

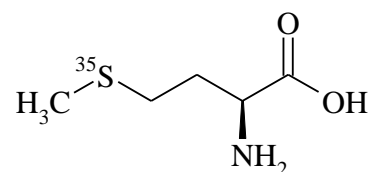
Research Use Only. Not for use in diagnostic procedures.

## Methionine, L-[<sup>35</sup>S]-, Cell Labeling Grade

Product Number: NEG009L

### LOT SPECIFIC INFORMATION

Lot Number:	_____ 10251 _____
Specific Activity:	_____ 1165.5 _____ Ci/mmol
	_____ 43.5 _____ TBq/mmol
Concentration:	_____ 31.5 _____ mCi/ml
	_____ 1165.5 _____ MBq/ml
	_____ 0.0268 _____ μmol/ml
	_____ 0.0040 _____ mg/ml
Calibration Date:	_____ 19-Nov-2021 _____



M.W. 149.2  
C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>S

**PACKAGING:** Aqueous solution containing 10mM 2-mercaptoethanol in a NENSURE vial with polypropylene-v-insert, shipped in dry ice.

**PRODUCT SPECIFICATIONS:** NEG-009L, Methionine, L-[<sup>35</sup>S]- Cell Labeling Grade is obtained from the protein fraction of bacteria grown in the presence of carrier-free [<sup>35</sup>S] sulfate. NEG-009L contains only <sup>35</sup>S- labeled L-methionine and its oxidation products, L-[<sup>35</sup>S] methionine sulfoxide and L-[<sup>35</sup>S] methionine sulfone. All traces of L-[<sup>35</sup>S] cysteine and other <sup>35</sup>S radiolabeled contaminants are removed during processing of hydrolysate.

### STABILITY AND STORAGE:

- The rate of decomposition of NEG-009L, Methionine, L-[<sup>35</sup>S]- Cell Labeling Grade is approximately 8-10% per week when stored at -80°C. Storage at higher temperatures accelerates product decomposition.
- Methionine, L-[<sup>35</sup>S] is highly susceptible to oxidation. Precautions should be taken to minimize exposure to air.
- If the entire quantity will not be used at once it is recommended that the product be thawed quickly, aliquoted under N<sub>2</sub> into samples of an appropriate size, refrozen immediately and stored at -20°C or below.

**HAZARD INFORMATION:** **WARNING:** This product contains a chemical known to the state of California to cause cancer.

### QUALITY CONTROL:

**Radiochemical Purity:** This lot was initially found to be >95% L-[<sup>35</sup>S] methionine when determined by high pressure liquid chromatography on a C18 column.

**Chemical Purity:** As determined by amino acid analysis, NEG-009L is routinely  $\geq 99\%$  L-isomer and contains the unlabeled amino acids alanine and valine. Each is present in approximately a 2:1 molar ratio relative to Methionine, L-[<sup>35</sup>S].

**PRODUCT APPLICATION:** NEG-009L, Methionine, L-[<sup>35</sup>S] is intended for use in eukaryotic or bacterial metabolic labeling studies. It is not recommended or warranted for use in cell-free mRNA-directed translations. The use of NEG-009L in the latter application produces irreproducible experimental results, with significant variability in both incorporation and background levels.

**SAFE HANDLING:** Because this product has been stored at -80°C, it is possible that pressure may develop in the vial during the thawing process. In addition, volatile <sup>35</sup>S-labeled decomposition products are generated at a rate of ~0.01% per week. We recommend that prior to opening, vials are first vented in a fume hood using the following procedure:

- Slide aside the dust cover on the cap to expose the septum.
- Pierce the septum with a cotton-plugged syringe needle or charcoal trap (NENTM NEX-033T), taking care that the tip does not come in contact with the product.
- If the product is frozen, quickly thaw at room temperature or in a 37°C water bath. Any pressure developed will vent through the syringe needle.
- Remove the needle and dispose of as contaminated equipment.

When used for *in vivo* labeling experiments, we recommend that specific steps be taken to minimize incubator and water bath contamination. We suggest using a shallow tray of activated charcoal, charcoal sticks or charcoal filter units to trap <sup>35</sup>S volatiles and reduce contamination.

## SPECIAL INFORMATION:

Decay of <sup>35</sup>S (physical half-life, 87.4 days):

		DECAY FACTORS									
Days BEFORE	Assay Date	0	1	2	3	4	5	6	7	8	9
	30	1.269	1.279	1.289	1.299	1.309	1.320	1.330	1.341	1.352	1.362
	20	1.172	1.181	1.191	1.200	1.210	1.219	1.229	1.239	1.249	1.259
	10	1.083	1.091	1.100	1.109	1.117	1.135	1.135	1.144	1.153	1.163
	0	1.000	1.008	1.016	1.024	1.032	1.049	1.049	1.057	1.066	1.074
Days AFTER	Assay Date	0	1	2	3	4	5	6	7	8	9
	0	1.000	0.992	0.984	0.976	0.969	0.961	0.954	0.946	0.939	0.931
	10	0.924	0.916	0.909	0.902	0.895	0.888	0.881	0.874	0.867	0.860
	20	0.853	0.847	0.840	0.833	0.827	0.820	0.814	0.807	0.801	0.795
	30	0.788	0.782	0.776	0.770	0.764	0.758	0.752	0.746	0.740	0.734

The specific activity at time t (SA<sub>t</sub>) may be calculated, using the following equation, from the specific activity at the calibration date (SA<sub>0</sub>) and the decay factor (f) given above.

$$SA_t = \frac{f}{1/SA_0 - (1-f)/1494}$$

## RELATED PRODUCTS:

NEG-009A      Methionine, L-[<sup>35</sup>S]-  
 NEG-009C      Methionine, L-[<sup>35</sup>S]-  
 NEG-022T      Cysteine, L-[<sup>35</sup>S]-

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