

ENGINE ROOM FIRES: OIL LEAKS OR SPILLS



ENGINE ROOM FIRES ARE A MAJOR HAZARD ON SHIPS. THEY CAN CAUSE SIGNIFICANT DAMAGE TO THE VESSEL, ENDANGER THE CREW AND LEAD TO COSTLY DELAYS.

THE INTERNATIONAL MARITIME ORGANISATION'S (IMO) RESEARCH FOUND **BETWEEN 30% AND 50% OF ALL FIRES ON MERCHANT SHIPS ORIGINATE IN THE ENGINE ROOM AND, OF THOSE FIRES, 70% ARE CAUSED BY OIL LEAKS.**

THIS IS AN AREA IN WHICH THE CLUB CONTINUES TO SEE INCIDENTS AND THIS GUIDANCE WILL THEREFORE FOCUS ON THOSE ENGINE ROOM FIRES CAUSED BY OIL LEAKS OR SPILLS.

Oil fires can occur when hot surfaces or sparks ignite flammable oil vapours. Oil vapours can be created when oil is heated, spilled, or splashed. The minimum temperature at which an oil vapour will ignite is called its minimum autoignition temperature (MAIT). The MAIT for different types of oil varies, but it is typically around 250°C.

High-pressure sprays of oil can ignite immediately, while liquid leaks can take a few seconds to ignite. This is because it takes time for the oil to evaporate and form a flammable concentration of vapour.





TO PREVENT OIL FIRES, IT IS IMPORTANT TO KEEP ALL OIL WITHIN ITS INTENDED SYSTEMS. THIS WILL HELP TO PREVENT THE BUILDUP OF FLAMMABLE VAPOURS. THE FOLLOWING SHOULD ALSO BE CONSIDERED:

- Oil levels in engines and other equipment should be kept at the recommended levels
- Bilges should be kept clean and dry
- Oil soaked rags should be disposed of in accordance with the vessel's garbage management plan
- Hoses and seals should be regularly inspected for leaks and minor leaks should be repaired without delay
- Connections on fuel systems should be properly maintained to prevent leakage
- Hot surfaces should be cladded or shielded so that they do not become a source of ignition. Safety of Life at Sea (SOLAS) requires surfaces that come into contact with oil and have temperatures above 220°C to be insulated.

ADDITIONALLY, OIL FIRES MAY OCCUR WHEN OPERATING THE VESSEL'S INCINERATOR PLANT TO BURN SLUDGE STORED IN WASTE OIL SETTLING TANKS. WHEN CARRYING OUT THIS PROCEDURE, IT IS IMPORTANT TO NOTE:

- Drainage of oil from open systems is never to be left unsupervised and never in the vicinity of hot surfaces that may cause an immediate fire hazard
- System functions, such as quick closing valves, should not be tampered with and should be functioning as designed and regularly tested
- Oil should not be drained from an open system
- Incinerators should not be operated during rough seas
- Drip trays and save-alls should be kept clean and dry
- Wire gauze fitted in drains or tundishes should be fitted so as to not obstruct flow
- Drain lines should be kept clear.

ENGINE ROOM FIRES CAN BE A SERIOUS HAZARD TO VESSELS AND THEIR CREWS. THEY CAN CAUSE SIGNIFICANT DAMAGE, LOSS OF LIFE AND FINANCIAL LOSS. BY CONSIDERING THE ABOVE GUIDANCE, VESSEL OWNERS AND OPERATORS CAN HELP TO PREVENT ENGINE ROOM FIRES AND PROTECT THEIR SHIPS AND CREWS. MEMBERS REQUIRING ANY FURTHER GUIDANCE ARE ADVISED TO CONTACT THE BRITANNIA LOSS PREVENTION DEPARTMENT.