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*Radiation
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HEATS OF SUBLIMATION
OF THE ELEMENTS

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HEATS OF SUBLIMATION OF THE ELEMENTS

Leo Brewer

January 6, 1958

Printed for the U.S. Atomic Energy Commission

HEATS OF SUBLIMATION OF THE ELEMENTS

Leo Brewer

Radiation Laboratory and Department of Chemistry and Chemical Engineering
University of California, Berkeley, California

January 6, 1958

ABSTRACT

The previous tabulation of heats of sublimation of the elements has been revised.

HEATS OF SUBLIMATION OF THE ELEMENTS

Leo Brewer

Radiation Laboratory and Department of Chemistry and Chemical Engineering
University of California, Berkeley, California

January 6, 1958

The previous compilations of heats of sublimation of the elements in UCRL-2854 (February 1955) and UCRL-2854 (rev. November 1955) have been incorporated in the compilation of "Thermodynamic Properties of the Elements," by D. R. Stull and G. C. Sinke, Advances in Chemistry Series 18, published November 1956 by the American Chemical Society, 1155 16th Street, N. W., Washington 6, D. C. The present replacement for the previous two reports will cover only those elements for which revisions or additions are necessary to the values tabulated by Stull and Sinke. An effort will be made to revise this report from time to time to keep this list up to date as newer data become available.

Stull and Sinke give complete references to the sources of the data available at the time of their compilation. Some of the data tabulated in the present report are from unpublished sources. Thus it is requested that these data not be quoted without permission of the worker who plans to publish the results. Anyone who wishes to obtain permission to quote them can obtain the source of these data from Professor Leo Brewer, Department of Chemistry, University of California, Berkeley 4, California.

Corrections and additions to Stull and Sinke, "Thermodynamic Properties of the Elements," Advances in Chemistry Series 18. Published November, 1956, by the American Chemical Society, 1155 16th Street, N. W., Washington 6, D. C.

ΔH_{298}° in kcal for Formation of Gaseous Atoms from Elements in Standard States

	<u>Corrected Values</u>	
Au	82 ± 2	
Bi	49.5 ± 1	
Bi ₂	52.5 ± 1	
C ₂	201.6 ± 5	(also add R ln 2 to entropy and absolute value of free energy function)
Eu	46. ± 5	
Fe	99.5 ± 0.5	
N	112.97 ± 0.05	
Nb	170.5 ± 2	
Ni	102.8 ± 0.4	
Re	187.0 ± 1	
S	57.2 ± 1	
Sc	92.0 ± 7	
Si	113.0 ± 3	
Sm	53.0 ± 5	
Yb	45.0 ± 5	
U	122.0 ± 5	
	<u>Additions</u>	<u>Additional Corrections</u>
Pr	79. ± 5	Mo _{liq} S ₂₉₀₀ = 25.24, log ₁₀ K _P = -4.350
Dy	70. ± 7	S ₃₀₀₀ = 25.58, log ₁₀ K _P = -3.990
Ho	70 ± 7	
Er	72. ± 7	Pt _{solid} S ₂₀₀₀ = 23.33, log ₁₀ K _P = -7.012
Tm	57 ± 2	
Th	127 ± 2	
Pa	115 ± 5	
Pu	92 ± 2	