

Maritime New Zealand Guidelines

MARINE GUIDANCE NOTICE ISSUE 12 – NOVEMBER 2009

MATERIAL SAFETY DATA SHEETS FOR SOLAS SHIPS

This guidance is for:

- New Zealand shipping companies
- New Zealand SOLAS vessels
- classification societies in New Zealand
- 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 responsibility for taking 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 systems, as additives for sanitation systems and in the daily maintenance of the ship and its systems. 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.

SOLAS and other legislative requirements

SOLAS ships are required to comply with the ISM Code. The "company" (as defined in the ISM Code) is responsible for providing safe 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. The ISM Code has specific sections on emergency preparedness and the means for providing and keeping up-to-date the documentation and data relevant to the safety management system and safety on board.

Any SOLAS ship that makes use of, or transports, a chemical or fuel should identify the hazard, provide the appropriate material safety data sheets (MSDS) for the substance in question and supply personal protective equipment (PPE) and emergency procedures to suit.

The availability on board of a MSDS for each substance is essential for the allocation of appropriate PPE, preparation of appropriate emergency procedures and the swift implementation of the response measures given in the MSDS.

Under SOLAS, the requirement to carry MSDS on board is being extended to include oils as cargo and bunkered fuel oil used by the ship. SOLAS Chapter VI Regulation 5-1 and Resolution MSC.286(86) *Recommendation for Material Safety Data Sheets (MSDS) for MARPOL Annex I Oil Cargo and Oil Fuel*

should be referred to. These new requirements under SOLAS provide additional technical detail to the existing and complementary safety management requirements that already exist under ISM.

All parties who are required to comply with or enforce the SOLAS Convention should be aware of the content of Resolution MSC.286(86).

Material safety data sheets (MSDS)

MSDS are recognised internationally as the most appropriate means of providing the information necessary for the safe use of chemicals in the working environment.

If the ship has not been given an MSDS for each hazardous substance used on board you should ask your supplier to provide you with one. The provisions of the ISM Code already require MSDS to be on board.

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

The following information needs to be included in an MSDS (as taken from Resolution MSC.286(86)):

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

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.

It is important that each ship has an MSDS on board for each hazardous substance and that all the crew know where the MSDS are kept, how they are to be applied 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.

Crewmembers, 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 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 or first aid emergency response.

PPE does not stay clean or new forever. Wearing contaminated overalls, gloves and 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 your 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.
- 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 MNZ Wellington office:

Phone: 0508 22 55 22 or (04) 473 0111. Fax: (04) 494 8901 Email: enquiries@maritimenz.govt.nz