

2020-001 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 2020-001_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 0.0 to 2.8 nmol/l was 0.107
 $k = 4$ (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	Rejected yes / no
13	52	P2	20.1	1.3	1.1	18.8	
17	82	P4	19.6	1.9	2.8	38.8	no
59	374	P20	19.7	0.0	0.0	0.0	
70	512	P26	21.0	0.61	0.63	3.2	

DMSP-t

The pooled standard deviation for Dimethylsulfoniopropionate_Total:Bottle for the range 3.2 to 30 nmol/l was 2.6
 $k = 4$ (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	Rejected yes / no
13	52	P2	20.1	3.2	3.7	14.8	
17	82	P4	19.6	30	24	22.2	no
35	186	P12	20.2	17	16	6.1	
59	374	P20	19.7	16	20	22.2	no