

Ref : DMA/AIFI/97/C 888  
Date: 07/04/2018

Dear Captain  
Good Day,

Please find the attached informative document titled "Chemical Injury To The Eye", for your kind attention and necessary precaution measures.

You are requested to confirm receipt, discuss the contents in the next consolidated meeting on board & keep a copy in the file DA-11 .

Best Regards,  
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(Note: This e-mail has been sent as BCC <blind carbon copy to : All R.O.D.-SMC Vessels, to eliminate the lengthy list that would result if this e-mail is printed)

## **Lessons Learnt: Chemical injury to eye**



### **Vessel Type: Container**

### **Incident description**

When conducting rounds of the engine room, the duty engineer noticed an accumulation of fluid on the boiler flat deck apparently caused by leakage from the chemical dosing units of the auxiliary boiler. He stopped the dosing pumps and proceeded to investigate the source of the leakage. When checking joints, the delivery side plastic hose for one of the dosing pumps suddenly disconnected due to back pressure in the system, causing chemical to spurt out from the hose and into his face and left eye. He immediately informed the chief engineer what had happened who assisted with flushing his face and eye with water from the drinking fountain as well as with medicated eye wash. Further flushing and medication was continued in the ship's hospital under the supervision of the master.

### **Analysis**

Upon the vessel's arrival in port the following day, the engineer was transferred to hospital where it was determined that his left eye had sustained serious injury. After undergoing a prolonged succession of operations and treatments before and after repatriation, the vision in the affected eye remained significantly impaired. The boiler treatment chemical was an oxygen scavenger used to inhibit corrosion in the feed water system. The Material Safety Data Sheet (MSDS) for the chemical indicated

that it was strongly alkaline and that contact with eyes would cause irritation. Although the engineer was said to have been wearing eye goggles and other PPE at the time of the incident, the degree of protection provided was evidently insufficient for preventing liquid entering the eyes.

### **Lessons Learnt**

- Before handling or working with hazardous chemicals, crew members should always refer to the applicable MSDS to confirm the hazard presented, what PPE is required and necessary first aid measures
- Open spectacle type or ventilated eyewear may not always provide sufficient protection against chemicals splashing into the facial area and running into the eyes. Full face visors should also be made available and worn as appropriate
- Full PPE, including eye / face protection, chemical resistant aprons, gauntlets and medicated eye wash should be readily available at chemical stores and also adjacent to chemically charged systems such as water treatment plants
- Always be aware of the potential seriousness of injuries to eyes and skin caused by contact with chemicals. Apart from appropriate first aid measures, professional medical advice should be sought from ashore as soon as possible.