

Table 33A-11-001. NH₄H₂AsO₄ (ADA). Solubility *A* in water [62Kaf].

<i>A</i> [wt%]	<i>T</i> [°C]
25.23	0
32.74	20
38.96	40
45.37	60
51.75	80
55.04	90

Table 33A-11-002. NH₄H₂AsO₄ (ADA). Fractional coordinates and anisotropic temperature parameters [78Kay]. *b*_{ij} is defined by Eq. (b) in Introduction.

	<i>x</i>	<i>y</i>	<i>z</i>	<i>b</i> _{ij} [·10 ⁴]					
				<i>b</i> ₁₁	<i>b</i> ₂₂	<i>b</i> ₃₃	<i>b</i> ₁₂	<i>b</i> ₁₃	<i>b</i> ₁₄
Oxygen	0.0878 (3)	0.1576 (4)	0.1233 (4)	75 (7)	80 (5)	142 (6)	19 (4)	−30 (5)	−47 (4)
Arsenic	0.0	0.0	0.0	47 (5)	47 (5)	91 (8)			
Hydrogen (O)	0.2581 (115)	0.1536 (12)	0.1234 (52)	279 (45)	107 (14)	129 (12)	−15 (73)	37 (17)	91 (37)
Nitrogen	0.0	0.0	0.5	109 (4)	109 (4)	92 (6)			
Hydrogen (N)	0.0154 (10)	0.1065 (10)	0.5720 (6)	185 (11)	274 (17)	247 (17)	28 (15)	−39 (12)	−128 (13)

Table 33A-11-003. NH₄H₂AsO₄ (ADA). Interatomic distances, bond angles and principal root mean square amplitudes, *U*_i in phase I [78Kay].

Arsenate		Ammonium	
As–O	1.684 Å	N–H	0.997 (6) 1.05 (8) Å
O–As–O	111.2 (2)°	H–N–H	112.3 (8)°
O–As–O	108.6 (1)°	H–N–H	108.1 (4)°
Arsenic		H...O	1.947 (9) Å
<i>U</i> _c	0.166 (7) Å	N–H–O	157.2 (6)°
<i>U</i> _{⊥c}	0.119 (7) Å	H–H	1.614 (8) Å
Oxygen		H–H	1.656 (15) Å
<i>U</i> ₁	0.127 (6) Å	Nitrogen	
<i>U</i> ₂	0.139 (7) Å	<i>U</i> _{⊥c}	0.181 (4) Å
<i>U</i> ₃	0.233 (4) Å	<i>U</i> _c	0.166 (6) Å
		NH ₄ Hydrogen	
		<i>U</i> ₁	0.197 (11) Å
		<i>U</i> ₂	0.230 (8) Å
		<i>U</i> ₃	0.347 (8) Å

Table 33A-11-004. NH₄H₂AsO₄ (ADA). Interatomic distances and angles of O–H...O bond and principal root mean square amplitudes *U*_i of the hydrogen [78Kay].

Distances	Principal amplitudes		Angle from O–H...O bond
O–H	1.19 (9) Å	<i>U</i> ₁ 0.08 (6) Å	98 (10)°
H...O	1.31 (9) Å	<i>U</i> ₂ 0.25 (3) Å	102 (40)°
O–H...O	177 (2)°	<i>U</i> ₃ 0.29 (2) Å	166 (29)°

Table 33A-11-005. NH₄H₂AsO₄ (ADA). Elastic constants [48Jaf, 64Hau].

T	s_{44}	s_{66}	c_{11}	c_{12}	c_{13}	c_{33}	c_{44}	c_{66}	Ref.
[°C]	[· 10 ⁻¹² m ² N ⁻¹]		[· 10 ⁹ N m ⁻²]						
20	136	156	62.20	8.64	18.38	29.56	6.69	6.20	48Jaf 64Hau

Table 33A-11-006. NH₄H₂AsO₄ (ADA). n_o , n_e with respect to air vs. λ [87Kir]. $T = 33.0(4)^\circ\text{C}$. IF: narrow-band interference filter.

λ [Å]	Source	n_o	n_e
4046.56	Hg	1.59779	1.53984
4358.33	Hg	1.59199	1.53489
4678.15	Cd	1.58722	1.53098
4799.91	Cd	1.58567	1.52968
5085.82	Cd	1.58243	1.52700
5460.74	Hg	1.57885	1.52413
5893.0	Na	1.57553	1.52147
6438.47	Cd	1.57204	1.51878
7800.27	Rb	1.56537	1.51406
7947.60	Rb	1.56472	1.51366
8521.13	Cs	1.56250	1.51225
8943.46	Cs	1.56097	1.51131
10640.00	Xe	1.55507	1.50812
+ IF			

Table 33A-11-007. ND₄D₂AsO₄ (DADA). n_o , n_e with respect to air vs. λ [87Kir]. $T = 33.0(4)^\circ\text{C}$. IF: narrow-band interference filter.

λ [Å]	Source	n_o	n_e
4046.56	Hg	1.59056	1.53586
4358.33	Hg	1.58487	1.53102
4678.15	Cd	1.58036	1.52722
4799.91	Cd	1.57889	1.52593
5085.82	Cd	1.57580	1.52331
5460.74	Hg	1.57242	1.52050
5893.0	Na	1.56921	1.51784
6438.47	Cd	1.56619	1.51538
7800.27	Rb	1.56045	1.51103
7947.60	Rb	1.55991	1.51063
8521.13	Cs	1.55808	1.50944
8943.46	Cs	1.55683	1.50856
10640.00	Xe	1.55237	1.50587
+ IF			

Table 33A-11-008. ND₄D₂AsO₄ (DADA). Principal values (in kHz) and direction cosines with respect to a , b , c axes of the ammonium ion deuteron quadrupole coupling tensors [77Bli].

$T = 293 \text{ K} > \Theta_{II-I}$													
	$\frac{3}{2h} eQ\phi_{zz} = -5.36$				$\frac{3}{2h} eQ\phi_{yy} = 2.68$				$\frac{3}{2h} eQ\phi_{xx} = 2.68$				
a	0				0				1				
b	0				1				0				
c	1				0				0				

$T = 184.8 \text{ K} < \Theta_{II-I}$													
	$\frac{3}{2h} eQ\phi_{zz} = -12.2$				$\frac{3}{2h} eQ\phi_{yy} = 11.4$				$\frac{3}{2h} eQ\phi_{xx} = 0.8$				
a	0.213	0.432	-0.213	-0.432	0.714	0.543	-0.714	-0.543	0.667	-0.720	-0.667	0.720	
b	0.432	-0.213	-0.432	0.213	0.543	-0.714	-0.543	0.714	-0.720	-0.667	0.720	0.667	
c	-0.876	-0.876	-0.876	-0.876	0.441	0.441	0.441	-0.441	-0.193	-0.193	-0.193	-0.193	

Table 33A-11-009. NH₄H₂AsO₄ (ADA). Eigenvalues and direction cosines of the principal axes of the ⁷⁵As electric field gradient tensors with respect to a , b , c axes in a domain with the antipolarization axis along [100] [73Bli]. 3, 4, 3', 4': type of H₂AsO₄⁻ configuration. $T = 180 \text{ K}$.

Eigenvalues [MHz]										
	59.2			0.0			-59.2			
3	-0.11,	0.70,	0.70	0.97,	0.23,	-0.07	-0.21,	0.68,	-0.71	
4	0.11,	-0.70,	0.70	-0.97,	-0.23,	-0.07	0.21,	-0.68,	-0.71	
3'	0.21,	0.68,	0.70	0.97,	-0.23,	-0.07	0.11,	0.70,	-0.70	
4'	-0.21,	-0.68,	0.70	-0.97,	0.23,	-0.07	-0.11,	-0.70,	-0.70	