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Number 1, 1988

#### THREE MEN DIE CLEANING WATER **TANK**

The following article was published in a Sydney newspaper in late 1987. A tragic accident may happen rapidly because of a slight misguided thought or mistake. What did the three men do wrong?

"Three men were killed by carbon monoxide gas while cleaning an underground water tank near Murwillumbah [. . .] yesterday morning.

[...]
They were cleaning the ank [...] because it was polluted by a dead dog. Police spokesmen said the men had

pumped out the 90,000 litre tank to within a metre from the bottom and put a petrol driven pump into it to complete the task.

They experienced breathing difficulties and M.B. emerged from the tank and asked his aunt to call an

He returned to the tank to help, ambulance. but also was overcome by fumes. Police will recommend volunteer

fire fighter, Craig Solberg, who pulled the men from the tank, for a bravery

Mr Solberg entered the tank award. without protective clothing, although he believed the highly poisonous gas chlorine was present.

Any work in confined spaces is highly dangerous if adequate precautions aren't taken. In this tragic accident, carbon monoxide from the petrol driven pump displaced the fresh air at the bottom of the tank and poisoned the three men at the same time.

In addition, chlorine is used in many cleaning chemicals, and may have been a contributing factor to the accident.

When working in tanks, cisterns, pipelines and other confined spaces, breathing protection is a must — and filter respirators aren't enough. Supplied air equipment is DEFINITELY required. The choice between airline respirators and self-contained

breathing apparatus depends on the type of work performed, and the substances present in the atmosphere.

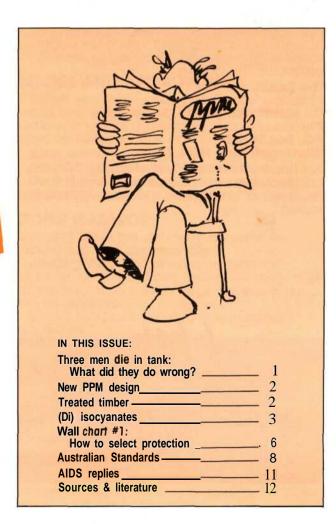
Moreover, it is important to secure easy escape facilities before entering the area.

It is important to wear a harness with a life

At least one person should stay outside the confined area and be prepared to assist in an emergency. That person should stay in constant confact with the people inside the area. The assistant must be strong enough to lift or drag people out of the area by means of the lines.

Only if these precautions are taken can you work safely in confined spaces.





#### NEW PPM DESIGN

Have you noticed the new look of PPM? This issue is the first of four in 1988, and through the new revisions and expanded number of pages, we hope to bring you lots of interesting articles and information during the year.

We are counting on our readers to contribute more material, information, questions and comments during the year. We have had several very useful suggestions from readers. These ideas include:

Questions & Answers column (Please write in with your questions!) Features on various personal

protection equipment Hazard warnings on overseas products Data sheets on everyday household

Work safety and pregnancy Ceramic fibre, glass wool and other fibres

Isocyanates

Behaviour altering chemicals Solvents and their limit levels **Detection methods** 

There are many more ideas, and we shall

cover all of these in PPM.

We have received many comments from readers who would like extensive listing of sources. Our articles are now indexed, and the corresponding references are listed on the back page.

If you have anything you would like to read about in PPM, please write to us and make your suggestions. The same goes for any questions or queries you might have about safety in general and breathing protection in particular. The address:

The Editor, **PPM** C/- Sundstrom Safety (Australia) Pty. Ltd. P.O. Box W 110 Warringah Mall NSW 2100

We hope you will enjoy PPM during the year, and look forward to hearing from you. Bouquets or brickbats . . . let your opinion be known.

from

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#### NOT ANOTHER LOG ON THE BARBIE!

. . . until you know what firewood you're using.

For years, domestic pest control operators have advised their customers to remove all wood intended for burning before the spraying is done. It is more or less common knowledge that wood sprayed with dieldrin or other chemicals constitute a health hazard if chopped up and used in the backyard barbecue.

But what about treated timber for building

purposes?

Indeed, such timber (the common greenish treated pine, for instance) should not be

burnt indoors or out.

ROLAPAK (Australia) produce treated pine edgings for flowerbeds and lawns. The products are packaged in plastic, and are all marked with hazard warnings, stating that the material should not be used for firewood.

Such warnings are relatively easy to place on plastic wrapping -but what about logs,

beams and planks?

Let's first talk about the various ways of

treating timber:

By far the most common method is Copper Chrome Arsenic treatment (CCA). This treatment gives the wood the characteristic

green colour.

The CCA treated wood is extremely safe, according to manufacturers and the Forestry Commission in NSW. The wood is used in playgrounds and school yards and there is no concern for children's safety — even if they lick or chew the timber. The arsenic is waterinsoluble and permanently bound into the fibre, and cannot be separated even by the digestive juices.

People who have noticed a white powder forming on logs need not worry: the white substance is not arsenic, but harmless sodium sulphate which is formed as a by-product on

freshly treated timber.

Only combustion will release the

dangerous arsenic.

There are numerous other treatment chemicals. However, these are less common than the CCA treatment, and we will simply give a list of them here:

Creosote

Pentachlorophenol (PCP)

Chlorinated Cyclodienes (Aldrin, dieldrin, chlordane, heptachlor)
Boron compounds (Borax, Polybor)

Tributyltin oxide (TBTO)

**Naphthenates** 

Copper quinolinolate

All of these chemicals are described in detail in the National Occupational Health and Safety Commission's publication, "Safe Handling of Timber Preservatives and Treated

This book also contains regulations outlining safety procedures at treatment plants, including storage of chemicals, protection equipment, spillage, disposal, first aid in emergencies, short and long term health effects, TLV levels and medical surveillance.

The chief timber inspector of the NSW Forestry Commission, Mr Charlie Herbert, explained that the amended Timber Marketing Act of 1986 gives certain guidelines as to sales and appropriate marking of treated timber.

Any retailer selling treated timber is

required to ensure that:

1) The timber has been treated by an approved treatment plant.
2) Each piece of timber is marked with

an approval brand.

The approval brand is not a health warning - it is a number which identifies where the wood was treated and which chemical was used. The last digit (between 1-6) in the brand number signifies the hazard level to which the timber can be subjected, e.g. indoors, outdoors above ground, in ground,

The retailer should be able to give more information on the treated timber. Some treatment plants have produced wall charts on the subject, and the Forestry Commission is currently working on a booklet about treated timber.

So what ARE you supposed to do with surplus timber, off-cuts and the old pergola you've just pulled down?

The recommended way is to bury the wood in a place away from underground water

courses and rivers.

Under no circumstances should the wood be burnt in cooking or heating fires, or in confined spaces.

If the timber is burnt in an incinerator or in an open area, the ashes should be buried afterwards.2

### (DI)ISOCYANATES

Isocyanates occur either as viscose liquids or in solid powder form. They are combustible, soluble in most solvents, and react briskly with a wide range of materials. Isocyanates are used as a "starter" in the

production of polyurethanes (urethane plastics). These plastics occur as soft or hard foams, rubbers, lacquers, glues and several

other materials.

Moreover, polyurethane foam is injected in refrigeration equipment, heating systems, buildings, vehicles and ships. Isocyanates also are included in two-pack paints, glues, resins and insulation foams. Sometimes, isocyanates are used in mixtures with alkyd paints in order to improve the characteristics of the paint.

#### POSSIBLE ALTERNATIVES

If a less dangerous product will do the same job, it should replace the use of isocyanates.

If isocyanates are the only option, it is best to use a pre-combined type, that is, a mixture which does not have to be blended in the workplace.

#### PERSONAL PROTECTION

The only way to achieve protection is through a supplied air system. Isocyanates are difficult to detect by smell (the smell level is about 100 times higher than TLV), and filter respirators cannot be used.

#### THE COMMON (DI)ISOCYANATES:

Toluene diisocyanate (TDI) Methylene diphenyl diisocyanate (MDI)

Hexamethylene diisocyanate (HDI) Naphtalene diisocyanate (NNI) Isophorone, diisocyanate (IPDI)

COMMON INDUSTRIES WHERE ISOCYANATK ARE USED:

BUILDING (insulation, sealing, lacquering)

> **ELECTRICAL** (insulation) PAINT

(lacquers) GRAPHIC

(Photographic polymer plates)

MOTOR

(lacquers and insulation)

**PLASTIC** 

SYNTHETIC FIBRE

**FURNITURE** 

#### BEFORE AND AFTER WORK

Before you start working with isocyanates, make sure you wash your body, and rub some skin creme (preferably a perfume free type) on to face, neck and hands.

After work, wash again.

Do NOT use solvents to clean skin. Do not use rags to wipe splashes: use disposable cleaning napkins.

#### OTHER HAZARDS

Spraying is not the only way to become exposed to free diisocyanates.

Welding may also release isocyangte fumes in insulated pipes. Before welding, strip off the insulation from a large section around the welding area.

Mixing two-pack paints is a hazardous

procedure.

Remember never to burn rags soiled with

isocyanates. When polishing a product containing

isocyanates, fumes may be released. A vessel that has contained isocyanates must not be washed in water and sealed. Carbon dioxide is formed, and the container may explode.

#### STORAGE

Isocyanates must be stored in a separate, well ventilated room. Do not store more than you need in your work.

#### SENSITIVITY TO DIISOCYANATES

Diisocyanates are sensitising chemicals. This means that exposure causes the body to react more profoundly to ever lower concentrations.

This hypersensitivity was previously thought to be caused by the development of an allergy to diisocyanates, but new research has concluded that a number of other factors are involved.

Smoking, however, does not seem to aggravate the symptoms or render the worker more susceptible to asthma.

Symptoms are in the form of asthmatic

attacks.

Only 4%-5% of sensitised people suffer from severe attacks. Less serious effects are noticed in a much larger number of people.6

The hypersensitivity to diisocyanates is generally entirely reversible if the exposure is terminated at an early stage, that is, if the affected person is relocated to another process or work procedure. However, people who have been working for long times in isocyanate atmospheres, perhaps while suppressing any distress symptoms, may not be able to recover completely.

#### HEALTH CONSIDERATIONS

A number of research projects have been commissioned in Europe. The findings concur on most points, and we shall here describe some of the most important health effects caused by isocyanafes and diisocyanates.

Although many studies have covered the effects of TDI, much less literature is available on NDI and HDI. The recent projects however, conclude that NDI and HDI, as well as IPDI, have similar effects of about the same magnitudeasTDI.

#### LIVER AND KIDNEYS

Only animal tests are available in this field. No experiments show damage or tissue changes in the kidneys or liver.

#### **BLOOD**

The only effects that have been observed are a high level of eosinofile leucocytes in sensitised people.

#### **CENTRAL NERVOUS SYSTEM**

The effects of diisocyanates on the nervous system have been observed in a few cases of accidental spills. In one particular accident, 35 firemen were exposed to the chemical. Most experienced breathing difficulties. A few became euphoric, ataxic and

suffered loss of consciousness.

23 complained of recurring headaches poor concentration, bad memory, irritability and depression for some time after the accident.

18 of the firemen were examined four years after the event. 13 of them still experienced lack of concentration, irritability and depression.

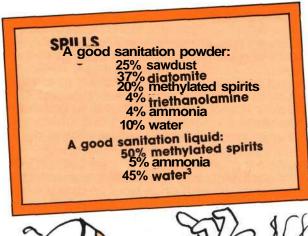
Long term memory defects were confirmed in psychometric tests.7

#### GENETIC TOXICITY

There has been some research performed into the mutagenicity of diisocyanates. The tests have not shown any such effects.

#### CANCER

No carcinogenic effects have been observed. The results are derived from animal testing only, and no human research







### REMOVAL FROM DIISOCYANATE ENVIRONMENT

In two cases, about 80% of asthmatic workers were totally rehabilitated after nine months. Of the 20% who did not recover in the first nine months, most still experienced asthmatic problems after more than three years.

However, some research points to a lesser recovery rate. In one report on 46 workers who were removed from their normal work, only 6 were free from their asthma after 2-11 years. The rest were still experiencing chronic bronchitis, rattling or whistling breathing and shortness of breath.

#### SKIN

Skin contact does not seem to be a great health hazard. Direct splashes have shown to cause oedema, blushing, irritation and dermatitis. The symptoms disappear quickly.

Only a small percentage (about 4%) of workers complained of skin discomfort due to discovanate handling.<sup>4</sup>

#### NOSE

High concentrations cause strong irritation. The discomfort disappears soon after the person is moved to fresh air. Prolonged exposure to very high concentrations, however, may cause lasting irritation in the nose.

Irritation starts at about 0.05 ppm (TDI). In the case of MDI, the concentration is considerably lower, ranging from about 0.0002 ppm to 0.01 ppm.

#### **EYES**

0.2 ppm of TDI has been shown to cause eye irritation and expansion of the blood vessels in the connective tissue, as well as painless oedema of the cornea and foggy vision. The symptoms are completely reversible by avoiding exposure.

An accidental splash of TDI in the eyes caused tear secretion for 6 hours, oedema of the eyelids, and reversible damage to the connective tissue of the eye. The reaction ended quickly.<sup>5</sup>

#### **LUNGS AND THROAT**

#### SHORT TERM EXPOSURE

Very high concentrations cause severe irritation. Some of the symptoms (rattling breathing, secondary sounds) occur after a latent period, and the whole progress may take several weeks or months. In most cases, even after exposure to very high concentrations, the rehabilitation is complete. However, a few cases have caused permanent coughing, shortness of breath and low spirometric values.

Serious toxic effects are considered to start

Serious toxic effects are considered to start around 5 ppm. Discomfort in larynx and bronchi, dry coughing, and pressure about the chest are common symptoms.

The recovery may take several weeks, but is generally total, with the exception of an increased sensitivity to the chemical in the future.

Some cases show violent reactions towards the diisocyanate even at first encounter.

#### LONG TERM EXPOSURE

Many people can work for some time in atmospheres containing diisocyanates without experiencing any discomfort in the respiratory system

respiratory system.

After a period, however, sudden pronounced conditions are noticed, some so severe that the person has to give up work or move to another industrial field. The symptoms usually include shortness of breath, coughing, and wheezing or whistling breathing.

The latent period varies from a few days to 20 years.

### REMEMBER:

Personal breathing protection is a LAST RESORT.

More desirable ways are:

ENGINEERING OUT the problem
(by ventilation, fume hoods, local exhaust, etc.)

and

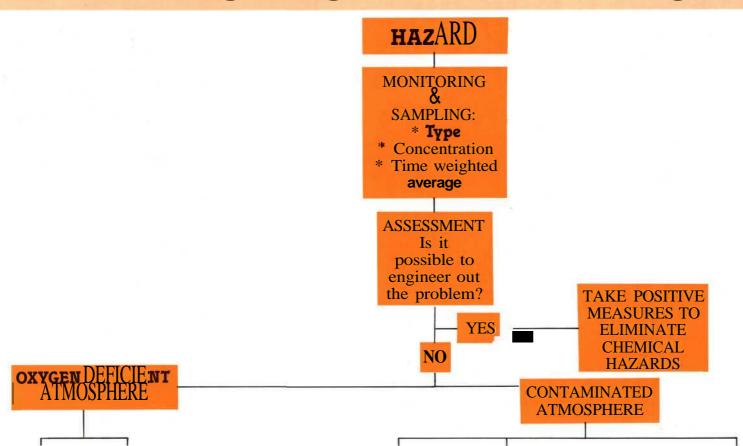
SUBSTITUTING CHEMICALS
(for a safer compound that does the same thing).

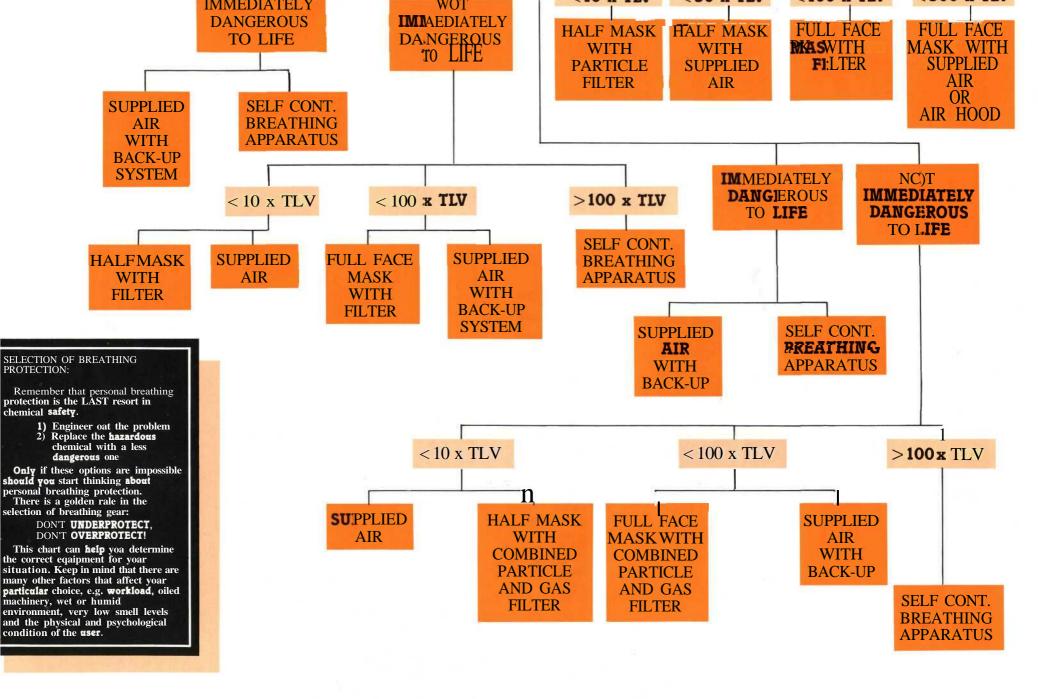
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# BREATHING PROTECTION:

The right gear in the right place





# Special Feature



# AUSTRALIAN STANDARD -- WHAT IT REALLY MEANS

The simple but distinctive StandardsMark: you see it every day on all sorts of products, ranging from lawnmowers and electric water heaters to wetsuits and sunscreen lotions.

But what does the mark really mean? What does the right to display the StandardsMark say about The product? And what does it take to achieve the Standards approval?

Let's first talk about standard. The word in itself has more than two dozen meanings, the important ones being "approved model", "basis of comparison" and, most relevant to this context, "a level of quality which is regarded as normal, adequate or acceptable".9

In Australia, there are two procedures that must not be confused: one is a once-only product approval, the other is a standards licence on a continuing basis.

The Department of Industrial Relations in NSW conducts product tests according to the set Australian Standard. In order to achieve an approval and be given an approval number, the manufacturer must supply a number of products for testing. If the test is successful, the product is deemed to be of adequate standard and is given an approval code.

The DIR in NSW is generally accepted as the testing authority for all of Australia. However, in certain cases, the various states may require their own local authorities (such as the Department of Labour in Victoria] to give the product approval.

The Standards Association of Australia is not only concerned with the technical quality and performance of a sample product, but also the manufacturing standard, quality control, and consistency of the product quality. Thus, unlike the DIR standard, the SAA is not a once-only test, but a continuous quality and manufacturing control procedure.

These points are well worth keeping in mind when you read a pamphlet or product packaging, stating that the product is manufactured according to Australian standard.

The continuing SAA published Australian Standard becomes very important when it comes to consumables. In a field like breathing protection, it is paramount to maintain a consistently high production quality at all times — especially in regard to filters and filter respirators.

The SAA STANDARDSMARK means that a manufacturer is subjected to a number of requirements:

- Regular testing
- Batch identification
- Continuous documentation to be
- provided to SAA
   Process sequencing, production lines and process control set up to comply with SAA/QAC guidelines
- Regular, unannounced audit visits

In order to have the licence to display the StandardsMark on products, all

manufacturers are required to subject a percentage of randomly selected batches on a regular basis to testing, and to supply all documentation to SAA.

Furthermore, the production line, manufacturing process, and quality control procedures must be in accordance with Australian Standard, and will be regularly reviewed by SAA (QAC).

This may sound tough. But it must be: if the rules aren't stringent, the meaning and purpose of the standard will be lost.

No matter how tough the Standard, responsible manufacturers agree with it: it means that not only will Australian products be manufactured to a high, consistent standard which will achieve world recognition, but it also means that the end user will be able to rely on the product, know exactly what the product does and how it works, and rest assured that the product will live up to its expectations.

In short, the StandardsMark has a dual meaning:

To the manufacturer, it is a valuable sales tool, a measure of respect in the marketplace, and a strong encouragement to produce better and better goods.
To the user, it means reliability, satisfaction,

 To the user, it means reliability, satisfaction, and an incentive to purchase licensed products.

All this means that the SAA StandardsMark is a desirable product display indeed.

So what is the problem? Why doesn't everyone restructure manufacturing processes to Australian Standard and start making higher quality products that will meet both Australian and overseas standard requirements?

Because it's expensive. It costs money. It takes effort. And a continuous system of testing, documentation, batch sampling and

production line inspections sounds like a first degree nightmare to many manufacturers.

Some manufacturers try to take an easy way by cleverly wording the text on their packaging in such a way that purchasers may believe that the product has been licensed by the SAA. However, it is illegal to falsely claim that a product is licensed or to make people believe that it is licensed.

#### CONSUMER ADVICE

1) CHECK FOR THE SAA STANDARDSMARK Some manufacturers claim that their product is made "to comply with Australian standard", "to exceed Australian standard requirements" or "in accordance with Australian standard". This means little, if anything: indeed, the product may never have been tested at all. If the product does not display a StandardsMark with an approval code, it has not been licensed.

2) CHECK THE SEAL Every product displaying a StandardsMark must be sealed in such a way that it cannot be opened without breaking the seal. If the seal is broken, don't buy the item.

3) IF YOU'RE UNCERTAIN, DEMAND DOCUMENTATION

It is the customer's right to demand proper documentation as proof that the product has been licensed by the Standards Association of Australia.

By purchasing a product that is licensed by the Standards Association of Australia, and ensuring that the product carries the StandardsMark and that the seal is unbroken, you can be certain that you're buying a high quality item from a manufacturer whose factory set-up and production processes fulfil a number of strict requirements.<sup>10</sup>\_\_

## WHAT ARE AUSTRALIAN STANDARDS?

The Standards Association of Australia (SAA), is your independent national Standards body. It promotes quality, safety and efficiency in every facet of Australian life.

SAA's main purpose is to prepare Australian Standards. Standards are practical documents. They are written in response to a need, by people who understand and can address that need.

Suchpeople are representatives of consumer, government and industry groups who volunteer their services to SAA.

Standards are therefore truly impartial consensus documents. As such, they offer valuable guidance to government, industry and consumers.

### WHAT IS THE STANDARDSMARK?

The StandardsMark is SAA's symbol for proven quality. It says a product complies with an Australian safety or performance Standard. SAA regularly monitors a manufacturer's quality control system of product testing methods. This

and product testing methods. This ensures the capability to produce quality goods consistently.

A StandardsMark licence is only given to companies which meet SAA's exacting requirements.

That means products displaying the StandardsMark are well-designed, well-built and safe.

habesta

SEO TO AUSTRALLY

#### A DATE FOR YOUR DIARY:

INTERNATIONAL FIRE SCIENCE CONFERENCE & **EXHIBITION** 

The Institution of Fire Engineers is staging a major Fire Science Conference and Exhibition later in the year.

The conference will take place in

November, and will present a wide variety of fire safety information.

Speakers include internationally recognised experts from USA, UK, France, Denmark and Hong Kong, as well as local specialists. The event will be of interest to a range of people, including:

Emergency services employees

Safety professionalsSecurity consultants Building designers Planners & architects

Event: The International Fire Science

Conference

Date: 21-24 November 1988

Place: Manly Pacific International Hotel,

Manly

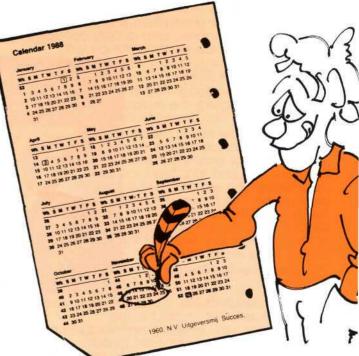
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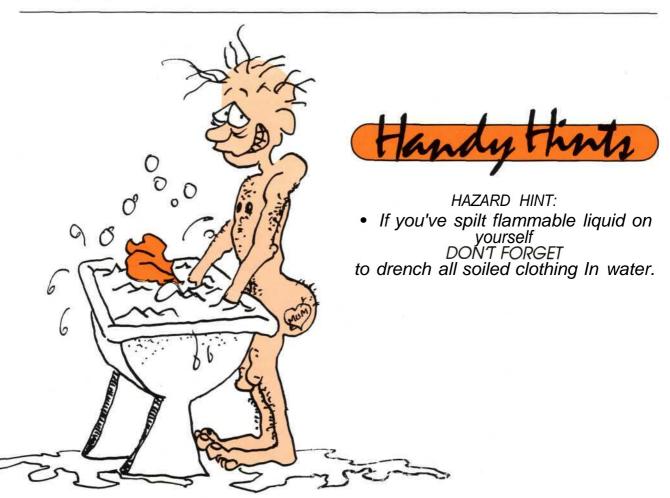
The Conference Secretary, International Fire Science '88

Institution of Fire Engineers (NSW

Branch) P.O. Box A52

Sydney South NSW 2000





#### THE AIDS QUESTION

As expected, we received a number of responses about our AIDS article in the 3/87 issue. Most of the letters expressed a concern that we were unnecessarily alarmist.

Some responded that we were in the wrong for selecting a single unknown (to Australia) scientist with a controversial view. Others felt that the article should have been properly appended with references and sources — and we agree that this was a slip on our behalf.

Yet others missed the fact that the article was not written nor endorsed by PPM. It was a translation of an article on AIDS published in a Swedish newspaper.

Again, most of the letters expressed the view that the article purported AIDS to be a far more serious problem than it actually is.

On this last point, we simply cannot agree. Nobody knows the extent of the AIDS problem. AIDS is new. Our knowledge is incomplete. Scientists have not had the time to observe any longterm, accumulative or other insidious effects of the virus, and are loath to make conclusive statements.

An obvious example is the recent warning that the blood of non-symptomatic carriers becomes more and more contagious as time goes on — while the carrier doesn't even know that he or she has contracted the disease. This was unknown to scientists only 6 months ago.

As another parallel, we might mention the attempts to warn about the use of asbestos in the 1950s. Such warnings were shrugged off with disbelief and "surely not". Only now, thirty years later, do we know the occupational health ramifications and the real consequences of the proliferation of asbestos.

Many of the letters also expressed a wish to discontinue the AIDS discussion. We, too, feel that the issue has reached a saturation point ... at least for the time being.

We have decided to leave the AIDS question. However, if any of our readers wishes us to further follow up Dr. Lita Tibbling's views, or her papers, we shall be happy to do so.



# Handy Hints

- Always store food away from the work area (in a sealed lunch box)
- Don't carry cigarettes in your pockets
- Never eat or smoke in the work room BEFORE EVERY MEAL AND SMOKO:
  - FIRST wash your hands thoroughly
    - THEN wash your face



# Handy Hints

- Don't clean hands or face with solvents THE TRICK IS:
- Before work, rub in plenty of skin creme
- After work, wash in warm soapy water, then rub in more creme



dalassa

#### SOURCES & LITERATURE:

1. Sunday Telegraph.

 Mr Charlie Herbert, Chief Timber Inspector, Forestry Commission of NSW.

Rolapak (Australia).

"Safe Handling of Timber Preservatives and Treated Timber", National Occupational Health and Safety Commission, Canberra 1987.

"Isocyanates are hazardous", Swedish Worksafe Directorate 1980.
 Bagon/Warwick/Brown; Am Ind Hyg Assoc J 45, pp 3943 (1984).
 Schmidt-Nowara/MurphylAtkinson; Chest 63 (1973), pp. 1039-1040.

 Butcher: "Isocyanate Induced Asthma"; Eur J Resp Dis Suppl 123 (1982), pp 78-81.

LeQuesne/Axford/McKerrow/Jones: Brit J Ind Med 33 (1976), pp 72-78.

8. MAIN REFERENCES FOR ARTICLE:

"Isocyanates are hazardous" - Swedish Worksafe Directorate 1980 (in Swedish).

"Diisocyanates" - SwenssonlAndersson; Arbete & Haelsa. Published by the Swedish Worksafe Directorate 1985 (Swedish: summary in English). "Diisocyanates and polyurethanes in the working environment" -

Gudehn/Andersson/Levin/Nilsson; Arbete & Haelsa. Published by the

Swedish Worksafe Directorate 1983 (in Swedish)
"Diisocyanates - NDI" Alexandersson/Gustavsson/Hedenstierna/Rosen/Randma; Arbete & Haelsa. Published by the Swedish Worksafe Directorate 1984 (in Swedish summary in English)

Swedish: summary in English).

Macquarie Dictionary 1981.

 Standards Association of Australia.
 Encyclopaedia of Occupational Health & Safety, Industrial Labour Office, Geneva 1985.

12. Australian Standard 1715-1982.

#### **PAY FOR PPM?**

Sure ... as long it's not commercial!

The last issue of PPM explained that the magazine can no longer be a free publication: Sundstrom Safety (Australia) Pty Ltd, the publisher of PPM, made a suggestion that interested readers pay a subscription rate for the magazine in order to avoid external advertising and promotion on the pages.

Judging by the response, it became clear that PPM is a highly regarded publication, especially for its simple language and informative articles on common breathing hazards.

#### BRICKBATS

"Id never pay for Sundstrom's advertising!" one letter said.

"Why pay for a sales tool?", asked another.

Admittedly, we made a mistake when we published the subscription coupon in the same newsletter that carried two items relating to Sundstrom's activities (the report on the 22nd ICOHS Conference and the Safety Training Programme),

This was a well-learnt lesson, and we shall forthwith strive to continue our usual articles on common chemical hazards and breathing protection measures without promoting, advertising or even mentioning Sundstrom's products and activities.

One reader discarded our magazine as a means to put unsubstantiated alarmist ideas into workers' heads.

The gist of another letter was that we should stop publishing facts that could be misinterpreted by people who were not professional hygienists, health practitioners or chemistry experts.

#### **BOUQUETS**

The overwhelming majority of replies was very positive, and we are greatly encouraged by your comments, constructive criticism and suggestions,

The most common positive comment was "Interesting articles on common hazards, presented in an easy to understand manner".

PPM will continue to report on common chemical hazards, and new findings in breathing safety and related fields. We will NOT carry advertising. Moreover, we hope to gain a closer rapport with our readers in 1988. All we ask of you is: please send in your comments, queslions and views. We shall do our best to feature them in PPM.

For those who haven't already done so, we suggest you fill in the coupon and become a subscriber to PPM.

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