Problematic Substances Analysis – Survey Motor Launch (Benalla)

This table outlines the problematic substances likely to be found in Survey Motor Launches.

Problematic substances are those which meet any or all of the following criteria:

- Identified as a hazardous substance by SafeWork Australia
- Deemed to be dangerous goods by the Australian Dangerous Goods Code or the International Air Transport Association
- Is a synthetic greenhouse gas or ozone depleting substance in accordance with the *Ozone Protection Act (Cwlth) 1989*
- Requires management under the *Nuclear Non-Proliferation (Safeguards) Act (Cwlth) 1987* or the *Australian Radiation Protection and Nuclear Safety Act (Cwlth) 1998*
- Requires protective equipment (especially filter masks) when the product is sanded and produces dust (as may occur during a destructive scrapping)

Note that this document does not address any specific environmental hazards other than ozone-depleting and synthetic greenhouse gases.

TYPE	SUBSTANCE	DESCRIPTION/ QUANTITY	LOCATION	DISPOSAL ACTION
Gaseous / Compressed Gasses	Fire extinguishers (CO2, Halon, NAF S III etc)	• Portable Fire Extinguishers • Inergen Fire Suppression System 6x 80L bottles	• Various • TDFLS Compartment	• Return to Naval Stores • Remain serviceable on-board
	Compressed oxygen	Nil		
	Compressed CO2	Nil		
	Compressed air or nitrogen	Nil		
	Compressed Heptafluoropropane	• FM200 Lockers - 4 x bottles / 200 kg each = 800 kg total (Carbon, fluorine and hydrogen)	• 2 x Port • 2 x STBD	Remain serviceable on-board,
	Refrigerant gasses	AC & Refrigeration systems	AC Compartment & PORT Engine Room	Systems will remain charged and serviceable
Fuels, lubricants and liquids	Fuel	Diesel 84.33cz	PORT, STBD and AFT Fuel Tanks	HMAS Benalla is able to move under its own power (total fuel TBA)
	Oils	• Oily Water 3.5cz • Lube Oil 0.82cz	• Port & STBD O/W tanks • Port & STBD L/O tanks	Waste and Lube oil will be removed by a waste recovery company
	Coolant	Nil		
	Hydraulic Fluids	0.28cz	Hydraulic storage tank located STBD Engine Room	Hydraulic fluid will be removed by a waste recovery company
	Lubricants	Various		Returned to Naval Sores
	White spirit	Nil		

TYPE	SUBSTANCE	DESCRIPTION/ QUANTITY	LOCATION	DISPOSAL ACTION
Material/ Fibre	Synthetic Mineral Fibre	Insulation throughout the Ship. Unknown Quantity – includes Wollastonite and 'Rockwool"	Internal	Advise Recipient
	Adhesives	Most non-flexible adhesives will produce a dust requiring P1 Particle Filter masks when they are sanded or destroyed.		Advise Recipient
	Asbestos	Engine gaskets, exhaust lagging, brake pads.		Advise Recipient
	Asbestos	Electrical cable for fire detection and fire suppression system. Asbestos is sometimes used to protect these wiring systems so that the fire suppression system can be activated before the cables burn through.		Advise Recipient
	Beryllium Oxide	Has the combined properties of an electrical insulator, excellent heat conductor, high strength and hardness, and a very high melting point. It is frequently used as an insulator base plate in high power transistors in radio transmitters	Potential for all radio and electronic equipment.	Advise Recipient
	Copper Beryllium Alloy	Used in many applications because of their combination of elasticity, high electrical conductivity and thermal conductivity, high strength and hardness, nonmagnetic properties, as well as good corrosion and fatigue resistance.	Potential for all electrical and radio frequency cables and connectors	Advise Recipient
	Cadmium	Electroplating with cadmium is an anti-corrosion method for steel components. Dust / particles are an issue.		Advise Recipient
	Lead			Advise recipient
	Paint	Hexavalent Chromium. Usually zinc chromate, but can be strontium chromate on some occasions.	Assume present where a yellow or green/yellow	Advise recipient

TYPE	SUBSTANCE	DESCRIPTION/ QUANTITY	LOCATION	DISPOSAL ACTION
			undercoat can be seen, or if the item is painted with a non-clear top coat.	
	Paint	Polyurethane paint. A two part paint which uses isocyanates as part of the curing process. Requires P1 filter mask when sanding. When heated to approx 400 Celsius it may produce cyanide compounds.	Assume all external painted surfaces on vessel are polyurethane	Advise recipient
	Polychlorinated biphenyl (PCB)	Dielectric, coolant and heat transfer fluids in electrical apparatus.	Electrical equipment (e.g. transmitters, receivers) manufactured prior to 2001 (prior to 1979 for US manufactured equipment)	Advise recipient
	Sealants	Most non-flexible sealants will produce a dust requiring P1 Particle Filter masks when they are sanded or destroyed. Note that some sealants may include hexavalent chromium (e.g. barium chromate).		Advise recipient
Batteries	Alkaline			Remove before disposal unless vessel is to remaining as an operating asset
	Nickel Cadmium			Remove before disposal unless vessel is to remaining as an operating asset
	Lithium			Remove before disposal unless vessel is to remaining as an operating asset
	Lead Acid	Machinery Start Batteries	PORT & STBD Engine Rooms	Remove before disposal and return to Naval Stores
Explosives / Pyrotechnics	Flares	Survival packs		Remove before disposal unless vessel is to remaining as an operating

TYPE	SUBSTANCE	DESCRIPTION/ QUANTITY	LOCATION	DISPOSAL ACTION
				asset
Radioactive	Thorium	Used as an alloy with magnesium in some engine casings		
	Radium	Used to provide dials that are readable in low light		Advise recipient. Needs to be a formal transfer from Commonwealth Regulator (ARPANSA) to state radiation regulator.
	Tritium	Also known as Gaseous Tritium Light Source (GTLS). Provides light source to read dials at night.		Advise recipient. Needs to be a formal transfer from Commonwealth Regulator (ARPANSA) to state radiation regulator.
	Americium	Used in ionizing smoke detectors		Advise recipient. Does not need ARPANSA transfer approval unless in large quantities