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Tritium Laboratory
16 December 2013

SWAB REPORT #709

SWAB DATE: 6 December 2013

R/V Hugh Sharp

James D. Happell
Associate Research Professor

Distribution:
SWAB Committee
Timothy Deering

COMMENTS TO SWAB REPORTS 23-Nov-10

Typical LSC instrument background values for ^{3}H and ^{14}C are 2 and 5 cpm, respectively.
The LSC is a Tricarb 2910 TR with the low level counting option.

All samples are counted for 60 minutes, the instrument background is subtracted, and activities a
reported in dpm/m^2. Bucket blank activities are not subtracted. Counting errors (2 standard
deviations) are also reported in dpm/m2. An error larger than the activity indicates that the activi
is not significantly different from zero.

Criteria for SWAB Results

Category	^{3}H (dpm/m^2)	^{14}C (dpm m^2)	Recommendations
A	<500	<50	No action
B*	500-10,000	50-10,000	Needs cleaning before any natural tracer work. Decks in radiation vans with activities above 1000 dpm/m^2 should be cleaned.
C**	10,000-100,000	10,000-50,000	Must be cleaned before any use.
D***	>100,000	>50,000	May be a health hazard. Notify local radiation safety official.

Note: ^{14}C and ^{35}S have peak energies of 156 and 167 KeV, respectively; thus ^{35}S will be registered as 14C by our counting techniques. Categories A, B and C are not a health haz

Recommended Cleaning Proceedure
Wearing ordinary household rubber gloves:

^{3}H: Wash and scrub with radioactive cleanup detergent such as COUNT-OFF (50 ml COUNT-OFF to 4 liters of water), using sponges to distribute solution and reabsorb it.

^{14}C: Wash with 1% sulfuric or 2% hydrochloric (muriatic) acid with good ventilation (will disso carbonates, releasing $^{14}CO_2$). Follow up with wash as if for ^{3}H.

Disposal of Cleaning Materials (gloves, sponges, etc)
Categories A & B dispose as ordinary garbage, C & D dispose in radiation waste system.

Note: If category C or D is encountered, we try to notify the insitution promptly by phone or ema

REPORT FOR SWAB # 709

LOCATION: Lewes, DE
VESSEL: *R/V Hugh Sharp*

DATE: 6 December 2013
TECHNICIAN: Cecilia Roig

Sample #	Sample Identification	^{3}H dpm/m^{2}			^{14}C dpm/m^{2}		
		activity		error	activity		error
1	1st Vial Bkgnd	0	±	0	0	±	0
2	Initial bucket blank C.O. # 1	21	±	47	1	±	16
3	Inside Whirlpool freezer top	35	±	47	1	±	14
4	Inside Whirlpool freezer bottom	0	±	0	12	±	36
5	Inside Holiday freezer	12	±	98	0	±	0
6	Inside Thermo freezer	36	±	52	0	±	0
7	Port benchtop across freezers	0	±	0	20	±	36
8	Port benchtop across Whirlpool	89	±	52	6	±	19
9	Forward starboard benchtop	8	±	204	0	±	0
10	Inside hood	2	±	0	0	±	0
11	Deck at aft exit	9	±	30	12	±	33
12	Deck in front of Whirlpool	22	±	62	0	±	0
13	Inside freezer top	22	±	43	3	±	26
14	Inside fridge bottom	4	±	21	9	±	34
15	Inside Holiday freezer	9	±	624	0	±	0
16	Aft sink area	0	±	0	0	±	0
17	Starboard sink area	9	±	33	8	±	32
18	Starboard aft benchtop	19	±	56	0	±	0
19	Starboard benchtop next to CTD door	9	±	36	6	±	32
20	Deck at entrance	49	±	48	5	±	23
21	Final bucket blank C.O. # 1	23	±	35	16	±	32

Comments

Please note that the error reported for each isotope is the two-standard deviation counting error. All areas tested on the ship were free of isotope contamination that requires cleaning.

RV Hugh Sharp Lab Spaces

SWAB # 709
6 December 2013