Activity Specific Risk Assessment

Risk / Activity ***Working in shipboard grey & black water tanks (Biological Hazard)***

Result of assessment (RED/AMBER/GREEN) ***AMBER - Conditionally acceptable risk***

Hazard	Who might be harmed ?	Current control measures	Risk score	Further action ?
In additional to the Biological Hazard there may be a possibility of asphyxiation due to lack of oxygen and the generation of inert gases (as a by product of the natural bacterial breakdown of black and grey water). Black water tanks onboard contain all of the waste from toilets and the sinks from the medical facility. Thus, the black water tanks contain human excrement and debris (such as sanitary towels, condoms, plastic and perhaps even hypothermic needles). The waste from the medical facility sinks may contain blood. This waste therefore is a major source of harmful microorganisms, including bacteria, viruses and parasites. Grey water tanks consist of all the water from sinks, showers, laundry facilities, galleys and the salon. The contents of these tanks often may contain cleaning chemicals, food debris and oil, and also may include human excrement as well (from the sinks and showers). In this *biological* risk assessment we will consider both grey and black water as "sewage." Exposure to untreated sewage may result in a number of illnesses. These include: 1. Gastroenteritis, characterized by cramping pains, diarrhea and vomiting, 2. Hepatitis, characterized by inflammation of the liver, and jaundice, 3. Occupational asthma, resulting in attacks of breathlessness, chest tightness and	All crewmembers that work in a black or grey water tank are at risk, in respect to the hazards.	Follow "entry into confined spaces" procedures. Since microorganisms are an inherent part of sewage, the hazard cannot be eliminated. The only way to eliminate this risk is to not expose crewmembers to black and grey water tanks. If this is not feasible, the following measures can reduce the risk of infection and illness. 1. Ensue that employees and supervisors understand the risks through proper instruction, training and supervision, 2. Provide suitable personal protective equipment, which may include disposable waterproof coveralls with hood, waterproof/abrasion-resistant gloves & boots, and full face	**The probability score** It is ***'unlikely'*** that an employee will be exposed if the control measures are enforced. Therefore the probability score is 3. Therefore the probability score is 3. **The consequence score** The consequence is an exposure in the worst case scenario would be ***'fatal'*** (long term) although not immediately. Therefore the consequence score is 10. The risk score is therefore 3 X 10 = 30 The risk category is **AMBER**, the work activity can continue but control measures must be enforced rigidly..	Maintain current control measures. Audit activity to ensure control measures are enforced, records maintained and employees knowledge of safe working methods is proficient. Re-assess if there is a change of activity or process or at 6 monthly intervals which ever occurs first. Follow up on …… to see if action has been addressed.

wheezing (this is produced by the inhalation of living or dead organisms), 4. Infection of skin or eyes, 5. Rarely, allergic alveolitis (inflammation of the lung) with fever, breathlessness, dry cough, and aching muscles and joints, and lastly 6. Extremely rarely, blood borne diseases such as HIV, if the crewmember should be pricked with a discarded hypothermic needle that has been used by an HIV infected person. Microorganisms can enter a crewmember's body through a variety of methods. The most common way is by hand-to-mouth contact during eating, drinking and smoking, or by wiping the face with contaminated hands or gloves, or by licking splashes from the skin. Also by skin contact, through cuts, scratches, or penetrating wounds (for example- hypodermic needles). Certain organisms can enter the body through the surfaces of the eyes, nose and mouth. Lastly, by breathing the organisms in, as either dust, aerosol or mist.		self contained breathing apparatus, 3. Provide adequate cleaning facilities, including clean water, soap, nailbrushes, disposable paper towels, and where heavy contamination is foreseeable, showers. For remote locations portable welfare facilities should be provided, 4. Provide adequate first-aid equipment, including clean water or sterile wipes for cleaning wounds, and a supply of sterile, waterproof, adhesive dressings, and 5. Make effective arrangements for monitoring the health of these crewmembers. 6. Written Safe Systems of work.		

Completed by …… Reviewed by ……

Date …… Date ……..

Risk Categories

The risk categories follow a simple format which can be explained by comparison to a set of traffic lights i.e. red (stop), amber (caution) and green (go), where:

a) RED - Unacceptable risk (high risk) Risk score of 36 and higher

The risk of injury, disease, damage, liability or loss is obvious and so great that the foreseeable consequences of the hazard or condition cannot be accepted. The work process involved must stop until the level of risk is either lowered or removed.

b) AMBER - Conditionally acceptable risk (medium/low risk) Risk score of 30 - 35

The risk of injury, disease, liability or loss cannot be neglected. This is the key area for effort within a risk assessment process. Control measures will be required to manage these risks and action identified to reduce the risk must be implemented.

c) GREEN - Acceptable risk (insignificant risk) Risk score of 1 - 29

The risk of injury, disease, liability or loss is negligible, or at an acceptable low level. No action is required apart from maintaining current standards and monitoring.

Risk scores

The risk score can be obtained by multiplying together the probability score and the consequence score, i.e. Risk score = Probability x consequence. The table below shows how the risk scores add up and in which category they fall.

		Probability of event				
Consequence of event		Almost Certain (10)	Probable (8)	Possible (6)	Unlikely (3)	Remote (1)
	Fatal/Catastropic (10)	100	80	60	30	10
	Major Injury/Impact (6)	60	48	36	18	6
	Minor Injury/Impact (3)	30	24	18	9	3
	No Injury/Impact (1)	10	8	6	3	1

The categories for scoring the probability and consequence scores are shown below:

a) Probability of event

Score	Description
10	Almost certain (Event expected or happens frequently, no controls in place, procedures or training)
8	Probable (Event will occur less frequently but is expected)
6	Possible (Event could occur sometime)
3	Unlikely (A foreseeable event but very infrequent)
1	Remote (Event happening almost zero, good control, regular monitoring and training of employees)

b) Consequence of event

Score	Description
10	Fatality or catastrophic loss to business
6	Major injury or loss (e.g. more than 3 days absence resulting from accident or major disruption to business.
3	Minor inury or loss (e.g. cuts and bruises or minor loss to business)
1	No injury or loss.