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Tritium Laboratory
19 September 2013

COURTESY SWAB REPORT # 700

SWAB DATE: 10 September 2013

R/V Hugh Sharp

Dr. James D. Happell
Associate Research Professor

Distribution:
SWAB Committee
Timothy Deering

COMMENTS TO SWAB REPORTS 23 November 2010

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 are reported in dpm/m^2. Bucket blank activities are not subtracted. Counting errors (2 standard deviations) are also reported in dpm/m^2. An error larger than the activity indicates that the activity 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/m2 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 ^{14}C by our counting techniques. Categories A, B and C are not a health hazard.

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 dissolve 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 email.

REPORT FOR SWAB # 700

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

DATE: 10 September 2013
TECHNICIAN: Ted Cumiskey

Sample #	Sample Identification	^{3}H dpm/m^{2} activity		error	^{14}C dpm/m^{2} activity		error
1	1st Vial Bkgnd	0	±	0	0	±	0
2	Initial bucket blank	0	±	0	32	±	38
3	#11 Deck at aft exit Main Lab	0	±	0	32	±	35
4	#12 Deck in front of Whirlpool	5	±	8	*54	±	35
5	#14 Inside fridge bottom Wet Lab	22	±	39	14	±	31
6	#18 Stbd. aft benchtop Wet Lab	0	±	0	23	±	34
7	#19 Starboard benchtop next to CTD door	7	±	25	15	±	33
8	Final bucket blank	5	±	13	29	±	34

Comments

Please note that the error reported for each isotope is the two-standard deviation counting error.

All areas tested were free of ^{3}H, but minor ^{14}C contamination found on deck in front of Whirlpool, this area requires immediate cleaning.

RV Hugh Sharp Lab Spaces

SWAB # 700
10 September 2013