

XIII. Radioactive Materials

Section XIII of the 2008-2009 season plans lists the radioactive materials to be used and provides information regarding their form, nuclide, site, and specific use.

<u>PROJECT</u>	<u>NUCLIDE</u>	<u>FORM</u>	<u>SITE</u>	<u>USE</u>
B-014-N	³ H	³ H – Thymidine/Leucine	R/V <i>Nathaniel B. Palmer</i>	Free-drifting icebergs as proliferating dispersion sites of iron enrichment, organic carbon production and export in the Southern Ocean
B-016-N	¹⁴ C	¹⁴ C - Sodium Bicarbonate	R/V <i>Nathaniel B. Palmer</i>	Free-drifting icebergs as proliferating dispersion sites of iron enrichment, organic carbon production and export in the Southern Ocean
B-019-L/ P	¹⁴ C	¹⁴ C - Sodium Bicarbonate	Palmer Station, R/V <i>Laurence M. Gould</i>	Palmer, Antarctica Long Term Ecological Research: Looking Back in Time Through Marine Ecosystem Space
B-045-P/L	³ H	³ H – Thymidine/Leucine	Palmer Station R/V <i>Laurence M. Gould</i>	Palmer, Antarctica Long Term Ecological Research: Looking Back in Time Through Marine Ecosystem Space

PROJECT	NUCLIDE	FORM	SITE	USE
B-050-N	¹⁴ C	¹⁴ C - Sodium Bicarbonate	R/V <i>Nathaniel B. Palmer</i>	Free-drifting icebergs as proliferating dispersion sites of iron enrichment, organic carbon production and export in the Southern Ocean
B-243-M	⁵⁷ Co	CoCl ₂ Vitamin B12	McMurdo Station	Comparative Genomic and Proteomic Survey of Major Antarctic Marine Phytoplankton: A Foundation for Polar Phytoplankton Genomics
B-244-N	¹⁴ C	¹⁴ C - Sodium Bicarbonate	R/V <i>Nathaniel B. Palmer</i>	Shedding dynamic light on iron limitation: The interplay of iron limitation and dynamic irradiance conditions in governing the phytoplankton distribution in the Ross Sea
B-305-M	³ H	³ H – Thymidine/Leucine	McMurdo Station	Collaborative Research: Biogeochemistry of cyanobacterial mats and hyporheic zone microbes in McMurdo Dry Valley glacial meltwater streams
B-332-M	³⁵ S ¹⁴ C	³⁵ S sodium sulfate ¹⁴ C methane ¹⁴ C acetate ¹⁴ C glucose ¹⁴ C methylamine ¹⁴ C bicarbonate	McMurdo Station	Collaborative Research: Microbially-Mediated Anaerobic Carbon Cycling in Limnologically Contrasting Perennially

<u>PROJECT</u>	<u>NUCLIDE</u>	<u>FORM</u>	<u>SITE</u>	<u>USE</u>
				Ice-Covered Antarctic Lakes
B-385-O	¹⁴ C	¹⁴ C - Leucine ¹⁴ C - Sodium Bicarbonate	<i>Oden</i>	Collaborative Research: Controls on climate- active gases by Amundsen Sea ice biota
B-422-M	¹⁴ C ³ H ¹⁴ C ³ H ¹⁴ C	¹⁴ C –Sodium carbonate ¹⁴ C – Toluene ³ H – Thymidine ³ H – Toluene ¹⁴ C – Bicarbonate ³ H –Leucine ¹⁴ C - Leucine ¹⁴ C - Acetate ¹⁴ C - Glucose	McMurdo Station/Dry Valleys	The Role of Natural Legacy on Ecosystem Function and Structure in a Polar Desert.
O-257-S	⁶³ Ni	⁶³ Ni – Foil	South Pole Station	South Pole Monitoring for Climatic Change -- U.S. Department of Commerce NOAA Climate Monitoring and Diagnostic Laboratory (source is inside an electron capture detector of a gas chromatograph)