

## HEALTH &amp; SAFETY

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How a shock discovery onboard a new Dutch ship has sparked fresh alarm over asbestos hazards for seafarers...

**↓** The deadly dangers of asbestos have been known for many decades, and there are now many national and international regulations in place to curb its use in the shipping industry.

So when, during repair work on a new Dutch-flagged chemical tanker last year, asbestos was discovered within packings that needed to be replaced, it came as a huge shock to the crew and to the owners.

But worse was to come. 'Alarmed by this discovery, further inspections were carried out — eventually leading to the horrendous conclusion that 50% of all packings onboard this tanker contained asbestos,' says Nautilus assistant general secretary Marcel van den Broek. 'The other 50% are Viton/P3-type gaskets.'

'Thousands and thousands of packings are now being replaced, one by one, by a team of specialists using specialist gear and protective clothing and breathing apparatus.'

And the Union warns that it is clear this is not an isolated case. 'Only recently a series of newbuild tugs from the same shipyard encountered similar problems,' Mr van den Broek adds. 'Moreover, a series of tankers still under construction contained large amounts of asbestos packings as well.'

**↓** In another incident, a dredger that underwent extension work at a Chinese yard was found to be totally contaminated by asbestos dust from old fire blankets that were used during welding of a new section.

'We think of asbestos at sea as being a problem of the past, but it is worryingly evident that it continues to be a problem of the present,' Mr van den Broek warns.

As a result of the evidence it has amassed, Nautilus is this month tabling a motion at the annual general assembly of the International Federation of Ship Masters' Associations calling for tougher controls over the use of asbestos in the shipping industry.

Clemens Smits is technical manager of Oesterbaai, the biggest Dutch firm dealing with asbestos surveys, and he is concerned about the continuing use of the substance at sea.

'Asbestos has many useful properties and can be used in many applications,' he points out. 'It is heat resistant, very strong — the fibres are stronger than steel — and will insulate electricity.'

Despite the knowledge of the associated health hazards, more than 100 countries are still using asbestos, says Mr Smits, and there are some 3,500 different applications known already, many of which are used onboard ships — including:

- fire bulkheads
- ceiling panels
- flooring
- exhaust and pipeline insulation
- cable transit insulation
- gaskets
- electrical installations
- switchboards
- winch brake linings
- cord seals
- hatches

'In reality, there is no such thing as an asbestos-free ship,' Mr Smits points out. 'However, you can issue an asbestos-free certificate if you know where it is and have a procedure in place on how to deal with it.'

One particularly serious problem is the presence of asbestos in many spare parts onboard — even sometimes in products that are stamped as asbestos-free.

'We see pipe parts,' Mr Smits explains. 'For instance, China is producing gaskets made with an asbestos-free certificate when they were found to have a 2% asbestos content.'

Gasket material recently produced in Turkey was found to contain up to 30% asbestos.

Problematically, some parts may be marked 'AFM' — for asbestos-free material — while some made in the Far East are marked 'AFM for asbestos fibre material.'

Old stocks onboard may also pose problems, with material such as putty sealant or old knife fuses sometimes containing asbestos.

**↓** Asbestos has been used for centuries and its application in shipping has increased during the period between 1940 to 1980 in the western world, although it continues elsewhere, with more than 300 asbestos-containing materials being commonly used. As a consequence, Nautilus is now dealing with many compensation cases for members who are suffering from asbestos-related diseases.

Internationally, December 2000 amendments to the SOLAS Convention (which entered into force on 1 July 2002) prohibited the new installation of materials which contain asbestos on all ships.

On paper, asbestos was outlawed on ships built for the British and Dutch flags over the past 25 years — except for some 'special purposes', such as high temperature resistant gaskets, gland packings, brake linings and other friction materials, if no adequate alternatives were available.

The reality, however, is that an unknown number of vessels which have been built in 'new' shipbuilding nations do contain asbestos and many other vessels will get contaminated by asbestos during their years of service — sometimes at shipyards during the use of asbestos

# Union warns on the deadly dust

**Able UK Group operations manager Shaun Hughes check out the asbestos hazards on the US 'ghostship' Caloosahatchee** Picture: Press Association

“We think of asbestos at sea as being a problem of the past, but it is worryingly evident that it continues to be a problem of the present”

— Marcel van den Broek, assistant general secretary, Nautilus International



blankets when welding and sometimes by spare parts containing the material.

Ships that have been switched to the Dutch and UK flags after being built for operation under other registers may present particular risks.

Mr Smits cites the example of a ship built in Poland in 2001 which was found to have asbestos in a piping tunnel and a putty seal around cables throughout the entire vessel.

'Seafarers are in particular danger when it comes to exposure to asbestos, because their vessel is not only their workplace but their home for considerable periods — thus increasing the possible exposure time,' Mr van den Broek points out.

'Moreover, as seafarers are not trained in identifying asbestos they are much more likely to get contaminated than workers ashore who generally benefit from easy access to inspection and controlling mechanisms,' he adds.

**↓** One very real risk is that of exposing asbestos during repairs or maintenance — for instance, if cutting or lifting off a gasket. There is also the danger of disturbing asbestos on seemingly innocuous material — for instance, a layer of the material within an asbestos-free outer layer on pipeline insulation.

'Around 80% of all materials suspected of containing asbestos can be recognised, but it is not always easy,' Mr Smits notes. 'I have been doing this job for 16 years, and I am still learning every day. Visual identification can only be done as a first conclusion and a final conclusion can only be made through analysis and microscopic examination.'

Seafarers should use proper PPE (including masks with a P3-type filter) and when in doubt should stop work and seal off a suspect area to prevent fibres being spread on clothing or through ventilation systems.

'A gasket can contaminate an entire room when worked on using high rotation equipment or a steel brush,' Mr Smits warns. 'So it is important to put up warning signs and get it checked by specialists.'

It is hoped that seafarers will be helped by the adoption of the Ship Recycling Convention in May 2009. Once this enters into force, all ships of 500t and above will be required to develop and maintain an inventory of Hazardous Materials (IHM). This ship-specific document will

have to list all the materials onboard a ship that may present health or environmental hazards, and require careful handling or special awareness.

However, it may be some time before it does come into force as so far only one country — France — has ratified the convention. In the meantime, an asbestos survey of your vessel can prevent asbestos-related incidents, and asbestos awareness and recognition training will help to raise the alertness of seafarers and shore staff.

'When purchasing departments may unintentionally order asbestos-containing materials.'

**↓** 'It is true that many nations worldwide have regulations in place regarding asbestos and stipulating how asbestos products onboard should be treated, and by whom and under which conditions,' Mr van den Broek points out.

'That regulations and daily practice do not always line up nicely is unfortunately also the case when it comes to asbestos on ships. It's clear that there is a significant volume of existing regulation covering asbestos onboard ships, but at the same time we notice a continuous flow of new asbestos onboard ships. It is therefore equally clear that there is a need for much more to be done to address this serious, life-threatening problem.'

'We need to explore why and where the control mechanisms for the existing regulations fall short, and to see how seafarers can be made better prepared to understand and identify the dangers of asbestos, he adds. 'We need to devote more energy to collecting data and information on asbestos-related incidents and subsequently bring these incidents to the attention of our members and the responsible authorities.'

'Ultimately, we have to raise awareness again — among seafarers, shipowners, regulatory authorities and other relevant stakeholders in the shipping industry,' Mr van den Broek stresses. 'Asbestos is not a thing from the past! In 2010 the shipping industry is still, on a daily basis, responsible for exposing its seafarers to asbestos and thus creating the victims for the coming decades.'

**↓** For more information: [www.oesterbaai.nl](http://www.oesterbaai.nl) and [www.hse.gov.uk/asbestos](http://www.hse.gov.uk/asbestos)

## Exposed at work? Call the Union

Nautilus International has extensive experience of representing members affected by asbestos in the workplace.

The Union handles compensation claims for those affected by asbestos-related diseases and has also been involved in a UK trade union movement campaign against a controversial legal ruling that denied payments of damages to people who have developed asymptomatic pleural plaques.

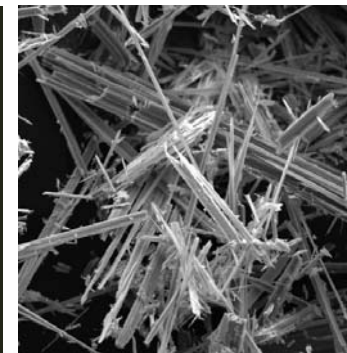
'Many of the members we assist were heavily exposed to asbestos in the 1960s and 70s, and were often serving as engineers in totally

unprotected conditions,' said director of legal services Charles Boyle.

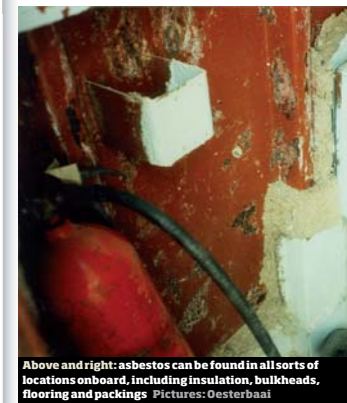
Nautilus maintains a special asbestos register with personal details of more than 320 members who believe that they have been exposed to the substance whilst at work.

By contacting the Union and supplying information about the dates when they believe exposure occurred, members can provide valuable assistance to the legal department if it has to pursue compensation claims.

For further details, contact: [legal@nautilusint.org](mailto:legal@nautilusint.org)



Anthophyllite asbestos under the microscope — often the only way to determine for certain whether suspect material really is asbestos. Picture: Oesterbaai



Above and right: asbestos can be found in all sorts of locations onboard, including insulation, bulkheads, flooring and packings. Pictures: Oesterbaai

## EU rules for UK vessels

Nautilus has welcomed plans to extend European rules protecting workers from asbestos to seafarers on UK-registered merchant ships, super-yachts and fishing vessels.

The Union has been consulted on Maritime & Coastguard Agency proposals for new Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations to implement the European Commission's asbestos directive, which sets minimum

safety and health requirements for the protection of workers from the risks related to exposure to asbestos at work.

It is intended that the new regulations will come into effect by the end of this year. They will require employers to conduct an asbestos risk assessment and to introduce appropriate measures to either remove that risk completely or, where this is not possible, reduce the risk so far as is reasonably practicable.



## Why should I worry?

**Q: What is asbestos?**

**A:** Asbestos is a naturally occurring fibrous material that is mined in rock form. The fibres are fine and flexible and can be spun into thread and woven into cloth that is flameproof, difficult to tear, and carries excellent insulation properties. It is highly resistant to heat and fire, salt water, and chemical and biological processes.

**Q: Is there more than one kind of asbestos?**

**A:** There are six types of asbestos. White, blue, brown, green, yellow and grey are the common names, but they are also referred to by their Latin names. White is the most commonly used — occurring in 90% of all applications. Blue (crocidolite) and brown (amosite) asbestos are known to be more hazardous than white (chrysotile).

**Q: Why is it dangerous?**

**A:** Asbestos fibres are long and thin, and easily separated. They can be extremely small and can spread unseen throughout a room, contaminating the entire space. If they are inhaled they can become lodged in the tissue of the linings of organs — most commonly the lungs and digestive system. The body's natural defences may not be able to easily break them down. Over time, these fibres will cause inflammation and cell damage and lead to diseases (mainly cancers). These diseases take a long time to develop (often as much as 30 years, sometimes even up to 60 years) which means that the people who are suffering and dying today were exposed to asbestos many years ago.

**Q: How dangerous is it?**

**A:** Asbestos is the greatest single cause of work-related deaths. Asbestos-related diseases are thought to kill up to 4,000 people each year in the UK and around 500 in the Netherlands, and a study published by the UK Health Service Executive last month found that they account for almost half of all occupationally-related cancer deaths. Asbestos fibres are in the atmosphere just about everywhere, so people are routinely exposed to very low levels of fibres.

However, a key factor in the risk of developing an asbestos-related disease is the total number of asbestos fibres inhaled and the period of exposure.

**Q: What are the health problems?**

**A:** Asbestos is known to cause asbestosis (scarring of the lungs), lung cancer, and mesothelioma (cancer of the lining of the lungs or stomach). Asbestos exposure is associated with an increased risk of gastrointestinal, colorectal, throat, kidney, oesophageal, and gallbladder cancer. The risks are greater for heavy smokers and for those who have been exposed over long periods.

**Q: Why is it such a problem for the shipping industry?**

**A:** For a large proportion of the 20th century, asbestos was used in huge quantities onboard ships. Applications included insulation covering wiring, furnaces, boilers, and pipes. It has also been extensively used in gaskets, seals, and as friction-reducing lining for moving parts. Age, abrasion and damage can cause asbestos fibres to be released, and in closed atmospheres on ships, experts have found fibre levels in the worst cases some 70 times higher than the threshold concentrations.

**Q: How can I recognise asbestos onboard?**

**A:** Asbestos is not usually used in its pure form, but instead is mixed with bonding agents such as cement to make it stronger. There can be thousands of different applications onboard (see main story) and if in doubt a specialist should be called in as only laboratory tests can determine whether suspect material is actually asbestos.

**Q: What should I do if we discover suspect asbestos onboard?**

**A:** Wear a dust mask approved for asbestos (a P3-type filter) and disposable overalls and footwear. Keep other people away from the area. Seal any suspect material in a plastic bag and do not use a standard vacuum cleaner as dust may pass through the filter and bring asbestos levels to very high and dangerous concentrations.