



DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD, SUITE 3229
FT. BELVOIR, VIRGINIA 22060-6223

March 5, 2003

IN REPLY
REFER TO

DNSC-C2

Dear Prospective Tungsten Customer:

On Thursday, March 27, 2003, at 2:00 p.m., local time, Fort Belvoir, VA, the Defense Logistics Agency, Defense National Stockpile Center (DNSC), will open and consider offers for the sale of approximately 300,000 pounds of ferrotungsten under Solicitation of Offers, DLA-FERROTUNGSTEN AND TUNGSTEN METAL POWDER-003. Offers will also be opened and considered for the sale of approximately 300,000 pounds of tungsten metal powder on April 24, 2003 at 2:00 p.m.. Offers are to be addressed as follows:

Attn: DNSC Bid Custodian
Defense National Stockpile Center
8725 John J Kingman Road
Suite 3229
Fort Belvoir, VA 22060-6223

Facsimile offers and modifications will be accepted any time prior to the exact time set for receipt of offers. Offerors must be transmitted to facsimile number (703) 767-5541.

The format of the solicitation is negotiated, which allows the Government to discuss issues regarding price, removal period, quantity, prompt payment, discounts, or any other provision of the solicitation.

Thank you for your interest in the Defense National Stockpile Center's tungsten sales program. If you have any questions concerning DNSC tungsten sales, please contact me at (703) 767-5478.

Sincerely,

/S/

Debbie Nicholson
Contract Specialist

Enclosure

DLA-FERROTUNGSTEN AND TUNGSTEN METAL POWDER-003

SOLICITATION OF OFFERS FOR FERROTUNGSTEN AND TUNGSTEN METAL POWDER



*Defense Logistics Agency
Defense National Stockpile Center
8725 John J. Kingman Road, Suite 3229
Fort Belvoir, VA 22060-6223*

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SECTION A - SOLICITATION

A.1 Introduction (SEP 02)

- a. The Defense Logistics Agency (DLA), Defense National Stockpile Center (DNSC), is soliciting offers for the sale of approximately 300,000 lbs of Tungsten Metal Powder and 300,000 lbs of Ferrotungsten in Fiscal Year 2003. The initial opening will be for Ferrotungsten and will be held on **March 27, 2003 at 2:00 pm** local time, Ft. Belvoir, VA. If all material is not sold, subsequent offerings will be held monthly, alternating between Ferrotungsten and Tungsten Metal Powder, on the third Thursday of the month, beginning April 24, 2003, until all material is sold. Offers must be received at the address in Section **B.2.a.** by 2:00 pm, local time, Ft. Belvoir, VA. **In the event that the fourth Thursday of any month is a holiday, or DNSC is otherwise closed at that time, bids for that day will be received at 2:00 pm local time, Ft. Belvoir, VA on the next DNSC business day. Offerors are advised to telephone (703) 767-6500 to ascertain the availability of material.**
- b. Delivery of any and all Tungsten is F.O.B. carrier's conveyance. (see Sections **F.1.d.** and **F.1.e.**)

A.2 Description (JAN 95)

- a. The Tungsten Metal Powder for sale is in the form of carbon-reduced and hydrogen-reduced powder, and is stored in drums and boxes as described in section **J.1.**
- b. The Ferrotungsten for sale is in the form of crushed pieces (1/4", 3/8", 1") or lump, and is stored in drums and boxes as described in section **J.2.**
- c. Government records indicate that the Tungsten material conforms to the data listed in Paragraph **A.2.a. and b,** Section **I.2 and I.3,** and Section **J.1 and J.2,** however, no warranty or guarantee is made that the material so conforms or that it will be suitable for any particular purpose.

A.3 Financial Exposure Limit (MAR 02)

- a. The Defense National Stockpile Center (DNSC) will establish a financial exposure limit (maximum level of business the DNSC will allow) for each Offeror. The financial exposure limit shall be determined based upon the following:
 1. Financial Position of the Offeror
 2. Past Performance
 3. References (Suppliers, Financial Institutions)
 4. Credit Reports

- b. If the Contractor reaches its financial exposure limit, subsequent sales will cease until such time as the Contractor satisfactorily performs existing contracts or the DNSC increases the exposure limit.

A.4 Foreign Trade Statistics Regulations (MAR 02)

1. The Contractor shall determine any export license requirements, obtain any export license or other official authorization required for export, and carry out any U.S. Customs formalities for the export of any material awarded under this Solicitation.
2. The Contractor shall comply with United States Bureau of Export Administration Foreign Trade Statistics and Export Administration Regulations as set forth in 15 CFR Parts 30 and 732 (as amended by 65 FR 42556-42575, July 10, 2000 or any subsequent rule making).
3. If the Contractor is not a United States domestic entity or does not have a physical presence in the United States, and the material is to be exported, the Contractor shall either --
 - a. Engage a United States forwarding agent or other agent in accordance with 15 CFR 30.4(a) and (c); or
 - b. Engage a United States Order Party, in accordance with 15 CFR 30.4(a)(1)(iii), to conduct all negotiations, correspondence, and arrangements for sale, and to arrange for export of the material purchased.
4. The Defense National Stockpile Center shall not be named as the United States Principal Party in Interest and will not execute any Shipper's Export Declaration required by the Foreign Trade Statistics regulations.

SECTION B – PREPARATION AND SUBMISSION OF OFFERS

B.1 Submittals (SEP 02)

Offerors shall submit **all** of the following documents along with the offer unless otherwise noted:

- a. **Section I.1, Sale of Government Property Negotiated Sales Contract (MAR 03)** with the section entitled “Execution by Contractor” completed.
- b. **Section I.2, Item Offer Page(s) – Tungsten Metal Powder-003, April, 2003 or Section I.3, Item Offer Page – Ferrotungsten-003, March, 2003 (whichever is applicable)** with (1) offered unit price column; (2) total offered price column; (3) company name; (4) name and title; and (4) signature and date blocks completed.
- c. **Section I.4, Certificate of Independent Price Determination (JAN 01)**
- d. **Section I.5, Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance and Other Responsibility Matters (JUL 97).**
- e. **Representations, Certifications and Identifications at Section I.5 through I.8.** Offerors please note: If Annual Representations, Certifications and Identifications have previously been submitted they need not be resubmitted. However, **I.4 Certificate of Independent Price Determination and I.5 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance and Other Responsibility Matters shall be submitted with each offer.**
- f. Copies of the most recent income statement and balance sheet for the company and any other documentation that will verify the financial level of business transactions; e.g., a list of references. DNSC may require the Contractor to submit updated information at any time.
- g. Offerors shall submit the financial documentation requested in **paragraph f.** to the following address/facsimile number:

Attn: DNSC-C2 Tungsten Contract Specialist
Defense National Stockpile Center
8725 John J. Kingman Rd., Ste. 3229
Fort Belvoir, VA 22060-6223
Fax: (703) 767-5494
- h. Any other terms the Offeror wishes to negotiate. (See Section **B.6**)

B.2 General Information (JUL 97)

- a. Facsimile offers and modifications will be accepted in accordance with Section **B.5**. Offers may also be submitted by mail or hand delivered enclosed in a sealed envelope and addressed to:

ATTN: DNSC-R (Bid Custodian)
Defense National Stockpile Center
8725 John J. Kingman Road
Suite 3229
Fort Belvoir, Virginia 22060-6223
Facsimile No.: (703) 767-5541

Place the name and address of the Offeror in the upper left corner and the following information in the lower left corner on the face of the envelope:

SOLICITATION OF OFFERS DLA-Ferrotungsten and Tungsten Metal Powder-003

- b. The Offeror agrees, if its offer is accepted by the Government within twenty (20) working days from the date specified in the Solicitation for receipt of offers, to purchase any or all material on which offers are made at the price offered and to take delivery of the material within the time specified in the executed **Section I.1 Sale of Government Property Negotiated Sales Contract (MAR 03)**.
- c. Unless a designation of agent is on file at DNSC, an Offeror submitting an offer as agent for another party shall submit written proof, either prior to or with the offer, that it is authorized to act as agent and shall tender the offer in the name of the principal.

B.3 Minimum Quantity (JAN 95)

The **minimum** offer quantity shall be one line item. An offer for less than the minimum quantity may render the Offeror ineligible for award.

B.4 Late Submissions, Modifications, and Withdrawals of Offers (NOV 00)

- a. Offerors are responsible for submitting offers, and any revisions, and modifications, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. Offerors may use any transmission method authorized by the solicitation (i.e., regular mail, electronic commerce or facsimile).
- b. (1) Any offer, modification, or revision, that is received at the designated Government office after the exact time specified for receipt of offers is "late" and will not be considered

unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the sale and—

- (i) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government installation not later than 4:00 p.m. one working day prior to the date specified for receipt of offers; or
 - (ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or
 - (iii) It was the only offer received.
- (2) However, a late modification of an otherwise successful offer, that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.
- c. Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of the installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.
 - d. If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the Government office designated for receipt of offers by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation closing date, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.
 - e. Offers may be withdrawn by written notice at any time before award. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before award. Offers may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the offer before award.
 - f. Offerors may submit modifications to their offer at any time before closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.
 - g. The Contracting Officer must promptly notify any offeror if its offer, modification, or revision was received late, and must inform the offeror whether its offer will be considered, unless contract award is imminent.

B.5 Facsimile Submissions (JUL 97)

Facsimile offers and modifications will be accepted any time prior to the exact time set for receipt of offers. Facsimile withdrawals will be accepted any time before award. **Offerors must use the facsimile number: (703) 767-5541.**

- a. Definition: "Facsimile submission," as used in this Solicitation, means an offer, modification of an offer, or withdrawal of an offer that is transmitted

to and received by the Government via electronic equipment that communicates and reproduces both printed and handwritten material.

- b.** Offerors may submit facsimile submissions as responses to this Solicitation. These responses must arrive at the place, and by the time, specified in the Solicitation.
- c.** Facsimile submissions that fail to furnish required representations or information, that reject any of the terms, conditions, and provisions of the Solicitation, that contain garbled information, or are otherwise incomplete, may be excluded from consideration.
- d.** Facsimile submissions must contain the required signatures.
- e.** The Government reserves the right to make award solely on the facsimile submission. However, if requested to do so by the Contracting Officer, the apparently successful Offeror agrees to promptly submit the complete original signed submission.
- f.** If the Offeror chooses to transmit a facsimile submission, the Government will not be responsible for any failure attributable to the transmission or receipt of the facsimile submission including, but not limited to, the following:
 - (1) Receipt of garbled or incomplete submission.
 - (2) Availability or condition of the receiving facsimile equipment.
 - (3) Incompatibility between the sending and receiving equipment.
 - (4) Delay in transmission or receipt of submission.
 - (5) Failure of the Offeror to properly identify the submission.
 - (6) Illegibility of submission.
 - (7) Security of submission data.

B.6 Consideration of Offers (FEB 03)

- a.** The Government reserves the right to --
 - (1) Reject any or all offers;
 - (2) Waive any informalities and minor irregularities in an offer;
 - (3) Award a quantity less than the quantity offered on at the unit price offered;
 - (4) Accept any one item or group of items in an offer, as may be in the best interest of the Government.

- (5) Award quantities in excess of that stated as being available for sale.
- b. Offerors may submit multiple offers at various unit prices and may specify a maximum quantity.
- c. The Government may request specific documentation to support the offer submitted. Failure to provide the documentation, if requested, may result in the Offeror being ineligible for award.
- d. "All or none" offers may not be considered.

B.7 Evaluation of Offers (FEB 03)

- a. General - The evaluation factors are listed below in descending order of importance:
 - (1) Unit price.
 - (2) Payment terms.
 - (3) Removal schedule.

All evaluation factors other than unit price, when combined, are significantly less important than unit price.

- b. To be considered, offers must meet the following minimum requirements:
 - (1) Submission of the information requested in Section **B.1**; and
 - (2) Compliance with Section **B.6.d**.
- c. The maximum acceptable payment terms are net 30 calendar days from receipt of current, accurate and complete shipping instructions. (Section **J.4**)

B.8 Negotiation Procedures (SEP 02)

The Government intends to evaluate offers and award a contract after conducting discussions with all offerors whose offers have been determined to be within the competitive range.

The following procedure will be utilized:

- a. **Competitive Range** - The competitive range shall be determined on the basis of price and other factors that are stated in the solicitation and will include all offers which comply with Section **B.7.b**. that have a reasonable chance of being selected for award. Offers not included in the competitive range will not be given further consideration.
- b. **Negotiations/Discussions** - Only offerors within the competitive range will be contacted to schedule the day and time for discussions to be conducted. Negotiations will be conducted only with the company official signing **Section I.1 Sale of Government Property Negotiated Sales Contract** or a specifically authorized individual identified in Section **I.7 Authorized Negotiators (JUN 95)**. The content and extent of the discussions is a matter of the Contracting Officer's judgment, based on the particular facts of the sale and each offeror's initial offer.

- c. Discussion Session** - Only one discussion session per offeror is intended. In order to facilitate meaningful discussions, offerors should:
- (1) Be prepared to discuss:
 - (i) All prices and terms included in the initial offer;
 - (ii) Supporting documentation and justification for the derivation of prices offered and other terms the offerors wish to negotiate;
 - (iii) Payment terms (where requested); and
 - (iv) Removal schedule; and
 - (2) Arrange to have appropriate support personnel present during discussions, i.e., Purchasing, Marketing, etc.
- d. Best and Final Offer Requests** - At the conclusion of discussions, all offerors with which discussions were conducted will be requested to submit a best and final offer (BAFO). Oral requests for best and final offers will be confirmed in writing. Each individual BAFO request will include the following:
- (1) Notice that discussions are concluded;
 - (2) Time and date by which BAFOs must be submitted;
 - (3) Notice that BAFOs are subject to Section **B.4 Late Submissions, Modifications, and Withdrawals of Offers (NOV 00)**;
 - (4) A record of negotiated issues and understandings between the Government and the offeror (as applicable);
 - (5) A list of remaining questions/deficiencies (if any);
 - (6) A caution to offerors to provide supporting documentation for any changes to their prior offers as revised during discussions; and
 - (7) Notice that the Government intends to evaluate best and final offers and award a contract without further discussions.
- e. Best and Final Offer Responses** - BAFOs should strictly conform to the best and final offer request. If no response is received to the BAFO request, the initial offer will be considered as the best and final offer. Changes that are not fully supported by documentation may not be evaluated or considered.
- f. Subsequent Discussions/BAFO Requests** - Generally, only one best and final offer will be requested. After receipt of best and final offers, discussions will not be reopened unless the Government determines it is in its best interest to do so. If discussions are reopened, an additional request for best and final offers will be issued to all offerors still within the competitive range.

B.9 Disclosure of Information (DEC 97)

Proprietary or confidential information disclosed in offers/discussions/BAFOs will not be disclosed to the public or used by the Government except for evaluation purposes.

B.10 Responsibility Determination (SEP 02)

- a. No award shall be made unless the Contracting Officer makes an affirmative determination of responsibility.
- b. To be determined responsible and eligible for an award, Offerors shall have adequate financial resources, a satisfactory performance record with DNSC, and a satisfactory record of integrity and ethics. For example, an Offeror may be determined to be non-responsible and therefore ineligible for award if there is a record of poor payment (e.g., checks returned for insufficient funds) or poor performance (e.g., failure to pay for or remove material on time). In addition to looking at past performance, DNSC will also review the financial statements and references submitted by the offeror, as well as the current Dun & Bradstreet report and any other credit reports.

B.11 Contract Award (JUL 97)

A written award or acceptance of an offer signed by the Contracting Officer and furnished to a successful Offeror within the time specified for acceptance shall result in a binding contract incorporating all the terms and conditions of this Solicitation unless otherwise stated in the executed Section **I.1 Sale of Government Property Negotiated Sales Contract. (MAR 03)**

B.12 Unsuccessful Offerors (FEB 98)

The Contracting Officer will notify unsuccessful offeror(s) at the earliest practicable time of the basis for non-award.

SECTION C – INSPECTION/SAMPLING (JUN 98)

No inspection or sampling of the material will be permitted.

SECTION D - PAYMENT

D.1 Payment (FEB 98)

- a. Payment shall be made in U.S. dollars.
- b. Payment shall be made by wire transfer, U.S. Postal Service money order, or company or bank check.
 - (1) Wire transfer payment shall be made in accordance with instructions in **Section J.7**. Fees for wire transfers are the responsibility of the Contractor. If payment is by wire transfer and the wrong account number is used, shipment of material may be delayed by up to one week or the wire transfer may be returned to the sender.
 - (2) All checks must be drawn on a U.S. domestic bank or on the United States branch of an acceptable foreign bank and must be payable in United States currency. **A service charge of \$100.00 will be applied to all returned checks.**
- c. Payment shall be made to the **Defense Finance and Accounting Service - Columbus (DFAS-Columbus)**. If a check is not made payable to DFAS-Columbus, the check may be returned and the \$100.00 fee stated in **D.1.b.** charged. Payment shall be accompanied by **identifying information including the contract number, invoice number, and a description of the material purchased**. Payments without the required identification may be returned and shipment delayed. Payments shall be sent to:

ATTN: DNSC-R, Accounts Receivable
Defense National Stockpile Center
8725 John J. Kingman Road
Suite 3229
Fort Belvoir, VA 22060-6223
- d. Invoices issued for adjustments for variations in quantity or weight, storage charges, or interest shall be paid promptly.
- e. If payment is not made in full within 30 calendar days of issuance of an invoice, the Government will issue a "demand" letter, demanding payment of the outstanding amount. If all moneys due are not paid within 30 calendar days after the date of the Government's demand letter, the Contractor will be considered delinquent and any outstanding charges will be reduced by any subsequent payments. No material will be released until all delinquent charges are paid. (See Sections **F.1.a.** and **G.10.**)

D.2 Payment Due Date (NOV 02)

- a. Payment due dates will be applied as follows:
 - (1) If payment terms are not extended, payment will be made before shipment of material and before the end of the contract period specified in the executed Section **I.1 Sale of Government Property Negotiated Sales Contract**.
 - (2) If payment terms are approved, the Contractor shall pay the Government the full amount of each shipment no later than 30 calendar days after DNSC receives current, accurate, and complete Shipping Instructions. Notwithstanding any other provision of the contract, payment is due with or without the issuance of an invoice by the Government. If the Contractor fails to make payment timely, the Contractor will be considered delinquent (see Section D.1.e, F.1.a., and G.10), and the Government at its sole discretion, may revoke the payment terms.
- b. If payment is not received by 4:30 pm., local time Fort Belvoir, Virginia, on the payment due date, payment will not be credited until the next Government business day. Interest will accrue accordingly.
- c. In the event the payment due date falls on a Saturday, Sunday, or holiday, then the payment due date will be extended to the next Government business day.

D.3 Interest (JUN 02)

- a. All amounts that become payable by the Contractor to the Government under this contract shall bear simple interest from the date due until paid. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in 41 U.S.C. 611, which is applicable to the period in which the amount becomes due, as provided in paragraph **b.**, below.
- b. Amounts shall be due at the earliest of the following dates:
 - (1) The final day of the contract period specified in Section **I.1 Sale of Government Property Negotiated Sales Contract (MAR 03) (with or without the issuance of an invoice by the Government)**; or
 - (2) The date of the first written demand for payment under the contract.

SECTION E - REMOVAL

E.1 Removal of Material (JAN 02)

- a. The contract period shall be within 30 days of award.
- d. If the Contractor fails to pay for and remove the material on or before the last day of the contract period, Contractor will be considered delinquent and no material will be shipped until payment has been received.
- c. The contract period includes Saturdays, Sundays, and holidays. If the last day of the contract period is a Saturday, Sunday, or holiday, or the storage location is otherwise closed that day, the period of contract performance will be extended to the next Government workday.

E.2 Storage Charges (JUL 97)

- a. Storage charges shall be assessed on all material remaining after the last day of the contract period. The Government reserves the right to remove any remaining material to a commercial storage facility and be reimbursed by the Contractor for any expenses incurred. Storage charges continue to accrue until all the material has been removed or the contract is terminated for default, in which case the Contractor will be liable for damages, as set forth in Section **G.7** Default of the Solicitation.
- b. The storage charge is the greater of the following: (1) **\$.03 per short ton** (bulkweight) (if a fraction of a ton remains, the charge will be for a full ton) per 30 day period regardless of whether the material remains in storage a period of 30 days or less than 30 days; or (2) commercial storage charges, if applicable.
- c. Storage charges will be invoiced upon shipment. Payment shall be made promptly.
- d. Payment of storage charges shall not relieve the Contractor of its obligation to remove the material in a timely manner. Acceptance of storage payments by the Government is not a waiver of the Government's right to default the Contractor for failure to remove the material (See Section **G.7 Default**).

SECTION F - SHIPPING

F.1 Request for Shipment (MAY 02)

- a. Delivery is F.O.B. carrier's conveyance. At least **10** working days prior to the date shipment is required to commence the Contractor shall furnish commercial bills of lading to the designated depot. Simultaneously the Contractor shall complete and fax the form in Section **J.4 Shipping Instructions** to the Contracting Officer. The Government will only accept shipping instructions from those individuals designated in Section **I.8** as being authorized to release material on behalf of the Contractor. **No material will be released under the provisions of this contract or any other contract the contractor has with DNSC until all outstanding delinquent charges and payments have been satisfied.**
- b. "Shipping Instructions" shall include the following:
 - (1) Quantity of material to be released.
 - (2) Designation of type and kind of conveyance.
 - (3) Name of the carrier (please include a telephone number where this contact can be reached).
 - (4) "Ship to" location.
 - (5) Minimum load per conveyance (optional)
 - (6) Desired shipping schedule.
 - (7) Name and telephone number of an agent who can furnish additional shipping information if needed.
 - (8) Any additional pertinent information.
- c. The shipping schedule shall allow sufficient time for the Government to reasonably meet such schedule prior to the last day of the contract period commensurate with existing loading facilities and other commitments at the Government's storage locations. Information regarding Government commitments may be obtained from the address specified in Section **J.4**.
- d. If outloading is to be accomplished by truck the Government will provide lumber and nails from available depot stock if requested by the Contractor's designee/driver. The Contractor's designee shall perform any necessary procedure(s) to ensure the cargo is safely secured prior to leaving the depot. The Government will not block, chock, brace, lash, band, or in any manner secure the cargo on the Contractor's conveyance(s). The designee shall witness the loading. Any expenses over and above those normally incurred by the Government to meet the public carrier's requirements for loading like materials will be at the expense of the Contractor.
- e. If outloading is to be accomplished by rail, the Government will provide materials and will block, chock, brace, and/or band as necessary to secure the cargo. The Government will not be responsible for demurrage charges.
- f. Contractor will be responsible for demurrage charges; damage to rail track sand switches or any costs associated with derailment.

- g.** The Contractor, its agent and employees shall comply with all applicable rules at the storage depot; Federal, state and local load limitations; and all safety, health, and environmental requirements.
- h.** Requests for shipment shall be for a truckload. Requests for shipment shall be for a minimum of _____, or if the remaining balance is less than _____, then for the balance at the location or on the contract. Shipping instructions and information requested in paragraph **b.**, above, are to be furnished to the following address:

Defense National Stockpile Center-C
ATTN: Tungsten Contracting Specialist
8725 John J. Kingman Road
Suite 3229
Ft. Belvoir, VA 22060-6223
Facsimile Number: (703) 767-5494
- i.** The Government shall determine the order in which the material is scheduled, coordinated, and outloaded.

F.2 Insurance Requirements (APR 95)

The Contractor shall procure and maintain, and require any subcontractor to procure and maintain, during the entire period of performance under this contract, such insurance as stipulated herein.

- a.** Workers' compensation and employer's liability. The Contractor is required to comply with applicable Federal and State workers' compensation and occupational disease statutes. Employer's liability coverage of at least \$100,000 is required, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.
- b.** General liability. Bodily injury liability insurance coverage written on the comprehensive form of policy of at least \$500,000 per occurrence.
- c.** Automobile liability insurance written on the comprehensive form of policy is required. The policy shall provide for bodily injury and property damage liability covering the operation of all automobiles used in connection with performing the contract. Policies covering automobiles operated in the United States shall provide coverage of at least \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

F.3 Weighing (APR 02)

- a.** No outweighing of material will be performed by the Government. The Government weights of record shall govern and will be used for payment purposes. The Contractor may elect to have a representative present to witness the outloading.

- b. Weight certificates shall be provided at the expense of the Government.
- c. In the event that any broken containers are detected at time of shipment, these will be overpackaged by the Government at the Government's expense prior to unloading. If no loss is discernible, the weight of record with the Government shall govern for that item and shall be final for payment.

F.4 Weight Discrepancy (JAN 95)

- a. If the Contractor's weights for the material delivered vary from the Government's certified weights by more than one-half of one percent, the Contractor may give notice of such difference to the Contracting Officer within two working days (exclusive of Saturdays, Sundays, and Government holidays) after receipt of the material at destination, requesting that the material be reweighed. In that case, the Contractor shall segregate the shipment in question and hold it intact pending reweighing. The entire shipment shall be reweighed by the Contractor at its expense, in the presence of and in the manner approved by a Government representative, using scales approved by the Government representative. If the weight varies from the Government's certified weight by greater than one-fourth of one percent, plus or minus, that weight shall govern for payment purposes. If the weight determined by reweighing does not vary from the Government's certified weight by greater than one-fourth of one percent, plus or minus, the Government's certified weight shall be final for payment purposes.
- b. No adjustment shall be considered or made in accordance with the above paragraph unless notice is given by the Contractor to the Contracting Officer within the time specified above and all other requirements of the paragraph are complied with.

F.5 Assumption of Risk and Disclaimer of Liability (JAN 02)

The Contractor, its assigns or agents, assumes full responsibility for all injury or damage to persons or property occasioned by or occurring in connection with or incident to any use or possession of this material by the Contractor, Contractor's employees, or any person subject to the Contractor's control. The Government assumes no liability for any damages to the property of the Contractor or any other person or property, or for any personal injury, illness, disability or death to the Contractor, Contractor's employees or any other person subject to Contractor's control, or for any other consequential damages arising from or incident to the purchase, use, loading, processing, disposition, or any subsequent operation performed upon, exposure to or contact with any component, part, constituent or ingredient of this item, material or substance.

F.6 Adjustment for Variation in Quantity or Weight (JAN 95)

The Government reserves the right to vary the quantity or weight delivered by 5% from the quantity or weight listed in the Solicitation and the Contractor agrees to accept delivery of any quantity or weight within these limits. The contract price will be adjusted

upward or downward in accordance with the unit price and on the basis of the quantity or weight actually delivered.

F.7 Environmental Protection (JUN 95)

a. Transportation Requirements

- (1) The transportation of hazardous material is governed by Department of Transportation (DOT) Hazardous Materials Regulations (Title 49 Code of Federal Regulations, Parts 170-189). If the material being transported is covered by DOT Regulations, the Contractor or its agent is responsible for certifying to DOT that hazardous materials are properly classified, described, packaged, marked, and labeled and are in a condition safe to transport based on the Contractor's or its agent's own examination of the material. (See especially 49 CFR 173.7(a)(1).)
- (2) The Government reserves the right to conduct reasonable inspection of the Contractor's or its agent's transportation conveyances or other equipment utilized to effect removal of the material purchased under this Solicitation. Inspection may occur prior to, during, or subsequent to removal of the material from Government storage locations. The Contractor or its agent shall provide Government representatives with access and any reasonable assistance required to conduct this inspection.

b. Material Safety Data Sheets

- (1) Offerors are warned that unprotected exposure to hazardous substances, hazardous materials and hazardous chemicals may significantly increase the risk of health problems. The Contractor shall comply with all applicable Occupational Safety and Health Administration (OSHA) and any other Federal, state or local laws, codes, ordinances, and regulations (including obtaining any required licenses or permits) governing exposure to, and storage, handling, transportation, and disposition of, this material.
- (2) Material Safety Data Sheets as required by OSHA Hazard Communication Standard - 29 CFR 1910.1200 are incorporated herein. (See Section **J.4**) This data provides specific toxicity and health related data for the protection of human health and the environment. Offerors should review this information carefully. It is the responsibility of the Contractor to further communicate this information to the distributor, manufacturer, user and/or transporter of this material as may be required by Federal regulations.
- (3) Offerors shall also refer to 29 CFR 1910 Occupational Safety and Health Standards, specifically sections 1910.1000 through 1050. These occupational standards set standards for permissible exposures, methods of compliance, personal protective equipment, and other measures that must be taken when working with, or in proximity to, hazardous materials, chemicals and substances in the United States and its territories and possessions.

c. Use and Disposition

- (1) The Contractor certifies that it shall use and ultimately dispose of any hazardous material purchased under this Solicitation in accordance with all applicable Federal, state, local and international laws and regulations and in a manner safe for the public and the environment.
- (2) The material offered under this Solicitation is not, in its present form, subject to EPA Hazardous Waste Regulations (40 CFR Part 260, et seq.) issued under the Resource Conservation and Recovery Act. However, it is possible that use of this material will lead to the creation of a hazardous waste. 40 CFR Part 260, et seq., details the responsibilities of generators, transporters, treaters, storers, and disposers of hazardous waste. Failure to comply with these regulations can lead to civil and criminal penalties.

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 Amendments and Modifications (JAN 95)

- a. Changes in terms and conditions of this Solicitation shall be accomplished by written amendment only.
- b. Changes in terms and conditions of any resulting contract shall be accomplished only by written modification signed by the Contracting Officer.

G.2 Title (JUL 02)

Title to the material shall pass to the Contractor after payment is received or the material is shipped, whichever occurs first.

G.3 Risk of Loss (JUL 02)

- a. After the award of the contract and prior to receipt of payment for or shipment of the material, whichever occurs first, the Government shall be responsible for the care and protection of the material, and any loss, damage or destruction occurring during such period will be adjusted by the Government.
- b. After receipt of payment but prior to either shipment or the end of the contract period, the Government shall be responsible only for the exercise of reasonable care for the protection of the material.
- c. After shipment or the end of the contract period, whichever occurs first, all risk of loss damage or destruction, from any cause whatsoever, shall be borne by the Contractor.

G.4 Limitation on Government's Liability (JAN 95)

- a. Except as provided in paragraph b. in any case where liability of the Government to the Contractor has been established, the measure of the Government's liability shall not exceed refund of whatever portion of the purchase price the Contractor has paid.
- b. Where specifically authorized in writing by the Contracting Officer, the Contractor may recover reasonable costs of packing, loading, and transportation incurred in connection with return of material to the Government.

G.5 Agency Protests (NOV 02)

- a. **General.** Companies may file a protest over sales under this Solicitation with the–
 - (1) General Accounting Office (GAO)

- (2) Director, Directorate of Stockpile Contracts, DNSC, for a decision at a level above the Contracting Officer;
- (3) Contracting Officer

Unless otherwise specified, protests will be presumed to be protests to the Contracting Officer.

- b. Pre-Award Protests.** Protests based upon alleged improprieties in a solicitation that are apparent prior to bid opening or the time set for receipt of initial offers shall be filed prior to bid opening or the time set for receipt of initial offers. In negotiated sales, protests based in alleged improprieties that do not exist in the initial solicitation, but that are subsequently incorporated into the solicitation must be filed not later than the next closing time set for receipt of offers following the incorporation.
- c. Post-Award Protests.** Protests after award shall be filed not later than 10 calendar days after the basis of the protest is known or should have been known, whichever is earlier, except for protests challenging a negotiated sale under which a debriefing is requested and provided. In that situation, and where the basis was not known prior to the debriefing, the initial protest shall be filed not later than 10 calendar days after the date of the debriefing.
- d. Service of Protest.**
 - (1) Protests to the General Accounting Office shall be filed in writing, in accordance with 4 CFR 21, at the following address:

General Counsel
Attn: Procurement Law Control Group
U.S. General Accounting Office
441 G Street, NW
Washington, D.C. 20548

A copy of any protest to the GAO shall be served on the Contracting Officer at the address in (3) below, within one day of filing the protest. Firms seeking to file a protest with GAO are advised to consult the GAO regulations at 4 CFR21 and the GAO publication, **Bid Protests at GAO: A Descriptive Guide**. Copies of these documents are available from the General Accounting Office.

- (2) As an alternative to filing a protest with Contracting Officer, bidders or Offerors may seek an independent review by filing an agency-level protest with the DNSC Director, Directorate of Stockpile Contracts. This process allows for a higher level decision on the initial protest. It is not a review of a Contracting Officer's decision on a protest filed with the Contracting Officer. A protest seeking an agency-level decision should clearly state that it is an "Agency Level Protest Under Executive Order 12979". The protest shall be

served in writing at the following address and may be filed by mail, hand delivery, commercial carrier, or fax:

Attn: DNSC-C Director, Directorate of Stockpile Contracts
Defense National Stockpile Center
8725 John J. Kingman, Suite 3229
Ft. Belvoir, VA 22060-6223
Facsimile No. (703) 767-5411

- (3) Protests seeking a decision by the Contracting Officer shall be served in writing at the following address and may be filed by mail, hand delivery, commercial carrier, or fax:

Attn: DNSC-C – Richard A. Talbott
Defense National Stockpile Center
8724 John J. Kingman, Suite 3229
Ft. Belvoir, VA 22060-6223
Facsimile No. (703) 767-5484 or (703) 767-5494

G.6 Disputes (FEB 03)

- a. This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).
- b. Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.
- c. "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding \$100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- d. (1) A claim by the Contractor shall be made in writing and unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.
 - (2) (i) The Contractor shall provide the certification specified in paragraph (d)(2)(iii) of this clause when submitting any claim exceeding \$100,000.

- (ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.
 - (iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.
- (3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.
- e. For Contractor claims of \$100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over \$100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.
 - f. The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.
 - g. If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative dispute resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the offer
 - h. The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date payment otherwise would be due, if that date is later, until the date of payment. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.
 - i. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

G.7 Default (FEB 03)

- a. (1) The Government may, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to -
 - (i) Make payment and remove the material within the time specified in this contract or any extension;
 - (ii) Remove the material within the time specified in this contract whether or not payment has been made;

- (iii) Make progress, so as to endanger performance of this contract; or
 - (iv) Perform any of the other provisions of this contract.
 - (2) The Government's right to terminate this contract under a.(1)(iii) and a.(1)(iv) above, may be exercised if the Contractor does not cure such failure within 10 days (or more if authorized in writing by the Contracting Officer) after receipt of the notice from the Contracting Officer specifying the failure. Upon the Contractor's failure to cure such default within that period (or such further period as the Contracting Officer may allow), the Contractor shall lose all right, title and interest which it might otherwise have acquired in and to the material as to which a default has occurred.
 - (3) If at any time prior to the expiration of this contract, the Contractor makes it clear either by words, actions or circumstances, that the Contractor is unwilling or unable to perform under this contract, the Government shall not be required to furnish the Contractor notice specifying the failure under this contract prior to exercising its right to terminate this contract for default and seek damages.
- b.** If the Government terminates the contract, the Contractor shall be held liable for damages as described below. However, in no event will damages exceed the original contract price.
 - c.** If the Government terminates the contract for default, it may subsequently resell the material for the Contractor's account, under the terms and in the manner the Contracting Officer considers appropriate, and assess the Contractor the difference between the contract price and the price obtained on resale. In no event will the Contractor be refunded any money if the Government obtains a greater price on resale, nor will an accounting of money be made until resale is complete. In the event that the Government does not resell the material within 12 months, the Contractor may be held liable for the full contract price for the quantity of material on which the default has occurred. In order to calculate the Government's damages on contracts where the contract price is determined on a formula-price basis, the Government will establish the contract price for the quantity of material on which the default has occurred as follows: Using the pricing mechanism set forth in the contract, the Government will set the price as though the material had been priced on the last day of the contract period or the date of the termination notice, whichever is earlier.
 - d.** If, after termination, it is determined that the Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Government.
 - e.** The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

G.8 Termination for Convenience of the Government (DEC 97)

- a. The Contracting Officer, by written notice, may terminate this contract, in whole or in part, when it is in the Government's interest. If this contract is terminated, the Government shall only be liable for actual costs incurred by the Contractor before the effective date of termination.
- b. If a bona fide requirement for the material develops or exists prior to removal of the material from Government control, the Government may withdraw that material from the sale. In the event of a withdrawal under this condition, the Government shall be liable only for the refund of the contract price of the withdrawn material or such portion of the contract price as it may have received plus simple interest at the rate established by the Secretary of the Treasury.

G.9 Excusable Delays (MAY 95)

- a. In the event either party should be prevented from performing under this contract by reason of any unforeseeable cause beyond its control and without its fault or negligence, including, but not restricted to, acts of God or of the public enemy, sovereign acts of the United States, acts of a foreign Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather, performance under the contract shall be suspended in whole or in part until the cause ceases to exist and thereafter the time for fulfillment of the contract shall be extended by the length of time during which the cause prevented performance under the contract.
- b. This section shall also apply to an excusable delay condition that prevents delivery at a consignee's plant if:
 - (1) the delay meets the criteria in paragraph a. above; and
 - (2) the identity of the consignee is known to the Government prior to commencement of the excusable delay condition.
- c. The Contractor shall notify the Contracting Officer, in writing, of the nature and extent of the excusable delay condition promptly after the commencement thereof, but in any event prior to outloading of the material from the storage location from which it is to be shipped. The Contractor shall notify the Contracting Officer, in writing, within ten (10) calendar days when the excusable delay condition ceases to exist.

G.10 Setoff of Funds (JUL 98)

The Contractor agrees that the Government may use all or a portion of any monies received by Government to satisfy, in whole or in part, any debt (e.g. delinquent payments, interest or storage charges), arising out of this or any other transaction.

G.11 Indemnification Agreement (JAN 02)

The Contractor shall save and hold harmless and indemnify the Government against any and all liabilities, claims, and costs of any kind and nature for injury to or death of

any person or persons and for loss or damage to any property (Government or otherwise) occurring in connection with or in any way incident to or arising out of the occupancy, use, service, operations, or performance of work resulting from the acts or omissions of the Contractor, Contractor's employees, or any person subject to the Contractor's control in connection with the contract. Whether due to negligence or not of the Contractor, the Contractor agrees to reimburse the United States for any legal expenses (including salaries of attorneys) incurred by the United States in defending any and all claims or suits against the United States, whether well-founded or not, in any way whatsoever alleged to have arisen from the acts or omissions of the Contractor, Contractor's employees, or any persons subject to the Contractor's control.

G.12 Covenant Against Contingent Fees (JAN 95)

- a. The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to add to the contract price or consideration, or otherwise recover, the full amount of the contingent fee.
- b. "Bona fide agency," as used in this paragraph, means an established commercial or selling agency, maintained by a Contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.
- c. "Bona fide employee," as used in this paragraph, means a person, employed by a Contractor and subject to the Contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.
- d. "Contingent fee," as used in this paragraph, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.
- e. "Improper influence," as used in this paragraph, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

SECTION H - DEFINITIONS (NOV 00)

As used throughout this Solicitation, the following terms shall have the meaning set forth below:

- a.** The term "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings.
- b.** The terms "Offeror", "Purchaser", or "Contractor" may be used interchangeably.

SECTION I - SUBMITTALS

COMPLETE AND RETURN ALL OF THE FOLLOWING WITH YOUR OFFER, UNLESS ANNUAL REPRESENTATIONS, CERTIFICATIONS, AND IDENTIFICATIONS HAVE BEEN SUBMITTED THEN SUBMIT I.1, I.2 or I.3 (whichever is applicable), I.4 and I.5:

- I.1 Sale of Government Property Negotiated Sales Contract (MAR 03)**
- I.2 Item Offer Page - Tungsten Metal Powder-003 (APR 03)**
- I.3 Item Offer Page - Ferrotungsten-003 (MAR 03)**
- I.4 Certificate of Independent Price Determination (JAN 01)**
- I.5 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance, and Other Responsibility Matters (JUL 97)**
- I.6 Type of Business Organization (APR 96)**
- I.7 Authorized Negotiators (JUN 95)**
- I.8 Persons Authorized to Request Shipment of Material (FEB 98)**
- I.9 Offeror's Billing Address (JUL 95)**

I.1 Sale of Government Property Negotiated Sales Contract (MAR 03)

SALE OF GOVERNMENT PROPERTY NEGOTIATED SALES CONTRACT		CONTRACT NUMBER		PAGE 1 OF	
		SP0833-			
<p>This contract is entered into by and between the United States of America, hereinafter called the "Government," represented by the Contracting Officer executing this contract and the Contractor below identified. The Government agrees to sell and the Contractor agrees to buy the material described below in accordance with the terms and conditions of DLA-FERROTUNGSTEN AND TUNGSTEN METAL POWDER-003. In the event of a conflict between the terms of the Solicitation and the Negotiated Sales Contract, the terms of the Negotiated Sales Contract shall govern.</p>					
<i>ITEM</i>	<i>PROPERTY DESCRIPTION AND LOCATION</i>	<i>QUANTITY</i>	<i>UNIT</i>	<i>UNIT PRICE</i>	<i>AMOUNT</i>
<p>CONTRACT PERIOD EXPIRES ON:</p>					
EXECUTION BY CONTRACTOR			EXECUTION BY GOVERNMENT		
<i>DATE (Day, Month, Year)</i>			<i>UNITED STATES OF AMERICA BY:</i>		<i>DATE:</i>
<i>NAME OF CONTRACTOR</i>					
<i>ADDRESS (Street, City, State & Zip Code) (Type or Print)</i>			<i>NAME AND TITLE OF CONTRACTING OFFICER</i>		
<p>Telephone Number: _____ Facsimile Number: _____</p>					
<i>SIGNATURE AND TITLE OF PERSON AUTHORIZED TO SIGN THIS CONTRACT (Type or print name and title under signature)</i>			<p>Contracting Officer <u>DN</u>SC-C (Agency)</p>		

I.2 Item Offer Page -- Tungsten Metal Powder Carbon & Hydrogen Reduced										
Item	Location	Lot	Description	# of Units	Bulk Wt. (lbs)	W Content (%)	W Content (lbsW)	W Content (kgW)	Offered Unit Price (\$ / kgW)	Total Offered Price (\$)
301	Binghamton, NY	CF-23	Carbon reduced	20	19,317	99.58	19,236	8,725	X	=
338	Point Pleasant, WV	CF-12	Carbon reduced	21	21,847	99.45	21,727	9,855	X	=
339	Point Pleasant, WV	CF-13	Carbon reduced	20	21,147	99.35	21,010	9,530	X	=
342	Point Pleasant, WV	CF-9	Carbon reduced	20	21,471	99.58	21,381	9,698	X	=
376	New Haven, IN	2609	Carbon reduced	20	14,999	99.24	14,885	6,752	X	=
377	New Haven, IN	2610	Carbon reduced	20	14,999	99.50	14,924	6,769	X	=
378	New Haven, IN	2614	Carbon reduced	20	14,999	99.23	14,884	6,751	X	=
379	New Haven, IN	2615	Carbon reduced	21	14,999	99.42	14,912	6,764	X	=
380	New Haven, IN	2621	Carbon reduced	20	14,999	99.46	14,918	6,767	X	=
381	New Haven, IN	2622	Carbon reduced	20	14,999	99.43	14,914	6,765	X	=
382	New Haven, IN	2623	Carbon reduced	20	14,999	99.48	14,921	6,768	X	=
383	New Haven, IN	2628	Carbon reduced	20	14,999	99.45	14,917	6,766	X	=
384	New Haven, IN	2629	Carbon reduced	20	14,999	99.47	14,920	6,767	X	=
385	New Haven, IN	2630	Carbon reduced	20	14,999	99.46	14,918	6,767	X	=
345	Warren, OH	296	Hydrogen reduced	17	14,591	99.60	14,533	6,592	X	=
356	Warren, OH	321	Hydrogen reduced	9	7,891	99.78	7,874	3,571	X	=
358	Warren, OH	323	Hydrogen reduced	8	8,014	99.63	7,984	3,622	X	=
359	Warren, OH	324	Hydrogen reduced	8	7,790	99.68	7,765	3,522	X	=
360	Warren, OH	325	Hydrogen reduced	8	7,704	99.66	7,678	3,483	X	=
361	Warren, OH	326	Hydrogen reduced	8	7,661	99.38	7,614	3,453	X	=
401	Clearfield, UT	1	Hydrogen reduced	25	5,024	96.77	4,862	2,205	X	=
402	Clearfield, UT	2	Hydrogen reduced	20	3,992	96.00	3,832	1,738	X	=
403	Clearfield, UT	3	Hydrogen reduced	27	6,058	93.79	5,682	2,577	X	=
				412	302,497		300,287	136,208		
Note: Minimum bid is one entire line item.										
Gray lot numbers indicate non-hazardous for shipping according to DOT.										
FY03 AMP is 300,000 lbsW (136,078 kgW).										
Company Name										
Name and Title of Person Submitting Offer										
Signature and Date										

I.3 Item Offer Page -- Ferrotungsten (MAR 2003)										
Item	Location	Lot	Origin / Producer	# of Units	Bulk Wt. (lbs)	W Content (%)	W Content (lbsW)	W Content (kgW)	Offered Unit Price (\$ / kgW)	Total Offered Price (\$)
259	Point Pleasant, WV	MT-72	Japan	5	7,915	75.65	5,987.70	2,715.97	X	=
260	Warren, OH	MTD-10	Japan	10	6,315	79.70	5,033.06	2,282.95	X	=
262	Warren, OH	OFT	UNK	25	11,009	65.45	7,205.39	3,268.31	X	=
263	Warren, OH	FEW104/116	Portugal	10	11,006	79.01	8,695.84	3,944.36	X	=
264	Warren, OH	2231	UNK	25	27,943	75.57	21,116.53	9,578.29	X	=
280	Binghamton, NY	MT-KS	Japan	122 bxs	13,402	70.81	9,489.96	4,304.57	X	=
283	Binghamton, NY	P2610D	Japan	20	19,600	78.78	15,440.88	7,003.86	X	=
284	Binghamton, NY	P2610E	Japan	31	20,271	77.64	15,738.40	7,138.81	X	=
285	Binghamton, NY	P2610F	Japan	20	19,933	79.36	15,818.83	7,175.29	X	=
286	Binghamton, NY	P2610G	Japan	20	19,921	80.73	16,082.22	7,294.77	X	=
288	Binghamton, NY	P2610I	Japan	20	19,996	76.96	15,388.92	6,980.29	X	=
289	Binghamton, NY	P2610J	Japan	20	20,152	78.73	15,865.67	7,196.54	X	=
290	Binghamton, NY	P2610K	Japan	29	20,346	79.76	16,227.97	7,360.88	X	=
292	Binghamton, NY	B-163	Japan	12	22,002	79.09	17,401.38	7,893.13	X	=
293	Binghamton, NY	B-164	Japan	104	222,921	77.73	173,276.49	78,596.83	X	=
				351	462,732		358,769.24	162,734.86		
Note: Minimum bid is one entire line item. FY03 AMP is 300,000 lbsW (136,078 kgW).										
Company Name										
Name and Title of Person Submitting Offer										
Signature and Date										

I.4 Certificate of Independent Price Determination (JAN 01)

a. The offeror certifies that:

- (1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;
- (2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and
- (3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

b. Each signature on the offer is considered to be a certification by the signatory that the signatory:

- (1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or offer, and that the signatory has not participated and will not participate in any action contrary to subparagraphs **a.(1)** through **a.(3)** above; or
- (2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs **a.(1)** through **a.(3)**, above

(insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or offer, and the title of his or her position in the offeror's organization);

- (ii) As an authorized agent, does certify that the principals named in subdivision **b.(2)(i)** above have not participated, and will not participate, in any action contrary to subparagraphs **a.(1)** through **a.(3)** above; and
- (iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs **a.(1)** through **a.(3)** above.

c. If the offeror deletes or modifies subparagraph a.(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

I.5 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance and Other Responsibility Matters (JUL 97)

- a. (1) The Offeror certifies, to the best of its knowledge and belief, that -
- (i) The Offeror and/or any of its Principals -
 - (A) Are are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;
 - (B) Have have not , within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; and
 - (C) Are are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision **a. (1)(i)(B)** of this provision.
 - (D) Are are not presently indicted for or otherwise criminally or civilly charged by a Federal, state or local entity with violation of any environmental laws;
 - (E) Have have not within the three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for violation of a Federal, state or local environmental statute or regulation.
 - (ii) The Offeror has has not , within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.
- (2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).
- (3) If the Offeror answers affirmatively to **(a)(1)**, above, the Offeror shall include in its offer an explanation of the circumstances, including the outcome.

This certification concerns a matter within the jurisdiction of an agency of the United States and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under section 1001, title 18, United States Code.

- b. The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- c. A certification that any of the items in paragraph **a.** of this provision exists will not necessarily result in withholding of an award under this Solicitation. However, the certification will be considered in connection with a determination of the Offeror's

responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

- d. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph a. of this provision. The knowledge and information of a Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- e. The certification in paragraph a. of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to the other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this Solicitation for default.

I.6 Type of Business Organization (APR 96)

The Offeror represents that--

- a. It operates as a corporation incorporated under the laws of the State of _____, an individual, a partnership, a nonprofit organization, or a joint venture.
- b. If the offeror is a foreign entity, it operates as an individual, a partnership, a nonprofit organization, a joint venture, or a corporation registered for business in _____ (country)
- c. If the offeror is a corporation, it is independent (not owned or controlled by another company), owned or controlled by _____ corporation company registered for business in _____ (state/country).
- d. If the offeror is owned or controlled by another, state the relationship (e.g., wholly owned subsidiary, etc.): _____
- e. The offeror agrees to provide additional information relating to the above representations if requested to do so by the Contracting Officer.

I.7 Authorized Negotiators (JUN 95)

The Offeror represents that the following individuals are authorized to negotiate on its behalf.

Name

Title Telephone

Name

Title Telephone

I.8 Persons Authorized to Request Shipment of Material (FEB 98)

The Offeror shall provide the name(s), title(s), signature(s), and telephone number(s) of representative(s) authorized to sign Section **J.4 Shipping Instructions:**

Typed Name Title

Signature Telephone

Typed Name Title

Signature Telephone

Typed Name Title

Signature Telephone

I.9 Offeror's Billing Address (JUL 95)

The Offeror shall provide its billing address and billing facsimile number below.

SECTION J - LIST OF ATTACHMENTS

J.1 ANALYSIS TUNGSTEN METAL POWDER (APR 03)

J.2 ANALYSIS FERROTUNGSTEN (MAR 03)

J.3 STORAGE LOCATIONS

J.4 SHIPPING INSTRUCTIONS (JAN 95)

J.5 MATERIAL SAFETY DATA SHEET- TUNGSTEN METAL POWDER

J.6 MATERIAL SAFETY DATA SHEET - FERROTUNGSTEN

J.7 FEDWIRE PROCEDURES (JAN 95)

J.1 ANALYSIS - TUNGSTEN METAL POWDER (C-REDUCED)

Item #	Material	Lot	Depot	Percent																Particle Size*	
				W	C	Fe	Si	Mn	Mo	Ca	Al	S	P	O	Ta	Cr	Ni	Cu	Na		
301	W Metal - C	CF-23	Binghamton, NY	99.58	0.09	0.030	0.020	0.002	0.030	<0.002	0.001	0.003	<0.005	0.20	<0.005	0.015	0.020	<0.001	0.001		
338	W Metal - C	CF-12	Pt.Pleasant, WV	99.45	0.13	0.050	0.007	0.001	0.050	<0.002	<0.001	0.002	<0.005	0.22	<0.005	0.030	0.050	<0.001	0.001		
339	W Metal - C	CF-13	Pt.Pleasant, WV	99.35	0.15	0.050	0.015	0.001	0.050	<0.002	0.003	0.003	<0.005	0.29	<0.005	0.030	0.050	<0.001	0.003		
342	W Metal - C	CF-9	Pt.Pleasant, WV	99.58	0.14	0.020	<0.001	<0.001	0.020	<0.002	<0.001	0.002	<0.005	0.20	<0.005	0.015	0.005	<0.001	0.005		
376	W Metal - C	2609	New Haven, IN	99.24	0.07	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.64	<0.01	<0.01	<0.01	<0.01	<0.01		
377	W Metal - C	2610	New Haven, IN	99.50	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.37	<0.01	<0.01	<0.01	<0.01	<0.01		
378	W Metal - C	2614	New Haven, IN	99.23	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.62	<0.01	<0.01	<0.01	<0.01	<0.01		
379	W Metal - C	2615	New Haven, IN	99.42	0.08	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.42	<0.01	0.01	<0.01	<0.01	<0.01		
380	W Metal - C	2621	New Haven, IN	99.46	0.08	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.39	<0.01	0.01	<0.01	<0.01	<0.01		
381	W Metal - C	2622	New Haven, IN	99.43	0.09	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.39	<0.01	0.02	<0.01	<0.01	<0.01		
382	W Metal - C	2623	New Haven, IN	99.48	0.08	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.38	<0.01	0.01	<0.01	<0.01	<0.01		
383	W Metal - C	2628	New Haven, IN	99.45	0.10	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.37	<0.01	0.02	<0.01	<0.01	<0.01		
384	W Metal - C	2629	New Haven, IN	99.47	0.09	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.36	<0.01	0.01	<0.01	<0.01	<0.01		
385	W Metal - C	2630	New Haven, IN	99.46	0.09	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.38	<0.01	0.01	<0.01	<0.01	<0.01		
* Stockpile Purchase Spec. P-102:			Retained on No. 60 U.S. Standard Sieve -- 2% max Passing No. 60 but retained on No. 100 -- 20%-50% Passing No. 100 but retained on No. 200 -- 30%-80% Passing No. 200 -- 25% max																		
Stockpile Purchase Spec. P-102-R1:			Passing No. 60 U.S. Standard Sieve -- 100% Retained on No. 100 -- 5%-30% Passing No. 100 but retained on No. 200 -- 30%-60% Passing No. 200 but retained on No. 325 -- 15%-35% Passing No. 325 -- 25% max																		

J.2 ANALYSIS - FERROTUNGSTEN (MAR 2003)																		
Item #	Material	Lot	Depot	Percent														
				W	C	P	S	Si	Mo	Al	Mn	Cu	Ni	As	Sb	Sn	Bi	Pb
259	Ferro W	184150M - MT-72	Pt.Pleasant, WV	75.65	0.88	0.038	0.125	1.62	0.62	0.06	0.44	0.05	0.02	<0.005	<0.020	0.01	<0.005	<0.005
260	Ferro W	MTD-10	Warren, OH	79.70	0.78	0.095	0.029	0.88	0.81	0.02	0.49	0.05	0.036	<0.005	<0.020	<0.01	<0.005	<0.005
262	Ferro W	FT	Warren, OH	65.45	0.29	1.250	0.018	0.12	0.81	<0.01	0.40	0.13	0.150	<0.005	0.080	0.02	<0.005	<0.005
263	Ferro W	FEW104/116	Warren, OH	79.01	0.81	0.060	0.005	0.49	0.15	<0.01	0.42	0.06	0.04	<0.005	<0.020	0.02	<0.005	<0.005
264	Ferro W	2231	Warren, OH	75.57	0.033	0.137	0.023	1.30	0.19	0.05	0.27	0.04	0.06	<0.005	0.028	0.05	<0.005	<0.005
280	Ferro W	MT-KS	Binghamton, NY	70.81	2.91	<0.005	0.008	1.54	0.92	0.07	0.62	0.05	0.026	<0.005	<0.005	0.12	0.013	<0.005
283	Ferro W	P-2610-D	Binghamton, NY	78.78	0.71	<0.005	0.072	0.44	0.56	0.12	0.41	0.05	0.027	<0.005	0.013	0.057	0.014	0.023
284	Ferro W	P-2610-E	Binghamton, NY	77.64	0.52	0.008	0.065	0.27	0.57	0.07	0.34	0.05	0.043	0.010	0.018	0.066	0.016	0.027
285	Ferro W	P-2610-F	Binghamton, NY	79.36	0.62	<0.005	0.091	0.58	0.66	0.17	0.40	0.04	0.022	<0.005	0.015	0.038	0.007	0.023
286	Ferro W	P-2610-G	Binghamton, NY	80.73	0.57	<0.005	0.092	0.44	0.59	0.12	0.41	0.05	0.020	<0.005	0.014	0.007	0.010	0.020
288	Ferro W	P-2610-I	Binghamton, NY	76.96	0.76	<0.005	0.098	0.67	0.63	0.17	0.48	0.05	0.026	<0.005	0.015	0.034	0.015	0.032
289	Ferro W	P-2610-J	Binghamton, NY	78.73	0.83	0.010	0.139	0.73	0.61	0.13	0.53	0.06	0.023	<0.005	0.015	0.029	0.024	0.043
290	Ferro W	P-2610-K	Binghamton, NY	79.76	0.68	<0.005	0.081	0.36	0.58	0.08	0.40	0.05	0.026	0.008	0.021	0.049	0.013	0.027
292	Ferro W	B-163	Binghamton, NY	79.09	1.01	0.031	0.023	1.02	0.12	0.10	0.52	0.08	0.021	<0.005	0.015	0.007	0.035	0.020
293	Ferro W	B-164	Binghamton, NY	77.73	1.65	<0.005	0.042	0.88	1.22	0.07	0.41	0.05	0.023	<0.005	0.010	0.022	0.023	0.028

J.2 ANALYSIS - FERROTUNGSTEN (MAR 2003)																		
Item #	Material	Lot	Depot	Percent														
				W	C	P	S	Si	Mo	Al	Mn	Cu	Ni	As	Sb	Sn	Bi	Pb
259	Ferro W	184150M - MT-72	Pt.Pleasant, WV	75.65	0.88	0.038	0.125	1.62	0.62	0.06	0.44	0.05	0.02	<0.005	<0.020	0.01	<0.005	<0.005
260	Ferro W	MTD-10	Warren, OH	79.70	0.78	0.095	0.029	0.88	0.81	0.02	0.49	0.05	0.036	<0.005	<0.020	<0.01	<0.005	<0.005
262	Ferro W	FT	Warren, OH	65.45	0.29	1.250	0.018	0.12	0.81	<0.01	0.40	0.13	0.150	<0.005	0.080	0.02	<0.005	<0.005
263	Ferro W	FEW104/116	Warren, OH	79.01	0.81	0.060	0.005	0.49	0.15	<0.01	0.42	0.06	0.04	<0.005	<0.020	0.02	<0.005	<0.005
264	Ferro W	2231	Warren, OH	75.57	0.033	0.137	0.023	1.30	0.19	0.05	0.27	0.04	0.06	<0.005	0.028	0.05	<0.005	<0.005
280	Ferro W	MT-KS	Binghamton, NY	70.81	2.91	<0.005	0.008	1.54	0.92	0.07	0.62	0.05	0.026	<0.005	<0.005	0.12	0.013	<0.005
283	Ferro W	P-2610-D	Binghamton, NY	78.78	0.71	<0.005	0.072	0.44	0.56	0.12	0.41	0.05	0.027	<0.005	0.013	0.057	0.014	0.023
284	Ferro W	P-2610-E	Binghamton, NY	77.64	0.52	0.008	0.065	0.27	0.57	0.07	0.34	0.05	0.043	0.010	0.018	0.066	0.016	0.027
285	Ferro W	P-2610-F	Binghamton, NY	79.36	0.62	<0.005	0.091	0.58	0.66	0.17	0.40	0.04	0.022	<0.005	0.015	0.038	0.007	0.023
286	Ferro W	P-2610-G	Binghamton, NY	80.73	0.57	<0.005	0.092	0.44	0.59	0.12	0.41	0.05	0.020	<0.005	0.014	0.007	0.010	0.020
288	Ferro W	P-2610-I	Binghamton, NY	76.96	0.76	<0.005	0.098	0.67	0.63	0.17	0.48	0.05	0.026	<0.005	0.015	0.034	0.015	0.032
289	Ferro W	P-2610-J	Binghamton, NY	78.73	0.83	0.010	0.139	0.73	0.61	0.13	0.53	0.06	0.023	<0.005	0.015	0.029	0.024	0.043
290	Ferro W	P-2610-K	Binghamton, NY	79.76	0.68	<0.005	0.081	0.36	0.58	0.08	0.40	0.05	0.026	0.008	0.021	0.049	0.013	0.027
292	Ferro W	B-163	Binghamton, NY	79.09	1.01	0.031	0.023	1.02	0.12	0.10	0.52	0.08	0.021	<0.005	0.015	0.007	0.035	0.020
293	Ferro W	B-164	Binghamton, NY	77.73	1.65	<0.005	0.042	0.88	1.22	0.07	0.41	0.05	0.023	<0.005	0.010	0.022	0.023	0.028

Shipping Request Number: _____

J.4 Shipping Instructions

1. a. Contractor: _____

b. Point of Contact: _____ c. Telephone No.: _____

2. a. DNSC Contract No.: SP0833-03-S- _____ b. Commodity: _____

3. Item/Pile: _____

4. Depot: _____

4. a. Quantity: _____

b. Unit Price: _____ c. Total Dollar Value: _____

6. Shipping Method: _____

7. a. Carrier Name: _____

b. Point of Contact: _____ c. Telephone No.: _____

8. Date Shipment Desired: _____

9. Ship To: _____

10. Minimum Load: _____

11. a. Outloader: _____ b. Telephone No.: _____

12. a. Sampler: _____ b. Telephone No.: _____

13. Copy of Payment Attached: Yes No

14. Remarks: _____

14. Contractor's Signature: _____

Date

Telephone

16. Shipment Approved and Authorized: _____

Contracting Officer

Date

J.5 Material Safety Data Sheet – Tungsten Metal Powder

DLA76955

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

DEFENSE LOGISTICS AGENCY EMERGENCY TELEPHONE NUMBER:
DEFENSE NATIONAL STOCKPILE CENTER 1-800-424-9300 (NORTH AMERICA)
8725 JOHN J. KINGMAN ROAD 1-703-527-3887 (INTERNATIONAL)
SUITE 3339
FORT BELVOIR, VA 22060-6223

SUBSTANCE: TUNGSTEN METAL POWDER

TRADE NAMES/SYNONYMS:
WOLFRAM; TUNGSTEN ELEMENT; TUNGSTEN; W; DLA76955; RTECS YO7175000

CHEMICAL FAMILY: metal

CREATION DATE: Oct 01 1992
REVISION DATE: Jun 17 2002

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: TUNGSTEN METAL POWDER
CAS NUMBER: 7440-33-7
EC NUMBER (EINECS): 231-143-9
PERCENTAGE: 100

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0

EMERGENCY OVERVIEW:
COLOR: white to gray or black
PHYSICAL FORM: powder
MAJOR HEALTH HAZARDS: No significant target effects reported.
PHYSICAL HAZARDS: Flammable solid. Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS:
INHALATION:
SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: lung damage
SKIN CONTACT:
SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: irritation
EYE CONTACT:
SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: irritation
INGESTION:
SHORT TERM EXPOSURE: irritation, nausea, vomiting
LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:
OSHA: No
NTP: No
IARC: No

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If a large amount is swallowed, get medical attention.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode.

EXTINGUISHING MEDIA: dolomite, dry powder for metal fires, dry sand, graphite, soda ash, sodium chloride

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:
Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Small spills: Collect spilled material in appropriate container for disposal. Move containers away from spill to a safe area. Large spills: Wet down area with water. Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. Clean up residue with a high-efficiency particulate filter vacuum.

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

HANDLING: Use methods to minimize dust.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:**TUNGSTEN METAL POWDER:****TUNGSTEN AND INSOLUBLE COMPOUNDS (as W):**

- 5 mg/m³ OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
- 10 mg/m³ OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
- 5 mg/m³ ACGIH TWA
- 10 mg/m³ ACGIH STEL
- 5 mg/m³ NIOSH recommended TWA 10 hour(s)
- 10 mg/m³ NIOSH recommended STEL
- 5 mg/m³ UK OES TWA
- 10 mg/m³ UK OES STEL

MEASUREMENT METHOD: Particulate filter; Acid; Atomic absorption spectrometry; NIOSH III # 7074

VENTILATION: Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Protective clothing is not required.

GLOVES: Protective gloves are not required, but recommended.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

Measurement Element:

Tungsten (W)

50 mg/m³

Any air-purifying respirator with a high-efficiency particulate filter.

Any supplied-air respirator.

Any self-contained breathing apparatus with a full facepiece.

Escape -

Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid
COLOR: white to gray or black
PHYSICAL FORM: powder
ODOR: Not available
MOLECULAR WEIGHT: 183.85
MOLECULAR FORMULA: W
BOILING POINT: 10220 F (5660 C)
MELTING POINT: 6134-6206 F (3390-3430 C)
VAPOR PRESSURE: Not applicable
VAPOR DENSITY: Not applicable
SPECIFIC GRAVITY (water=1): 19.35
WATER SOLUBILITY: insoluble
PH: Not applicable
VOLATILITY: Not applicable
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: nitric acid/hydrofluoric acid mixtures, fused sodium hydroxide/sodium nitrate, fused potassium hydroxide, sodium carbonate
Very Slightly Soluble: nitric acid, aqua regia, sulfuric acid
Insoluble: hydrogen fluoride, potassium hydroxide solutions

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid generating dust. Avoid heat, flames, sparks and other sources of ignition.

INCOMPATIBILITIES: acids, halogens, reducing agents, oxidizing materials, bases

TUNGSTEN:

ALKALI AND ALKALINE-EARTH METALS WITH HALOCARBONS: May explode with heat or on impact.

AQUA REGIA: Attacked superficially.

BROMINE PENTAFLUORIDE: Violent reaction and possible ignition.

BROMINE TRIFLUORIDE: Violent reaction.

CHLORINE TRIFLUORIDE: Violent reaction.

FLUORINE: Incandescent reaction.

HYDROGEN SULFIDE: Incandescent reaction.

IODINE PENTAFLUORIDE: Incandescent reaction when heated.

LEAD(IV) DIOXIDE: Incandescent reaction when heated.

NITRIC ACID: Attacked superficially.

NITRYL FLUORIDE: Incandescent reaction when heated.

OXIDIZERS (STRONG): Fire and explosion hazard.

OXYGEN DIFLUORIDE: Explodes at 400 C.

POTASSIUM DICHROMATE: Combustion attains a temperature of 1700 C in 0.1-0.2

seconds.

SODIUM PEROXIDE: Incandescent reaction when heated.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

TUNGSTEN METAL POWDER:

IRRITATION DATA:

500 mg/24 hour(s) skin-rabbit mild; 500 mg/24 hour(s) eyes-rabbit mild

TOXICITY DATA:

5 gm/kg intraperitoneal-rat LD50

ACUTE TOXICITY LEVEL: Insufficient Data.

REPRODUCTIVE EFFECTS DATA:

1210 ug/kg oral-rat TDLo 35 week(s) pre pregnancy continuous; 1160 ug/kg oral-rat TDLo 30 week(s) pre pregnancy/1-20 day(s) pregnant female continuous

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

TUNGSTEN: May cause irritation and coughing.

CHRONIC EXPOSURE:

TUNGSTEN: Prolonged or repeated exposure has been reported to cause pulmonary fibrosis. Intratracheal injection into the lungs of experimental animals revealed the metallic dust to be inert, with the only pulmonary effect being areas of pigmentation. One conflicting study found the dust to cause interstitial pneumonitis and bronchiolitis in guinea pigs after intratracheal injection of 50 mg a week for 3 weeks. After one year, slight residual lesions in the form of minor atrophic emphysema were present.

SKIN CONTACT:

ACUTE EXPOSURE:

TUNGSTEN: Application of 500 mg to the skin of rabbits caused mild irritation. May cause redness.

CHRONIC EXPOSURE:

TUNGSTEN: May cause dermatitis.

EYE CONTACT:

ACUTE EXPOSURE:

TUNGSTEN: Application of 500 mg to the eyes of rabbits caused mild irritation. May cause redness and conjunctivitis.

CHRONIC EXPOSURE:

TUNGSTEN: May cause conjunctivitis.

INGESTION:

ACUTE EXPOSURE:

TUNGSTEN: May cause nausea, vomiting, and irritation of the gastrointestinal tract.

CHRONIC EXPOSURE:

TUNGSTEN: When rats were fed 2%, 5% or 10% powdered tungsten in their diets, the females gained 15.4% less weight than the control females; there was no difference between tungsten-fed and control males. The sex specific effect was suggested to depend on metabolic utilization of foodstuffs. Reproductive effects have been reported in animals.

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Metal powders, flammable, n.o.s.

ID NUMBER: UN3089

HAZARD CLASS OR DIVISION: 4.1

PACKING GROUP: II

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Metal powder, flammable, n.o.s.

ID NUMBER: UN3089

CLASSIFICATION: 4.1

PACKING GROUP: II

LAND TRANSPORT ADR/RID:

PROPER SHIPPING NAME: Metal powder, flammable, n.o.s.

UN NUMBER: UN3089

ADR/RID CLASS: 4.1

CLASSIFICATION CODE: F3

PACKING GROUP: II

AIR TRANSPORT IATA/ICAO:

PROPER SHIPPING NAME: Metal powder, flammable, n.o.s.

UN/ID NUMBER: UN3089

IATA/ICAO CLASS: 4.1

PACKING GROUP: II

MARITIME TRANSPORT IMDG:

PROPER SHIPPING NAME: Metal powder, flammable, n.o.s.

UN NUMBER: UN3089

IMDG CLASS: 4.1

PACKING GROUP: II

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: No

CHRONIC: No

FIRE: Yes

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

GERMAN REGULATIONS:

WATER HAZARD CLASS (WGK):

STATE OF CLASSIFICATION: VwVwS

CLASSIFICATION UNDER HAZARD TO WATER: 0

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

SECTION 16 OTHER INFORMATION

MSDS SUMMARY OF CHANGES

SECTION 14 TRANSPORT INFORMATION

J.6 Material Safety Data Sheet – Ferrotungsten

DLA09878

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

DEFENSE LOGISTICS AGENCY EMERGENCY TELEPHONE NUMBER:
DEFENSE NATIONAL STOCKPILE CENTER 1-800-424-9300 (NORTH AMERICA)
8725 JOHN J. KINGMAN ROAD 1-703-527-3887 (INTERNATIONAL)
SUITE 3339
FORT BELVOIR, VA 22060-6223

CAS NUMBER: 12604-57-8

SUBSTANCE: TUNGSTEN, FERRO

TRADE NAMES/SYNONYMS:
DLA09878

CHEMICAL FAMILY: metal, alloy

CREATION DATE: Jul 01 1992
REVISION DATE: Dec 11 2001

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: TUNGSTEN
CAS NUMBER: 7440-33-7
EC NUMBER (EINECS): 231-143-9
PERCENTAGE: 72-80

COMPONENT: IRON
CAS NUMBER: 7439-89-6
EC NUMBER (EINECS): 231-096-4
PERCENTAGE: 19-28

COMPONENT: OXYGEN, COMPRESSED GAS
CAS NUMBER: 7782-44-7
EC NUMBER (EINECS): 231-956-9
PERCENTAGE: 0-0.6

COMPONENT: CARBON

CAS NUMBER: 7440-44-0
EC NUMBER (EINECS): 231-153-3
PERCENTAGE: 0-0.6

COMPONENT: PHOSPHORUS, WHITE
CAS NUMBER: 7723-14-0
EC NUMBER (EINECS): 231-768-7
PERCENTAGE: 0-0.1

COMPONENT: SULFUR

CAS NUMBER: 7704-34-9
EC NUMBER (EINECS): 231-722-6
PERCENTAGE: 0-0.1

COMPONENT: SILICON
CAS NUMBER: 7440-21-3
EC NUMBER (EINECS): 231-130-8
PERCENTAGE: 0-0.1

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: Solid.

MAJOR HEALTH HAZARDS: No significant target effects reported.

PHYSICAL HAZARDS: Flammable solid. Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, metal fume fever

LONG TERM EXPOSURE: difficulty breathing, lung damage

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: same as effects reported in short term exposure, irritation

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: same as effects reported in short term exposure, irritation

INGESTION:

SHORT TERM EXPOSURE: irritation, nausea, vomiting, digestive disorders

LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode.

EXTINGUISHING MEDIA: dolomite, dry powder for metal fires, dry sand, graphite, soda ash, sodium chloride

Do not get water directly on material.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Clean up residue with a high-efficiency particulate filter vacuum. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

TUNGSTEN:

TUNGSTEN AND INSOLUBLE COMPOUNDS (as W):

- 5 mg/m³ OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
- 10 mg/m³ OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
- 5 mg/m³ ACGIH TWA
- 10 mg/m³ ACGIH STEL
- 5 mg/m³ NIOSH recommended TWA 10 hour(s)

10 mg/m³ NIOSH recommended STEL
5 mg/m³ UK OES TWA
10 mg/m³ UK OES STEL

MEASUREMENT METHOD: Particulate filter; Acid; Atomic absorption spectrometry; NIOSH III # 7074

IRON:

IRON OXIDE DUST AND FUME (as Fe):
10 mg/m³ OSHA TWA (total particulate)
5 mg/m³ ACGIH TWA (total particulate)
5 mg/m³ NIOSH recommended TWA 10 hour(s) (total particulate)
1.5 mg/m³ DFG MAK (respirable dust fraction)
5 mg(Fe)/m³ UK OES TWA
10 mg(Fe)/m³ UK OES STEL

MEASUREMENT METHOD: Particulate filter; Acid; Inductively coupled plasma; NIOSH IV # 7300, Elements

VENTILATION: Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

Any dust, mist, and fume respirator.

Any air-purifying respirator with a high-efficiency particulate filter.

Any powered, air-purifying respirator with a dust, mist, and fume filter.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Solid.

BOILING POINT: Not applicable

MELTING POINT: Not available

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: insoluble

PH: Not applicable

VOLATILITY: Not applicable
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: molten steel

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid generating dust. Avoid heat, flames, sparks and other sources of ignition.

INCOMPATIBILITIES: acids, halogens, reducing agents, oxidizing materials, bases, combustible materials, peroxides, metals

TUNGSTEN:

ALKALI AND ALKALINE-EARTH METALS WITH HALOCARBONS: May explode with heat or on impact.

AQUA REGIA: Attacked superficially.

BROMINE PENTAFLUORIDE: Violent reaction and possible ignition.

BROMINE TRIFLUORIDE: Violent reaction.

CHLORINE TRIFLUORIDE: Violent reaction.

FLUORINE: Incandescent reaction.

HYDROGEN SULFIDE: Incandescent reaction.

IODINE PENTAFLUORIDE: Incandescent reaction when heated.

LEAD(IV) DIOXIDE: Incandescent reaction when heated.

NITRIC ACID: Attacked superficially.

NITRYL FLUORIDE: Incandescent reaction when heated.

OXIDIZERS (STRONG): Fire and explosion hazard.

OXYGEN DIFLUORIDE: Explodes at 400 C.

POTASSIUM DICHROMATE: Combustion attains a temperature of 1700 C in 0.1-0.2 seconds.

SODIUM PEROXIDE: Incandescent reaction when heated.

IRON:

ACETALDEHYDE: Polymerizes readily.

AMMONIUM NITRATE: Violent or explosive reaction.

AMMONIUM PEROXODISULFATE: Violent reaction.

BROMINE PENTAFLUORIDE: Violent reaction and possible ignition.

CHLORIC ACID: Forms explosive compound.

CHLORINE (GAS): Ignites.

CHLORINE TRIFLUORIDE: Violent reaction and possible ignition.

CHLOROFORMAMIDINIUM NITRATE: Explosive ignition.

DINITROGEN TETRAOXIDE: Ignites.

FLUORINE: Ignites.

HYDROGEN PEROXIDE: Violent decomposition.

MINERAL ACIDS: Readily attacked.

NITROGEN DIOXIDE: Incandescent reaction.

NITRYL FLUORIDE: Incandesces when heated.

ORGANIC ACIDS: Attacked or dissolved.

PEROXYFORMIC ACID: Incompatible.

PHOSPHORUS: Incandesces when heated.

POLYSTYRENE BEADS: Possible static ignition.
POTASSIUM DICHROMATE: Ignites on contact.
POTASSIUM PERCHLORATE + MANGANESE DIOXIDE: Ignites.
SODIUM ACETYLIDE: Possible violent reaction.
SODIUM PEROXIDE: Ignites under friction @ 240 C.
SULFURIC ACID: Possible explosion hazard.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

TUNGSTEN:

IRRITATION DATA:

500 mg/24 hour(s) skin-rabbit mild; 500 mg/24 hour(s) eyes-rabbit mild

TOXICITY DATA:

5 gm/kg intraperitoneal-rat LD50

ACUTE TOXICITY LEVEL: Insufficient Data.

REPRODUCTIVE EFFECTS DATA:

1210 ug/kg oral-rat TDLo 35 week(s) pre pregnancy continuous; 1160 ug/kg oral-rat TDLo 30 week(s) pre pregnancy/1-20 day(s) pregnant female continuous

IRON:

TOXICITY DATA:

77 mg/kg oral-child TDLo; 30 gm/kg oral-rat LD50; 20 mg/kg intraperitoneal-rabbit LDLo; 20 gm/kg oral-guinea pig LD50; 63 gm/kg/6 week(s) continuous oral-rat TDLo; 250 mg/m³/6 hour(s)-4 week(s) intermittent inhalation-rat TCLo

CARCINOGEN STATUS: Iron itself has not been evaluated by IARC. However iron and steel founding has been evaluated as IARC Group 1 (Human Sufficient Evidence). Studies have shown that certain exposures in iron and steel founding can cause lung cancer in humans. Excesses of leukemia and urogenital and digestive system cancers have also been reported.

ACUTE TOXICITY LEVEL:

Relatively Non-toxic: ingestion

TUMORIGENIC DATA:

450 mg/kg intratracheal-rat TDLo/15 week(s) intermittent

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

TUNGSTEN: May cause irritation and coughing.

IRON: Dust may cause mucous membrane and respiratory irritation due to mechanical action. Metal fume fever, an influenza-like illness, may occur due to the inhalation of freshly formed iron oxide particles sized below 1.5 microns and usually between 0.02-0.05 microns. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes. Lassitude and a generalized feeling of malaise. Fever, chills,

muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur. Tolerance to fumes develops rapidly, but is quickly lost. All symptoms usually subside within 24-36 hours.

CHRONIC EXPOSURE:

TUNGSTEN: Prolonged or repeated exposure has been reported to cause pulmonary fibrosis. Intratracheal injection into the lungs of experimental animals revealed the metallic dust to be inert, with the only pulmonary effect being areas of pigmentation. One conflicting study found the dust to cause interstitial pneumonitis and bronchiolitis in guinea pigs after intratracheal injection of 50 mg a week for 3 weeks. After one year, slight residual lesions in the form of minor atrophic emphysema were present.

IRON: Prolonged or repeated exposure may cause a mottling of the lungs, a condition called siderosis which is considered to be a benign pneumoconiosis that does not cause significant physiologic impairment.

Symptoms may include chronic bronchitis, emphysema, and dyspnea on exertion.

SKIN CONTACT:

ACUTE EXPOSURE:

TUNGSTEN: Application of 500 mg to the skin of rabbits caused mild irritation. May cause redness.

IRON: Dust may cause irritation. Penetration of iron particles in the skin may cause an exogenous siderosis which may be characterized by a red-brown pigmentation of the affected area.

CHRONIC EXPOSURE:

TUNGSTEN: May cause dermatitis.

IRON: May cause same effects as reported in acute exposure.

EYE CONTACT:

ACUTE EXPOSURE:

TUNGSTEN: Application of 500 mg to the eyes of rabbits caused mild irritation. May cause redness and conjunctivitis.

IRON: May cause irritation due to mechanical action. Iron particles imbedded in the eye may cause ocular siderosis. Effects may include discoloration of the cornea and iris, and pupillary effects including poor reaction to light, accommodation, and atropine. If a particle enters the lens there may be cataract formation. Glaucoma occurs rarely in some cases of ocular siderosis.

CHRONIC EXPOSURE:

TUNGSTEN: May cause conjunctivitis.

IRON: Repeated and prolonged contact may cause conjunctivitis and other effects reported in acute exposure.

INGESTION:

ACUTE EXPOSURE:

TUNGSTEN: May cause nausea, vomiting, and irritation of the gastrointestinal tract.

IRON: There are no reports available on poisoning from metallic iron. The principal manifestations of poisoning with iron compounds are vomiting, diarrhea, and circulatory collapse.

CHRONIC EXPOSURE:

TUNGSTEN: When rats were fed 2%, 5% or 10% powdered tungsten in their diets, the females gained 15.4% less weight than the control females; there was no difference between tungsten-fed and control males. The sex specific effect was suggested to depend on metabolic utilization of foodstuffs. Reproductive effects have been reported in animals.

IRON: Repeated or prolonged exposure may cause hemosiderosis, or hemochromatosis.

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Metal powders, flammable, n.o.s. (ferrotungsten)
ID NUMBER: UN3089
HAZARD CLASS OR DIVISION: 4.1
PACKING GROUP: II

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR/RID:

PROPER SHIPPING NAME: Metal powder, flammable, n.o.s.
UN NUMBER: UN3089
ADR/RID CLASS: 4.1
CLASSIFICATION CODE: F3
PACKING GROUP: II

AIR TRANSPORT IATA/ICAO:

PROPER SHIPPING NAME: Metal powder, flammable, n.o.s.
UN/ID NUMBER: UN3089
IATA/ICAO CLASS: 4.1
PACKING GROUP: II

MARITIME TRANSPORT IMDG:
PROPER SHIPPING NAME: Metal powder, flammable, n.o.s.
UN NUMBER: UN3089
IMDG CLASS: 4.1
PACKING GROUP: II

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
PHOSPHORUS, WHITE: 1 LBS RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):
ACUTE: No
CHRONIC: No
FIRE: Yes
REACTIVE: No
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Not listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

SECTION 16 OTHER INFORMATION

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J.7 Fedwire Procedures (JAN 95)

The Sender should use a bank that offers wire transfer capability. The Federal Reserve Bank of New York will then process the money for deposit to the Defense National Stockpile Account with the Department of the Treasury.

PROCEDURES FOR DEPOSIT SLIP(S) FOR FEDWIRE:

To ensure the funds are credited to the Defense National Stockpile Center the following information is required on any wire transfer of funds.

1. Treasury Dept. Code – Routing No. to the Treasury
MUST BE ON SLIP "021030004".
2. Amount of funds to be transferred.
3. Treasury Department Name – **This item is critical** –
MUST APPEAR EXACTLY AS SHOWN BELOW
TREAS NYC/(CTR/BNF=/AC-00006355)
4. Third Party Information – Purchaser's Name, Commodity, and Contract Number.