

2021-006 DMSP duplicates

Variability is assessed as the % Relative Difference.

When % relative difference is greater than 20% but less than 49%, quality flag is 3 with associated comment.

When % relative difference is greater than 49%, quality flag is 4 with associated comment.

No duplicates were rejected during this cruise.

See 2021-006_DMS_report.pdf for further details.

Precision statement for replicate samples drawn from a single Niskin bottle:

DMSP-d

The pooled standard deviation for Dimethylsulfoniopropionate_Dissolved: Bottle for the range 0.36 to 5.7 nmol/l was 1.6
 $k = 5$ (0 outlier removed) where k is the number of pairs of duplicates.

The pooled standard deviation of pairs of samples (S_p) was calculated by:

$$S_p = \text{SQRT}\{\text{sum}(d^2)/2k\}$$

where k is the number of pairs and d is the difference between pairs.

Duplicate samples from a single Niskin bottle

Event Number	Sample Number	Station	Pressure dbar	DMSP-d 1 nmol/l	DMSP-d 2 nmol/l	Relative % Difference	Flag
14	26	P2	20.2	0.59	0.45	26.9	3
19	50	P4	20.7	5.7	0.79	151.3	4
41	173	P12	19.8	0.61	2.0	106.5	4
54	256	P16	19.5	0.36	0.44	20.0	
79	459	P26	19.9	0.58	0.57	1.7	

DMSP-t

The pooled standard deviation for Dimethylsulfoniopropionate_Total: Bottle for the range 7.9 to 29 nmol/l was 1.8
 $k = 6$ (0 outlier removed) where k is the number of pairs of duplicates.

The pooled standard deviation of pairs of samples (S_p) was calculated by:

$$S_p = \text{SQRT}\{\text{sum}(d^2)/2k\}$$

where k is the number of pairs and d is the difference between pairs.

Duplicate samples from a single Niskin bottle

Event Number	Sample Number	Station	Pressure dbar	DMSP-t 1 nmol/l	DMSP-t 2 nmol/l	Relative % Difference	Flag
14	26	P2	20.2	8.4	7.9	6.1	
19	50	P4	20.7	29	28	3.5	
41	173	P12	19.8	20	17	16.2	
54	256	P16	19.5	12	12	0.0	
60	311	P20	20.4	14	16	13.3	
79	459	P26	19.9	19	14	30.3	3