

Maritime New Zealand Guidelines

MARINE GUIDANCE NOTICE ISSUE 13 – NOVEMBER 2009

MATERIAL SAFETY DATA SHEETS FOR SSM SHIPS

This guidance is for:

- New Zealand safe ship management (SSM) vessel owners and masters
- SSM companies in New Zealand, and their surveyors
- Maritime New Zealand (MNZ) safety inspectors, auditors and accident investigators.

Purpose

The purpose of this guidance notice is to make ship owners and seafarers aware of the danger of exposure to chemicals, marine fuels and lubricating oils and to highlight their responsibilities to take all practicable measures to ensure the safety of all persons on board.

Hazards on board

Industrial chemicals of many kinds are used by the shipping industry. Chemicals can be used as cleaning agents, for dosing fuels and engine jacket water, in boiler water treatment, in processing and refrigeration, as additives for sanitation systems and in the daily maintenance of the ship. Chemicals carried as cargo, whether in bulk or packaged form, may present additional risks as a result of leaks or venting, and during tank cleaning or cargo handling.

Fuel oils and lubricating oils are often wrongly considered innocuous or harmless when, in fact, their storage and use can present very real hazards. Long-term exposure may cause significant health problems.

HSE Act, HSNO Act and safety management on board

At the core of most safety legislation is the identification of hazards in the work place and application of all practicable measures to ensure the safety of the persons working there.

For SSM ships, the "owner" (a definition which includes any management or operating company) is responsible for providing safe working practices in ship operation, a safe working environment, safeguards against all identified risks and a safety management system that prepares for and responds to emergency situations.

Additionally, the Health and Safety in Employment (HSE) Act 1992 and the Hazardous Substances and New Organisms (HSNO) Act 1996 apply the same methodology.

Material safety data sheets (MSDS)

An MSDS provides specific information on the use, handling and safe storage of a substance. MSDS are recognised in New Zealand, and internationally, as the most appropriate means of providing the information necessary for the safe use of products in the working environment.

An MSDS is required by the HSNO Act Group Standards to be provided by the supplier of the substance to the “recipient” (ie the owner, master or a crewmember of a commercial vessel).

If you are a vessel owner, master or crewmember and you have not received an MSDS for each hazardous chemical used on board your vessel, you should ask your supplier to provide you with one.

It is a requirement¹ to have them available in the work place (ie on board your vessel).

An MSDS details all the information the “employer” needs to ensure that work can be undertaken safely.

The following information must be included in an MSDS:

- identification of the substance and supplier
- hazard identification
- composition/information on ingredients
- first aid measures
- fire fighting measures
- accidental release measures
- handling and storage
- exposure controls/personal protection
- physical chemical properties
- stability and reactivity
- toxicological information
- ecological information
- disposal considerations
- transport information
- regulatory information
- other information.

Whenever there is a change to the product, a new MSDS should be sourced. Also, to ensure the content and advice is up-to-date, new versions of the MSDS should be obtained every 5 years.

Not every small and domestic substance on board needs an MSDS. Common sense should be applied to identifying significant hazards to keep the safety focus sensible. It is, however, expected that all ship systems and equipment that use chemicals should be considered significant.

Fuels should also be considered significant. Fuel barges and even petrol stations (and their oil companies) need to provide access to the correct MSDS for each specific fuel. If the MSDS is not immediately available, the fuel suppliers should be able to advise you where it can be sourced (or downloaded).

It is important that you have an MSDS on board for each hazardous chemical and that all crew know where the MSDS are kept, how they will be useful in an accident and when they should be referred to.

Hazardous chemicals, fuels and oils

A hazardous chemical is one that has the potential to cause death or serious harm to the individual handling it. Exposure to toxic chemicals (or any toxic ingredients) can result in immediate or long-term effects.

Immediate effects of chemicals are referred to as “acute effects” – the symptoms of acute chemical poisoning will usually surface at once or in the first 4 to 24 hours. Symptoms vary but they may include nausea, vomiting, headaches, fainting, stomach cramps, dizziness and a range of other symptoms depending on the chemical exposure.

Long-term effects of chemicals are termed “chronic effects” – these may occur days, weeks, months or years after the initial exposure. Chronic chemical exposure may result in cancer, sterility and other serious health problems. These effects depend on the type of chemical and the duration of exposure.

¹ By Safety Management rules under Maritime Transport Act, by the HSE Act (s12) and HSNO Act (s13)

Crew members who are exposed to hazardous substances need to read the MSDS for each substance so they understand the hazards involved, appreciate the safety procedures applied and are motivated to use personal protective equipment (PPE).

Personal protection

Using PPE is one means of minimising the risk involved. The use of this equipment is often the last means of preventing harm to the individual. As a result, the standard, quality and suitability of this last line of defence are very important. When selecting and using PPE, it is essential that the correct equipment is used so that the appropriate protection is provided.

MSDS provide essential information on the selection of the right PPE, preparation of appropriate emergency procedures and the correct fire fighting and first aid emergency response.

PPE does not stay clean or new forever. Wearing contaminated overalls, gloves or boots completely defeats the purpose of wearing them. If PPE is contaminated it should be cleaned or renewed.

If the equipment is faulty, damaged or past its renewal date then have it renewed or serviced. Seek advice from PPE retailers if there are any questions about equipment selection or maintenance.

Gloves are an important item of PPE. Select the correct glove for the substance being used or exposed to. A porous glove will protect the hands from abrasion but will not provide much protection from chemicals. Information should be obtained about the glove including what chemicals it will protect against and for how long it should be used. Again, PPE does not last forever, especially gloves. Check your gloves regularly for damage, deterioration or contamination.

In addition to skin exposure, inhalation of chemicals through the nose and mouth is a common cause of chemical exposure. The paper type disposable mask is only suitable for non-toxic particles (eg dust). The half and full face mask with replaceable filter canister will filter out mist, fumes, selected gases and vapours. Filters have a limited life and the manufacturer's instructions should be strictly followed. Filter face masks are not suitable for fire fighting because the smoke is likely to block the filter.

Do not forget that lack of oxygen in a space is still a hazard and a mask provides no protection for this.

See Safety Bulletin 21, September 2009: *Enclosed and confined spaces can kill*
<http://www.maritimenz.govt.nz/Commercial/Shipping-safety/Safety-updates/Safety-bulletins.asp>

Actions

MSDS are obtained from suppliers. Use them to prepare your crew and the work on board so that people are safe.

Recommended actions are to:

- Make MSDS available on board, preferably in one easily accessible location or file.
- Ensure the important safety information in the MSDS is applied in your emergency procedures.
- Ensure that anyone who may be exposed to a hazardous substance on board has read the MSDS for that substance.
- Ensure that PPE, suitable for that substance, is available, is used, and kept in good condition.
- Encourage everyone on board to think about their short- and long-term health and safety.

Further Information

For further information please contact our Wellington office:

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