

Total number of elements in system.

Total number of phases including ideal gas.

Number of constituents in each phase (in the order of phases - last block is no. of constituents in dummy phase).

Header

|  |             |   |   |   |             |   |   |             |  |
|--|-------------|---|---|---|-------------|---|---|-------------|--|
| System Ni-K-F                              |             |   |   |   |             |   |   |             |  |
| Ni   | 3           | 2 | 0 | 3 | 3           |   |   |             |  |
|  | 58.69340000 |   |   |   | 39.09830000 |   |   | 18.99840320 |  |
|  | 6           | 1 | 2 | 3 | 4           | 5 | 6 |             |  |
|  | 6           | 1 | 2 | 3 | 4           | 5 | 6 |             |  |
| $A + BT + CT\ln T + DT^2 + ET^3 + FT^{-1}$ |             |   |   |   |             |   |   |             |  |

Modified

Quasichemical

Model for

Liquid Phase

|   |            |            |     |     |            |  |  |            |            |
|---|------------|------------|-----|-----|------------|--|--|------------|------------|
| Liquid  |            |            |     |     |            |  |  |            |            |
| SUBG  |            |            |     |     |            |  |  |            |            |
|   | 2.40000    |            |     |     |            |  |  |            |            |
|   | 2          | 3          |     |     |            |  |  |            |            |
| Type of Equation - 1/4/16                       |            |            |     |     |            |  |  |            |            |
| No. of Reference Gibbs Energy Terms             |            |            |     |     |            |  |  |            |            |
| KF  | 4          | 1          |     |     |            |  |  |            |            |
|   | 0.0        | 1.0        | 1.0 |     |            |  |  |            |            |
|   | 2000.0000  |            |     |     | 414.22351  |  |  | -71.965001 | 0.00000000 |
|   | 0.00000000 |            |     |     | 0.00000000 |  |  |            |            |
|   | 1          | 0.00000000 |     |     | 0.00       |  |  |            |            |
|   | 1.00000    |            |     |     | 1.00000    |  |  | 0.0000000  | 0.0000000  |
| Reference Gibbs Energy Terms - KF               |            |            |     |     |            |  |  |            |            |
| Reference Gibbs Energy Terms - NiF <sub>2</sub> |            |            |     |     |            |  |  |            |            |
| Stoichiometric Coefficients                     |            |            |     |     |            |  |  |            |            |
| Type of Equation - 1/4/16                       |            |            |     |     |            |  |  |            |            |
| No. of Reference Gibbs Energy Terms             |            |            |     |     |            |  |  |            |            |
| NiF <sub>2</sub>                                | 4          | 1          | 1.0 | 0.0 | 2.0        |  |  |            |            |
|   | 2000.0000  |            |     |     | -645969.79 |  |  | 595.28757  | -99.999985 |
|   | 0.00000000 |            |     |     | 0.00000000 |  |  |            | 0.00000000 |
|   | 1          | 0.00000000 |     |     | 0.00       |  |  |            |            |
|   | 1.00000    |            |     |     | 2.00000    |  |  | 0.0000000  | 0.0000000  |

|  |            |            |     |     |            |            |            |            |            |
|--|------------|------------|-----|-----|------------|------------|------------|------------|------------|
| NiF <sub>2</sub>                             |            |            |     |     |            |            |            |            |            |
|  | 4          | 1          | 1.0 | 0.0 | 2.0        |            |            |            |            |
|  | 2000.0000  |            |     |     | -645969.79 |            |            | 595.28757  | -99.999985 |
|  | 0.00000000 |            |     |     | 0.00000000 |            |            |            | 0.00000000 |
|  | 1          | 0.00000000 |     |     | 0.00       |            |            |            |            |
|  | 1.00000    |            |     |     | 2.00000    |            |            | 0.0000000  | 0.0000000  |
| No. of constituents on sublattices           |            |            |     |     |            |            |            |            |            |
| Cations and Anions                           |            |            |     |     |            |            |            |            |            |
| Cationic Charges                             |            |            |     |     |            |            |            |            |            |
| ID of Elements on Cationic Sublattice        |            |            |     |     |            |            |            |            |            |
| Anionic Charge                               |            |            |     |     |            |            |            |            |            |
| ID of Elements on Anionic Sublattice         |            |            |     |     |            |            |            |            |            |
| Elements on Cationic and Anionic Sublattices |            |            |     |     |            |            |            |            |            |
|  | 1          | 1          | 3   | 3   | 6.00000000 | 6.00000000 | 6.00000000 | 6.00000000 | 6.00000000 |
|  | 2          | 2          | 3   | 3   | 6.00000000 | 6.00000000 | 3.00000000 | 3.00000000 | 3.00000000 |
|  | 1          | 2          | 3   | 3   | 3.00000000 | 6.00000000 | 3.00000000 | 3.00000000 | 3.00000000 |

|                                  |            |   |            |   |            |            |            |            |            |
|----------------------------------|------------|---|------------|---|------------|------------|------------|------------|------------|
| K                                |            |   |            |   |            |            |            |            |            |
| Ni                               |            |   |            |   |            |            |            |            |            |
| F                                |            |   |            |   |            |            |            |            |            |
|                                  | 1.00000    |   |            |   | 2.00000    |            |            |            |            |
|                                  | 1          | 2 |            |   |            |            |            |            |            |
|                                  | 1.00000    |   |            |   |            |            |            |            |            |
|                                  | 1          |   |            |   |            |            |            |            |            |
|                                  | 1          | 2 |            |   |            |            |            |            |            |
|                                  | 1          | 1 |            |   |            |            |            |            |            |
|                                  | 1          | 1 | 3          | 3 | 6.00000000 | 6.00000000 | 6.00000000 | 6.00000000 | 6.00000000 |
|                                  | 2          | 2 | 3          | 3 | 6.00000000 | 6.00000000 | 3.00000000 | 3.00000000 | 3.00000000 |
|                                  | 1          | 2 | 3          | 3 | 3.00000000 | 6.00000000 | 3.00000000 | 3.00000000 | 3.00000000 |
| Excess Gibbs Energy Change Terms |            |   |            |   |            |            |            |            |            |
| Temperature Terms                |            |   |            |   |            |            |            |            |            |
| Chi Terms                        |            |   |            |   |            |            |            |            |            |
|                                  | 0          | 0 | -17572.800 |   | 0.00000000 |            | 0.00000000 | 0.00000000 | 0.00       |
|                                  | 0.00000000 |   |            |   | 0.00000000 |            | 0.00       | 0.00000000 | 0.00       |
|                                  | 0          | 0 | -15899.200 |   | 0.00000000 |            | 0.00000000 | 0.00000000 | 0.00       |
|                                  | 0.00000000 |   |            |   | 0.00000000 |            | 0.00       | 0.00000000 | 0.00       |

|               |            |   |            |  |            |  |            |            |      |
|---------------|------------|---|------------|--|------------|--|------------|------------|------|
| G             |            |   |            |  |            |  |            |            |      |
|               | 0          | 0 | -17572.800 |  | 0.00000000 |  | 0.00000000 | 0.00000000 | 0.00 |
|               | 0.00000000 |   |            |  | 0.00000000 |  | 0.00       | 0.00000000 | 0.00 |
|               | 0          | 0 | -15899.200 |  | 0.00000000 |  | 0.00000000 | 0.00000000 | 0.00 |
|               | 0.00000000 |   |            |  | 0.00000000 |  | 0.00       | 0.00000000 | 0.00 |
| Dummy Species |            |   |            |  |            |  |            |            |      |
|               | 0          | 0 | -15899.200 |  | 0.00000000 |  | 0.00000000 | 0.00000000 | 0.00 |
|               | 0.00000000 |   |            |  | 0.00000000 |  | 0.00       | 0.00000000 | 0.00 |
|               | 0          | 0 | -15899.200 |  | 0.00000000 |  | 0.00000000 | 0.00000000 | 0.00 |
|               | 0.00000000 |   |            |  | 0.00000000 |  | 0.00       | 0.00000000 | 0.00 |