk of injury to the Plaintiff and that risk eventuates, the Defendant’s conduct has materially contributed to the injury that the Plaintiff suffers whether or not other factors also contributed to that injury occurring”,

… as amplified by Gaudron J. in Naxakis – v – Western General Hospital (1999) 197CLR 269 @ 275 – 6:

“…and in that situation, the trier of fact …is entitled to conclude that the Act or omission caused the injury in question unless the Defendant establishes that the conduct had no affect at all or that the risk would have eventuated and resulted in the damage in question in any event”.  

Seltsam Decision

In applying the words of McHugh J. in Chappell’s case (Supra) we need to emphasise the word that in the phrase “that risk eventuates”.

Thus a Plaintiff who contracted renal cell carcinoma failed to establish that his exposure to asbestos caused the renal cell carcinoma. The Plaintiff relied in large part on epidemiological evidence which raised only a possibility that asbestos may have contributed.

In answering the question of whether or not the increased risk “eventuated” two members of the Court of Appeal answered in the negative. The members of the Appeal Court made a very detailed analysis of the strengths and weaknesses of epidemiological evidence. Seltsam Pty Ltd v McGuinness; James Hardie & Co Pty Ltd v McGuinness [2000]; NSWCA 29 (7 March 2000).
Case Examples on Causation.

In the case of New South Wales T/a New South Wales Department of Agriculture v Allen [2000] NSW CA 141 (13 July 2000) the New South Wales Court of Appeal confirmed the decision of the Judge at first instance that the deceased’s exposure to DDT and Arsenic in his work as a Stock Inspector, working in the field of cattle tick control, was a contributing factor to the aggravation, acceleration, exacerbation, and deterioration of his disease of pancreatic carcinoma.

The Court held:

1. On issues of causation in a civil action for compensation for injury, the law requires proof on the balance of probabilities, on the whole of the evidence, both scientific and lay and the Court must not abdicate its responsibility to scientific/medical experts. (p 38, p 45)

2. Scientific proof is much more rigorous than legal proof in civil causation. (p 3)

3. Where the expert’s evidence is based on the requirements of scientific proof alone, the Court will look beyond that evidence (p 3)

4. Where medical science admits only a possible connection, the Court will consider whether on the balance of probabilities, an inference should be drawn upon the whole of the evidence, both medical and lay. (p 45)

5. It is only where science will not even admit the proposition (that the negligence of the Defendant made a material contribution to the injury) as possible, is the common sense inference on the balance of probabilities not open. (p 55)
6. The Court may reach a conclusions which the sequence of events would naturally inspire in the mind of any common sense person, uninstructed in pathology. (*p 45*)

7. The evidence need only establish that the toxins at work, materially contributed to the contraction of the disease. (*p 32*)

8. The Court favours that scientific view as an explanation which is rational and based on the entirety of the evidence, rather than one which offers no explanation at all. (*p 34, p43*)

9. It is precisely where scientific proof is unavailable, that a lay inference may be permissible. (*p 38*)

10. In particular, scientific studies which fail to show a connection and recommend more research, are not determinative. (*p 42*)

11. The exact levels of toxins in the dust on the deceased’ skin and inhaled and the levels of dusts are impossible to ascertain, but it was relatively heavy. The industrial hygienist’s calculations make a number of unproved assumptions and do not prove the exposure was insignificant. (*p43 to 44, p57*)

12. Whether a causal connection exists is to be determined by applying common sense to the facts of the case. (*March v V & MH Stamare Pty Ltd (1991) 171 CLR 506 per Mason CJ at 509.* (*p 42*)

13. A robust and pragmatic approach should be taken to the issue of causation:
Wilsher v Essex Area Health Authority (1998) AC 1074 per Lord Bridge at 1090. (p 43)

14 The fact that medical opinions are not in accordance with the consensus of scientific opinion, does not preclude their acceptance as a matter of law. (CGT v Adamcic (1961) 106 CLR 292) (p 43)

In the case of John Amos Hill v William Tomkins Ltd, QBD/96/NJ/0594 delivered 17/10/1997, a decision of Smith J, Her Honour had to decide whether or not the negligence of the Defendant in exposing the Plaintiff to a poisonous insecticide during his employment as a farm worker had resulted in early symptoms of heart pain, dizziness, unsteadiness on his feet, irritability, moodiness, incontinence of urine, chest pain, shortness of breath, sweating, shivering, blurring of vision and diarrhoea followed by later symptoms including some memory loss, other mental deficits, and periods of chronic fatigue.

The Plaintiff suffered certain symptoms which were held not be related to the chemical exposure, but Her Honour found in favour of the Plaintiff on the issue of causation in relation to many of those symptoms.

This was a case of alleged organophosphate poisoning. The approach of Her Honour to the causation issue, where no research yet supports a causal connection to a particular symptom complex, is instructive:

“It appears that Mr Hill is the first case in which it has been claimed that Pirimiphos-methyl has caused long term peripheral neuropathy. I shall approach that claim against the background of the impression I have from the research, that it is unlikely, although not impossible that he has suffered such an effect as the result of his exposure in 1993. If I accept evidence that he has demonstrated, abnormal neurological or neuro-physiological signs, and if I find that there is no other plausible explanation for such signs, I shall be prepared to hold that there probably was a causal link between those signs and the
exposure. However, because of the state of the research, I must approach this aspect of
the Plaintiff’s claim with some scepticism.” (p 23)

Her Honour’s examination of the issue of causation taking account of the sequence of events, is
also instructive:

“I shall approach this aspect of the case by considering whether the Plaintiff’s complaints
of symptoms of weakness and fatigue are genuine and if I think they are, deciding when
they first manifested themselves. If I find that there is a close time relationship between
exposure and the onset of genuine symptoms, and if there is no other plausible cause for
those symptoms, I shall consider that it is open to me to find a causal connection.” (p 27)

In the case of Mary Hanrahan, John Hanrahan, and Selina Hanrahan v Merck Sharp and
Dohme (Ireland) Ltd in the Supreme Court of Ireland [1988] ILRM 629, the Plaintiffs farmed
land which was situated about one mile from the Defendant’s factory.

The factory engaged in the processing of pharmaceutical products which involved the storage
and use of large quantities of toxic substances as well as the disposal in the factory of toxic and
dangerous chemical residues.

The Plaintiffs instituted proceedings claiming that emissions from the factory had caused injury
to the Plaintiffs, their farm animals as well as plants on the farm.

At first instance, the Judge found against the Plaintiffs on the basis that the scientific evidence
produced by the Defendant was sufficient for the Court to conclude that the Plaintiffs had failed
to prove their case on the balance of probabilities.

This was a case which in the end was fought as a tort of nuisance only.
The Appeal Court held that the largely uncontroverted evidence from the Plaintiffs and residents of the surrounding district, was to the effect that between 1978 and 1983, there were intense objectionable smells from the Defendant’s factory and these were so frequent, pronounced and prolonged that each of the Plaintiffs had made out a case for damages in nuisance, for offensive smells from the factory.

The Appeal Court also held that there was independent evidence to support the Second Plaintiffs claim that the ill health of which he complained was due to factory emissions, other witnesses stating that where they observed emissions from the factory, they felt burning sensations and other irritations. The Supreme Court observed:

“While the Plaintiffs claim rested primarily on evidence of what was felt or observed at the time, the Defendants’ case was primarily one of rebuttal, based on scientific evidence of a reconstructive nature. It is for that reason that Counsel for the Plaintiffs have urged that there is greater force and credibility to be given to the first hand evidence of witnesses whose truthfulness was not called into question, as opposed to the largely abstract ex-post facto evidence of scientists who had no direct or personal experience of the matters complained of. Consideration must of course be given to such a submission, as well as to the submission that the various complaints should not be viewed in isolation, that they are necessarily interlinked, and the evidence of the source of one complaint may be treated as corroborative or confirmatory of the source of another complaint, such as that evidence of a witness that he experiences an offensive chemical smell should be coupled with his evidence that at the very same time, he noticed cattle in deep distress.”

In examining the scientific evidence produced by the Defendant, the Court held:

“The possible effects of such emissions have to be considered in terms of factors such as air chemistry, meteorology, the height of the factory chimneys, the configuration of the Suir Valley, local meteorology features (such as the inversion by which air is trapped in the valley when winds are light) and the effect of prevailing winds. Readings taken at the
points of emission in the factory are therefore not necessarily a sound guide as to the consequences of the emissions in different parts of the valley.

For example, some of the emissions take place at levels below that of the valley floor, and the top of the scrubber stack is on a level with the ground floor of the Plaintiff’s house.

The point has been taken that factory readings and the result shown by computer models do not take account of what actually happens in the Suir Valley.

The criticism has also been made that measurements of air borne concentrations on the Plaintiff’s farm give no more than an average daily concentration, thus leaving out short violent emissions and not taking into account the deleterious effect, particularly on grazing animals of prolonged low-level emissions of gases and risks of unknown degrees of toxicity.” (p 644)

In the end, the Court held in the lead judgment:

“A consideration of the scientific evidence as a whole given on behalf of the Defendants, leads me to the conclusion that, even if accepted in full, it only shows what could or should have happened in the way of damage by toxic emissions.

In the light of what did happen in the way of toxic damage, I consider that the Defendants’ evidence could not be held to rebut the Plaintiff’s case.

Theoretical or inductive evidence cannot be allowed to displace proven facts.
It was proven as a matter of probability that John Hanrahan suffered ill health as a result of toxic emissions from the factory.
It was a fact and so found by the Judge that there was unusual damage to some plant life on the Plaintiff’s farm in the relevant period, the only suggested source of this damage being the factory, and there was a volume of uncontroverted evidence given by eye witnesses that animals were seen and heard to be ill and in distress at a time when the observer was experiencing foul chemical smells or weeping eyes or irritated skin, which could have been caused only by the factory.

It would be to allow scientific theorising to dethrone fact to dispose of this claim by saying, as was said in the Judgment under Appeal, that there was “virtually no evidence in this case of injury to human beings or animals which has been scientifically linked to any chemicals emanating from the Defendant’s factory.“\(p645\)

**Summary of the Factors To Look For In Proving Causation**

It would appear that the following factors are to be taken into account in considering the causation issue in a chemical injury claim:

1. **What was the condition of the Plaintiff before exposure?** A Doctor will inquire as to what is the medical history of the patient, family history, social history, other exposures.

2. **Was there a temporal relationship between onset of symptoms and exposure to the toxins?** What was the history of event(s)?

3. **Will science admit a possibility that the toxins caused the symptoms?** Refer to literature of case reports, epidemiological studies, Government Publications, material safety data sheets, data from experiments on animals.

4. **To what extent were other people, plants or animals adversely affected and with what similarity to the Plaintiff’s situation?”**
5. Is there any other plausible explanation which might leave the toxins as being the possible cause but with an equal or greater likelihood that the symptoms may have been caused by another agent or agents?

It is important to realise however, that in some cases a temporal relationship may not be critical and in some cases the fact that the Plaintiff alone has suffered damage, may not preclude a finding in his or her favour.

**Nuisance**

Nuisance is a particularly useful tort for Plaintiffs having suffered environmental harm.

*In Bridges Brothers Ltd v Forest Protection Ltd in the new Brunswick Supreme Court,72 D.L.R. (3d) (p 335)* it was held that a nuisance was created by the discharge of an insecticide from an aircraft if that substance is wrongfully caused or allowed to escape onto the land of another, in that case, killing bees that pollinated the Plaintiff’s blueberry fields.

The Court held:

“It is no defence to an action for nuisance to show that the Defendant’s operation of his farm is a useful one necessary to the public interest….or that it is carried on with all care and skill and every effort is made to prevent it from being a nuisance…”

“Theyir duty to their neighbour, is not merely to take care so as to avoid causing a nuisance. Their duty is to abstain from causing one at all…”

“Negligence moreover, is not a necessary condition of a claim for nuisance. What is done may be done deliberately, and in good faith and in a genuine belief that it is justified.”*(p 360 – 361)*
In Bridges case the Plaintiff succeeded both in nuisance and negligence.

The case of *Hanrahan (Supra)* is a good example of the tort of nuisance in action. In nuisance cases a defence that other polluters have contributed to the problem, has been approached harshly by the Courts. *Lipman and Bates* point out in *Pollution Law in Australia Lexisnexis Butterworths Australia 2002 P 105-6*:

“…it has accordingly been held that it is no defence to a nuisance action for pollution to prove that the environment was already polluted from another source or that the respondent’s actions were not the sole cause of the nuisance.”

Where nuisance arises:

“…out of the cumulative discharge of all polluters … the Court may assist the Plaintiff, notwithstanding that the Plaintiff would be unable to successfully sue any individual polluter, by allowing action against them all.”

**OTHER AUSTRALIAN CASES ON CHEMICAL INJURY**


“…the sequence of events in this case inspires the presumptive inference that the Plaintiff’s condition was caused by his chemical exposure. Prior to the shearing, he was in good health. The symptoms first appeared during the shearing. His symptoms are consistent with previous organo-phosphate exposure and organo-phosphate poisoning.”

In that case the Plaintiff and three other shearers were exposed to a tarring mixture of chemicals designed to kill live maggots on sheep. The mixture splashed onto the shearer’s bodies and clothes in the confined unventilated space of the shearing sheds and they suffered symptoms including headaches, nausea, vomiting, itchiness, rashes and later lethargy, loss of appetite, cognitive difficulties and depression.

“If the Defendant’s contention is correct then four shearers almost simultaneously succumbed to their respective levels of alleged alcohol abuse by manifesting broadly similar patterns of symptoms. I do not accept that coincidence particularly when there is another more probable explanation, namely Organo-Phosphate poisoning.”

In these cases the Court held that the company in each case had failed to take due care to protect the four shearers from exposure to the toxic substances and awarded approximately $250,000.00 for past and future loss for each shearer.

The case of *Uta Frida Larsen-Walsh v University of New England* first came on before his Honour Judge Neilson in the Compensation Court of New South Wales in matter number 13087/89 and he delivered judgement on May 20, 1997. In that case the Plaintiff had worked for the University between 1977 and 1989 as a lecturer in art and was exposed in poorly ventilated conditions to the fumes from chemical additives in artists’ materials and other toxic substances, which exposure occurred frequently and continued for extended periods of time.

The Plaintiff alleged injury by way of severe chemical sensitivity, anxiety state and multiple chemical sensitivity syndrome.

His Honour took into account (page 3) the Plaintiff’s evidence:

“that although the symptoms occurred shortly after her working in G49 and related areas, that their intensity and longevity increased with the passage of time. That can easily be inferred from her evidence that, for example on Mondays when she went to work she felt well; Tuesdays much the same, although she may develop some symptoms on the Tuesday and the Wednesday; On the Thursday and the Friday she would feel unwell. On Saturdays she would start to recover from her symptoms, but that on Sunday she felt quite well again and eager enough to go to work on the following Monday.

However with the passage of time that cycle of periodic improvement or the periodic removal of symptoms deteriorated such that she would not fully recover over the weekend.”

The Court noted that the aetiology of multiple chemical sensitivity may remain unknown but on the question of whether the condition was caused by her work, his Honour found:

“There is medical evidence to support that proposition and the applicant’s own evidence about it’s onset would support a lay inference that the two are connected. Whether the
two are connected by way of simple causation or the aggravation or acceleration or exacerbation of some underlying or pre-existing condition or constitutional defect I really do not need to determine.” (page 8)

Later his Honour found:

“I accept that the applicant was vulnerable to this condition, but I do accept that it was precipitated by her exposure to chemical substances in the respondent’s employ between 1977 and 1989.” (page 11)

His Honour went on to hold that when the Plaintiff travelled to New Zealand and worked as an ordinary teacher and suffered an aggravation of her condition that this was the effect of her exposure to chemical fumes in her employment in New Zealand which was not a risk for which the University of New England was responsible. (page 15)

His Honour awarded the applicant in that case her full Workers’ Compensation wages for the period from February 1989 to July of 1989 and then partial wages from August 1989 to the date of Judgement and continuing.

This matter went on as a common law claim in the District Court of New South Wales before Judge Robison in matter 5103/97 Uta Frieda Larsen –v- University of New England delivered March 16, 2000. In this case the Court allowed the Plaintiff to give evidence by way of video link as it held that it was satisfied that due to the current symptoms that the Plaintiff had she was unable to come to Sydney to give evidence personally in Court. (page 2) The Defendant admitted breach of duty of care.

His Honour endorsed the finding by his Honour Judge Neilson that whether or not the condition was organic or psychiatric and although its exact nature is unknown the Plaintiff had contracted a condition reasonably called Multiple-Chemical Sensitivity. (page 18)

His Honour concluded that the Plaintiff had a case:

“To substantiate some expenditure on a house or at least the renovations of a house, to accommodate the position whereby she needs to avoid exposure to toxic materials and the like.” (page 27)
In terms of non-economic loss his Honour held that the Plaintiff had sustained a disability of seventy percent of a most extreme case: “that results in a figure at that point of $126,000.00: (pages 30-31)

His Honour also awarded $40,000 for general damages for pain and suffering and loss of amenities in relation to the time prior to the commencement of the relevant Act.

His Honour awarded $176,289 for past loss of earnings plus the Fox v Wood component (p30 – p33) and $106,444.00 in future loss of earning capacity. (page 34)

His Honour awarded $142,688.00 for domestic assistance. His Honour made an award for future domestic assistance reduced for the fact that His Honour assumed that the Plaintiff would be able to obtain a more toxic free environment and would only require 2 hours of domestic assistance a day and awarded $172,188.00.

His Honour awarded $1,600.00 for the introduction of a fume hood into the home to remove cooking fumes and $140.00 for a reading box so that the Plaintiff should not be exposed to toxins from print medium.

He also awarded $60,000.00 for special accommodation needs. (pages 36 – 37)

This matter went on appeal to the New South Wales Court of Appeal, UNE v Larsen-Walsh [2000] NSWCA 363 (December 5, 2000). The Appeal was dismissed and the Court noted among other things some of her symptoms, and some of the consequences of her condition: (Para 19 of Handley J.’s reasons for decision)

“These include headaches, breathing pains, stomach pains, inability to eat or sleep, loss of weight. She has been known to collapse when travelling, become disoriented, develop severe headaches and cramps, and to be unstable on her feet so that she is likely to fall. She has found difficulty with her breathing, has experienced chest pains for extended periods and has been bed ridden.”

In the case of Mosley v The Broken Hill Pty Co Ltd, the Honourable Justice Lander in the Supreme Court of South Australia on January 23, 1998 (Judgment No: S6522), the Plaintiff had suffered exposure to asbestos. The Plaintiff had suffered a condition brought on by the exposure at work which might well lead on to lung cancer or other serious or possibly fatal diseases.

The Court held:

“The Plaintiff therefore has to be compensated for the possibility that he might contract one or more or all of those diseases and the consequent probabilities that would give rise
to a re-occurrence of his major depressive disorder, with the result that he would be unable thereafter to exercise any earning capacity.” (page 33)

PRODUCT LIABILITY

The Reader will find a very useful summary of the Law in relation to product liability for chemical manufacturers and distributors is provided by Peter Long in the 1997 APLA convention papers.

CONFIDENTIALITY AGREEMENTS

In the field of chemical injury perhaps more than any other, Defendants like to settle cases with a confidentiality agreement.

In the August 1998 Edition of “Trial” in an Article headed “Keeping Secrets with Confidentiality Agreements”, Maja Ramsey, Justine Durrell and Timothy W.A. Hearn, suggest that by aiding the Defence in their secret keeping efforts, Plaintiffs sacrificed the well being of others.

Some of the arguments they cite, which should be used against confidentiality include:

- Goes against the public policy of providing open access to Court documents.
- May keep regulatory agencies from protecting the public.
- May keep parties from implementing policies and procedures against unlawful or harmful conduct.
- May prevent innocent victims from timely seeking medical or legal advice.
- May keep unsafe products on the market. [Or unsafe systems operational in the workplace or community].
The authors note that the single biggest disadvantage in negotiating confidentiality is the fear that without agreeing to secrecy the case will not settle. However, they go on to say that in the past seven years in their practice since their law office stopped accepting these agreements, not one case had failed to settle or had settled for less as a result of a refusal to accept confidentiality agreements.

In fact, the authors say that as the result of the respect and trust generated by taking an open, reasoned and consistent stance, this approach to settlement had actually enhanced the settlement value in a number of cases and had resulted in easier and quicker resolution of following cases.

The authors remind us that we can argue when confronted with a proposal that our client should sign a confidentiality agreement:

- Would it be enforceable?
- If a Lawyer in a subsequent case should discover the attempt at secrecy, could the consequences not be dire for the defendant.
- Public entities have a duty to inform the public of their expenditures including settlement money paid.
- The press and the public will not take kindly to such an agreement if they know that the injured party has promised secrecy.
- They recommend that a preferable course is to put to the Defendant that it would be appropriate for both parties to work toward open disclosure of the settlement on a win/win situation with the Defendant announcing new policies to prevent further injury and the Plaintiff being please to be involved in that process.

**LAW REFORM TO FAIRLY COMPENSATE TOXIC TORT VICTIMS AND ENCOURAGE ALL AUSTRALIANS TO ADOPT SAFER PRACTICES IN RELATION TO USE AND DISPOSAL OF TOXIC SUBSTANCES**

In 1997 at this conference, I made some predictions which have unfortunately proved true and also made some recommendations:
I believe that the incidence of chemical injury has been steadily growing over the past decade and will continue to grow with horrendous implications for our society, not only for the present generation, but also for future generations unless reforms are implemented.

If I am wrong and the chemical injury rate remains static there is still every reason for reforms.

Injury and disease caused by chemical exposure in the workplace is for the most part readily preventable.

Most of the problems arising in this area are caused by ignorance and carelessness.

In the chemical injury situations that I have investigated, we have found that there are safe alternatives, or at least precautions that can be taken which render the use of toxic chemicals in the workplace reasonably safe.

I am convinced that an effective system for awarding of common law damages will be of great assistance in bringing about a safer workplace.

The argument has been put that employers insure themselves and therefore provide a buffer that removes or at least soothes the pain which will otherwise result in consequence of a failure to provide due care for the safety of their employees.

However, in the industries where I and my colleague Plaintiff lawyers have enjoyed some substantial success in obtaining full damages in compensation for the negligence of employers in relation to injury to employees, those employers have found it very much in their interest to improve their systems of
safety and have done so. Presumably this is because they can thereby reduce their premiums dramatically, and also reduce add on costs created by the loss of the services of valued employees injured at work. Also employers are embarrassed when common law actions are found against them.

Indeed I have been told by expert consultants in occupational health and safety that the employers who make a first priority commitment, from the level of the managing director, to occupational health and safety, have been able to reduce the incidence of injury in their workplaces to almost nil, with insurance premium reductions like 60% (in the case of major companies: millions of dollars).

In my opinion the burgeoning problems of chemical injury in Australia warrant the appointment of a Commissioner with the status of a Judge and knowledge of the basic principles of the common law and of chemical science and chemical safety with special powers to:

- institute and maintain a register of chemical injuries, conduct enquiries of his or her own motion, seek by public notice complaints of chemical damage where the Commissioner considers that there is a potential that other persons have been injured by exposure to particular chemical hazards. (this should apply both in the workplace and elsewhere)

- to force immediate and full disclosure of information concerning products containing hazardous materials and processes permitting exposures to hazardous substances.

- Co-opt experts knowledgeable on chemical poisoning issues.
- Award common law damages to the chemically injured, including interim awards of damages where that may be appropriate.

- Give public notice of significant findings so that further injury is likely to be prevented. (details of hazardous products, practices, symptoms, prognosis).

- Extend where it is in his or her opinion fair and just to do so, time limitations on the right to institute proceedings.

- Ensure all the costs reasonably and necessarily incurred by a successful Plaintiff are paid.

- Enforce strict and expeditious time limits on parties in the processing of claims so as to avoid strategies based on technical delay by parties, especially powerful Defendants.

- Reverse the onus of proof similar to the provisions under Part 5A of the Trade Practices Act.

- Develop commission rules which ensure that the corruption of the pleading process is avoided.

I say to the legal profession, the common people of Australia and their political and bureaucratic leaders, if you want to create a safer Australia for our citizens, strengthen the common law, make those who carelessly injure others, pay for the consequences.

Secondly, as an urgent priority, create a national chemical adverse effects register (reporting system) for all agricultural, industrial and other chemicals, which register is readily accessible by medicos, lawyers and members of the public.
The problem of toxic chemical injury is vast and often insidious, and cumulative.

I adopt the conclusion of *Ashford and Miller in their article “Low-level Chemical Exposures; a Challenge for Science and Policy: (Supra) (page 3)*

“A policy response consistent with a precautionary view presents specific challenges: Policies must be harmonised and coordinated among the major stakeholders.

A new corporate stewardship is required, one that is harmonised with the customers and the public’s expectations that companies will adhere to the precautionary principle. Rather than serving as an Arbiter or Mediator of conflicts amongst stakeholders, government must return to its role as a Trustee of the environment, public health and sustainability, and direct its interventions and research support to all phases of multi-stage diseases, for example to promoters as well as initiators of cancer.”

Chris Phillips

Barrister and Solicitor

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(The assistance of my wife Diana Phillips B Sc. Hons (Zoology) is acknowledged in the preparation of this paper)