



REFER TO: **DNSC-C**

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

February 23, 2006

**AMENDMENT NO. 003
TO DLA-FERROCHROMIUM-005
SOLICITATION OF OFFERS
FOR FERROCHROMIUM**

The above referenced Solicitation for the sale of Ferrochromium is hereby amended to announce a solicitation of offers as follows:

1. Amendments no. 001, 002A and 002B are hereby deleted in their entirety.
2. The next offering time and date will be **1:30 PM, local time, Ft. Belvoir, VA, Tuesday, March 8, 2006**. Accordingly, paragraph a. of **Section A.1 Introduction (SEP 02)** is revised as follows:

A.1 INTRODUCTION (FEB 06)

a. The Defense Logistics Agency (DLA), Defense National Stockpile Center (DNSC), is soliciting offers for the sale of ferrochromium, approximately 30,000 ST (bulk weight) of high carbon stored at Curtis Bay, MD, Pt. Pleasant, WV and New Haven, IN Depots, and approximately 20,000 ST (bulk weight) of low carbon stored at Ravenna, OH, Belle Mead, NJ, Pt. Pleasant, WV and Somerville, NJ Depots. This material is being offered for evaluation under Category A (unrestricted) and Category B (restricted-for export only). The offering will be held on **Thursday, March 9, 2006 at 10:30 AM, local time, Ft. Belvoir, VA**. Offers must be received at the address in Section B.2.a by 10:30 AM, local time, Ft. Belvoir, VA. In the event that DNSC is closed at that time, offers for that day will be received at 10:30 AM, local time, Ft. Belvoir, VA on the next DNSC business day. The fax number for receipt of offers is 703-767-5541.

3. Section **A.2 Description (AUG 04)** is hereby deleted in its entirety and substituted as follows:

A.2 DESCRIPTION (APR 05)

a. The low carbon ferrochromium, carbon content >0.10%, is stored outside in bulk piles. Please see Section **I.2 Item Offer Page-DLA Ferrochromium-005 (FEB 06)** for a full list of items available under this offering. Please note that all items (except one) of low carbon ferrochromium offered under this offering have been recently re-piled and had an independent analysis performed by Andrew S. McCreath and Son, Inc. to determine contained Chromium (Cr) and contained Carbon (C) and will be sold basis this analysis of record only. The sole exception to this restriction is Item # 201 Pile 006, located at Belle Meade, NJ Depot. This item has not been recently re-piled and has not had an independent analysis performed. Item #201 Pile #006 will be sold in accordance with the requirements as detailed in Sections **B.4** and **F.4** of this amendment.

b. The high carbon ferrochromium, chrome content 60-65%, is stored outside in bulk piles. Please see Section **I.2 Item Offer Page-DLA Ferrochromium-005 (FEB 06)** for a full list of items available under this offering. These items will be sold in accordance with the requirements as detailed in Sections **B.4** and **F.4** of this amendment.

4. Section **B.4 Submission of Offers for Low Carbon Ferrochromium (AUG 04)** is hereby deleted in its entirety and the following substituted therefore:

B. 4 Submission of Offers for Ferrochromium (FEB 06)

Offers for all items of low carbon ferrochromium may be submitted as follows:

- a.** A whole pile; accepting the Government's weights and analysis of record for final settlement. A Government representative will witness outloading to ensure all material is removed and the site is left in satisfactory condition.
- b.** A whole or portion of a pile, accepting the material with the Government's analysis of record used for final payment. Offeror shall, at its own expense, weigh the material on an approved and certified scale. A Government representative will witness all weighing and outloading to ensure accuracy of weights and that all material is removed and the site is left in satisfactory condition.

Additionally, offers for Item #201, low carbon ferrochromium may also be accepted as follows. This subsection applies to Item #201 only.

- c.** A whole or portion of a pile with the contained Chromium (Cr) and Carbon (C) determined in accordance with standard commercial procedures. The Offeror shall, at its own expense, weigh the material on an approved and certified scale and have the material sampled and analyzed by an approved sampler/analyst. A Government representative will witness all weighing, sampling and outloading to ensure accuracy of weights and that all material is removed and the site is left in satisfactory condition.

Offers for high carbon ferrochromium may be submitted as follows:

- d.** A whole pile; accepting the Government's weights and analysis of record for final settlement. A Government representative will witness outloading to ensure all material is removed and the site is left in satisfactory condition.
- e.** A whole or portion of a pile, accepting the material with the analysis of record used for final payment. Offeror shall, at its own expense, weigh the material on an approved and certified scale. A Government representative will witness all weighing and outloading to ensure accuracy of weights and that all material is removed and the site is left in satisfactory condition.
- f.** A whole or portion of a pile with the contained Chromium (Cr) determined in accordance with standard commercial procedures. The Offeror shall, at its own expense, weigh the material on an approved and certified scale and have the material sampled and analyzed by an approved sampler/analyst. A Government representative will witness all weighing, sampling and outloading to ensure accuracy of weights and that all material is removed and the site is left in satisfactory condition.

5. Section B.5 Unit Pricing-Low Carbon Ferrochromium (AUG 04) is hereby deleted in its entirety and the following substituted therefore:

B.5 Unit Pricing-Ferrochromium and Monthly Declaration (FEB 06)

- a.** Offerors may submit a fixed price or formula price offer for either category (Unrestricted or Restricted-for export only). Prices for low carbon ferrochromium shall be expressed on dollar per pound contained Chromium (LBCr) basis. Prices for high carbon ferrochromium shall be expressed on dollar per short ton contained Chromium (STCr) basis.
- b.** The contract period for fixed price offers shall not exceed 60 days.

c. Formula priced offers shall be based on a set of published price quotations as set forth below. The formula selected must be used for an entire line item. Offerors shall use the following guidelines when submitting a formula price.

- (1) A pricing formula shall be stated either as a percentage of the base price or as a base price plus or minus a specified premium or discount.
- (2) The published quotations which establish the base price for a pricing formula shall be from only one of the following sources: *Platts Metals Week* or *Ryan's Notes Ferrous and Nonferrous News and Prices* for the appropriately corresponding ferrochromium type.
- (3) The base price in the formula shall be determined by the average of the published high and low quotations from *Platts Metals Week* or *Ryan's Notes Ferrous and Nonferrous News and Prices* for the appropriately corresponding ferrochromium type. The average will be calculated by adding the prices, which are effective for the calendar month, and dividing by the number of those prices. The determination as to which prices are used in calculating a monthly average will be based on the date on which the price is effective, not the date the price is published.
- (4) The pricing date shall be the date the Contractor's monthly declaration for a specified quantity of ferrochromium is received by the Government as follows: The actual price for the material shall be determined on the pricing date and will be based on the monthly average, as determined in paragraph c.(3), above, for the previous calendar month, plus or minus any premium or discount. The Contractor shall identify each calendar month the quantity of ferrochromium to be priced for that month and confirm the calculation of the price, as specified above. The Contractor shall submit this declaration no later than the 15th calendar day of each month (see Section **E.1.b.** of this Amendment). Shipping instructions (Section **J.3** of the solicitation) for the material on a monthly declaration must be forwarded to the Contracting Officer within (5) calendar days of the pricing date. In accordance with Section **F.1.g.**, shipment must commence within ten (10) calendar days from the date the Government receives the Contractor's shipping instructions for a quantity of material.

6. Section **B.6 Price Adjustments for Low Carbon Ferrochromium (AUG 04)** is hereby deleted in its entirety and substituted with the following:

B.6 Price Adjustments for Ferrochromium (FEB 06)

All items of low carbon ferrochromium offered under this solicitation will be sold based on the analysis of record only (except for Item #201). Copies of the Andrew S. McCreath analysis records can be made available upon request.

For all items of high carbon ferrochromium and Item #201, low carbon ferrochromium, if the Contractor elects to have any of these items of ferrochromium sampled and analyzed, it shall be at its expense, by a DNSC approved sampler/analyst, the following testing and price adjustments methodology will apply to the material as indicated:

Low Carbon Ferrochromium:

- a. Low carbon ferrochromium testing shall be for contained Chromium (Cr) and Carbon (C) only.
- b. Price adjustments will be paid based upon contained Chromium (Cr) using the market indicator reflective of the Carbon (C) content.

- (1) If test results reflect a C content either less than 0.050% or greater than 0.10%, the the difference in published prices for 0.10% low carbon ferrochromium (LC FeCr) and either 0.05% or 0.15% LC FeCr will be used as appropriate, for the price adjustment.
 - (2) Where C is greater than 0.10% but does not exceed 0.15% and the published price for 0.15% is higher than the published price for 0.10%, the adjustment will be as set forth in paragraph (1), above, plus an additional \$0.01 per pound.
- c. Final price adjustments shall be completed after removal of material under the shipment. Initial billing for each individual shipment shall be based upon the price determined at the time of the initial release.

For High Carbon Ferrochromium:

- d. High carbon ferrochromium testing shall be for contained Chromium (Cr) only.
- e. Final price adjustments shall be completed after removal of material under the shipment. Initial billing for each individual shipment shall be based upon the price determined at the time of the initial release.

7. Section **B.10 Evaluation of Offers-Low Carbon Ferrochromium (AUG 04)** is hereby deleted in its entirety and substituted with the following:

B.10 Evaluation of Offers-Ferrochromium (FEB 06)

a. **Unrestricted Offer Category (Category U)** - The evaluation factors are listed below in descending order of importance:

- (1) Unit price
- (2) Payment terms
- (3) Removal Schedule

b. **Restricted Offer Category (Category R) For Export Only** - The evaluation factors are listed below in descending order of importance. Offerors awarded material for export use only will be required to furnish a copy of the Marine Bill of Lading documenting that shipment of the material took place to other than the United States, Mexico, or Canada.

- (1) Unit Price
- (2) Payment Terms
- (3) Removal Schedule
- (4) Export related costs

For both categories, all evaluation factors other than unit price, when combined, are significantly less important than unit price.

c. To be considered, offers must meet the following minimum requirements:

- (1) Submission of the information requested in Section **B.1**;
- (2) Submission of pricing which complies with the provision of Section **B.5**; and
- (3) Submission of a removal schedule which meets or exceeds the provisions of Section **E.1**.

d. The maximum acceptable payment terms are net thirty (30) calendar days from DNSC's receipt of each monthly declaration.

8. **SECTION C-INSPECTION (JUN 98)** is hereby modified as follows:

a. For high and low carbon ferrochromium stored in piles, Offerors or their designees, at their expense, are encouraged to inspect pile material and take a grab sample, not to exceed 50 pounds. The Government does not warrant any samples to be representative of the entire pile.

Subsections **b.**, **c.**, and **d.** remain unchanged.

9. **SECTION D – PAYMENT** is hereby deleted in its entirety and replaced with the following:

SECTION D-PAYMENT

D.1 Payment (OCT 05)

a. Payment shall be made in U.S. dollars.

b. Payment *for material* shall be made *only* by wire transfer (Fedwire). Payment for ***adjustments for variations in quantity or weight of material shipped***, storage charges, interest, penalty charges, or administrative charges may be made by wire transfer, electronic funds transfer, or company or bank check. If payments for material (other than payments for adjustments for variations in quantity or weight) are made by electronic funds transfer or check, delays in shipment will result, and the payment may be returned to the sender.

c. Payment by wire transfer (Fedwire).

(1) Wire transfer payment shall be made in accordance with instructions in **Section J.5**. Fees for wire transfers are the responsibility of the Contractor. Payment shall be accompanied by **identifying information including the contract number, invoice number (if applicable), and a description of the material purchased**.

(2) If wire transfer payment is not made in accordance with the instructions in **Section J.5**, or if identifying information is not provided, shipment of material may be delayed by up to one week, the wire transfer may be returned to the sender or a Contractor may incur charges if payments are delinquent.

d. Payment by electronic funds transfer.

(1) Electronic funds transfer payment shall be made in accordance with instructions in **Section J.5**. Any fees for electronic funds transfers are the responsibility of the Contractor. Payment shall be accompanied by **identifying information including the contract number, invoice number, and a description of the material purchased**.

(2) If payment by electronic funds transfer is not made in accordance with the instructions in **Section J.5**, or if identifying information is not provided, payment may be returned to the sender and the Contractor may incur charges if payments are delinquent.

e. Payment by company or bank check.

(1) 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.**

(2) 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.e.(1)** charged. Payment shall be accompanied by **identifying information including the contract number, invoice number, and a description of the material purchased**. Check payments which do not have the required identification may be returned and the Contractor may incur charges if payments are delinquent. Check 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

f. Invoices issued for adjustments for variations in quantity or weight, storage charges, interest, penalty charges, or administrative charges shall be paid promptly.

g. If payment is not made in full within 30 calendar days of issuance of an invoice as specified in **D.1.f.**, 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 (OCT 05)

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 Quote/Award Form (APR 02)**.

(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. Shipping Instructions must be submitted on or before the final day of the contract period. 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.g.**, **F.1.a.**, and **G.10**), and the Government, at its sole discretion, may revoke payment terms and take other appropriate action in accordance with Section **G.7**. If the Contractor fails to submit current, accurate and complete Shipping Instructions on or before the final day of the contract period, the Government will revoke payment terms and payment must be made **before** shipment of material.

b. If payment is not received by 2:00 p.m., local time Fort Belvoir, VA, on the payment due date, payment will not be credited until the next Government business day. Interest and penalty charges 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 (MAY 04)

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 Quote/Award Form (APR 02)** (with or without the issuance of an invoice by the Government);

(2) The date of the first written demand for payment under the contract, including any demand resulting from a default termination, unless paid within 30 days of becoming due;
or

(3) If payment terms have been approved, **30** calendar days after the date that DNSC receives current, accurate and complete Shipping Instructions provided that Shipping Instructions are submitted on or before the final day of the contract period. If Shipping Instructions are not submitted on or before the final day of the contract period, amounts shall be due in accordance with the provisions of Section **D.3.b.(1)**.

D.4 Penalty and Administrative Charges (MAY 04)

In addition to interest charges specified in Section **D.3**, above, a penalty charge of 6 percent per annum shall be assessed on any debt principal that is delinquent more than 90 calendar days. Penalty charges shall accrue from the date the principal amount due becomes delinquent until paid. Additional administrative charges may be assessed, if needed. Administrative charges relate only to delinquent debts and will be assessed to cover expenses incurred by the Government in the recovery of such debts.

10. Section **G.10 Setoff of Funds (JUL 98)** is hereby deleted in its entirety and replaced with the following:

G.10 Setoff of Funds (MAY 04)

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

11. Section **E.1 Removal of Material (AUG 04)** is deleted in its entirety and is substituted with the following:

E.1 Removal of Material (APR 05)

a. The following pertains to fixed price contracts:

(1) The contract period begins on the date of contract award and shall expire 60 calendar days from the date of contract award.

(2) 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.

(3) 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.

b. The following pertains to formula price contracts:

(1) The contract period is based on the quantity of material awarded and begins on the date of contract award. The contract periods are as follows:

<u>Quantity Awarded in ST Cr</u>	<u>Removal Period in Calendar Days</u>
500-1,500 ST Cr	60 Days
1,501-3,000 ST Cr	90 Days
3,001-4,500 ST Cr	120 Days
4,501-6,000 ST Cr	150 Days
6,001 ST Cr and above	180 Days

(2) The contract period begins on the date of contract award and shall expire as outlined in Section E.1.b. No later than the fifteenth (15th) calendar day of each calendar month, the Contractor shall furnish the Contracting Officer, in writing, a declaration of the quantity of material to be priced for that month. This quantity declared shall be for at least the minimum and not more than the maximum as detailed in contract removal schedule. The Contractor shall have 45 calendar days from the date the declaration is received by the Government to remove the declared quantity of material except that all material under the contract must be removed within the contract period. The schedule of these minimum and maximum monthly quantities shall be contained in the completed Section **I.3 Offeror's Proposed Removal Schedule (APR 05)** which shall be a part of this contract. Should a Contractor be awarded a quantity different than proposed in the schedule, the Government reserves the right to establish as a monthly minimum and maximum 1/6 th of the contract quantity +/- 10%.

(3) If the Contractor fails to: (1) submit the monthly declaration by the 15th calendar day of the month and make payment in accordance with Section D; or (2) remove the minimum quantity in accordance with Section **I.3** and **paragraph b.(1)** above, the Contractor shall be considered delinquent and no material will be shipped until payment has been received for either the minimum monthly quantity or the declared quantity, whichever is greater. If the Contractor has failed to complete removal of all of the material on or before the last day of the contract period, the Contractor will be considered delinquent and no material will be shipped until payment for all remaining material has been received.

(4) The contract period and the 45-calendar day period following the submission of a declaration include Saturdays, Sundays and holidays. If the last day of either period is a Saturday, Sunday or holiday, of the storage location is otherwise closed on those days, the period of contract performance or the 45-calendar day period will be extended to the next Government workday.

12. Section E.2 Storage Charges (JUL 97) is hereby deleted and substituted with the following:

E.2 Storage Charges (FEB 06)

a. Storage charges shall be assessed on (1) all material remaining unshipped from a monthly declaration after the 45-calendar day period following the receipt of the declaration by the

Government and/or (2) any and all material remaining unshipped after the last day of the contract period, as applicable. 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 in accordance with the monthly declaration or the end of the contract period, as applicable, 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 Solicitation.

b. The storage charge is the greater of the following by type: for low carbon ferrochromium (1) \$0.0075 per LBCr (if a fraction of a pound remains, the charge will be for a full pound) 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. For high carbon ferrochromium (1) \$15.61 per STCr (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**.)

13. Section **F.1-Request for Shipment**, paragraph **g**, is deleted in its entirety and substituted with the following:

g. Shipment must commence within ten (10) calendar days from the date the Government receives the Contractor's shipping instructions for a quantity of material (see Section **B.5.c.(4)** of this Amendment). When multiple awards are made from the same pile, every effort will be made to provide equitable distribution of the material.

14. Section **F.4 Analytical Determination for Low Carbon Ferrochromium (AUG 04)** is hereby deleted in its entirety and substituted with the following:

F.4 Analytical Determination for Ferrochromium (FEB 06)

a. For Item #201 Pile 006 low carbon ferrochromium, a determination of contained Chromium (Cr) and contained Carbon (C) shall be made in accordance with standard commercial procedures by an independent sampler/analyst, to be designated by the Contractor and acceptable to the Government, with the results of such analyses being final and binding. Analysis certificates shall be furnished simultaneously to both parties by the independent sampler/analyst.

b. For high carbon ferrochromium items, a determination of contained Chromium (Cr) only shall be made in accordance with standard commercial procedures by an independent sampler/analyst, to be designated by the Contractor and acceptable to the Government, with the results of such analyses being final and binding. Analysis certificates shall be furnished simultaneously to both parties by the independent sampler/analyst.

c. The independent sampler/analyst shall furnish the proposed sampling methods and analytical procedures to the Government for review and approval prior to outloading. These documents, as well as the analysis certificates, shall be forwarded to:

DNOSC-O/Defense National Stockpile Center
ATTN: Directorate of Stockpile Operations
8725 John J. Kingman Road, Suite 3229
Fort Belvoir, VA 22060-6223
FAX (703) 767-7608

d. The Contractor shall make the necessary arrangements to procure the services of the independent sampler/analyst and the Contractor shall bear the cost of these services.

e. Should the determination of contained Chromium by an independent sample/analyst be waived by the Contractor, the analysis of record will be used for payment purposes.

15. Sections I.2 Item Offer Page (AUG 04), J.1 Analyses (AUG 04) and J.2 Storage Location (AUG 04) are deleted in their entirety and are replaced with the attached Sections I.2 Item Offer Page-DLA-FERROCHROMIUM-005 (FEB 06), I.2 Item Offer Page-DLA-FERROCHROMIUM-005 (FEB 06), J.1 Analyses of Material (FEB 06) and J.2 Storage Locations (FEB 06).

16. Section I.3 Anticipated Removal Schedule-Low Carbon Ferrochromium (AUG 04) is hereby deleted in its entirety and replaced with the attached Section I.3 Offeror's Proposed Removal Schedule -Ferrochromium (APR 05).

17. Section J.4 Material Safety Data Sheets (MAR 04) are hereby deleted in its entirety and replaced with the attached Section J.4 Material Safety Data Sheets (DEC 05).

18. Section J.5 Fedwire Procedures (JAN 95) is hereby deleted in its entirety and replaced with the attached Section J.5 FEDWIRE AND ELECTRONIC FUNDS TRANSFER PROCEDURES (OCT 05, Rev.).

19. Offerors shall acknowledge receipt of this Amendment by signing in the space provided below and returning this form, along with the offer on Section I.2 Item Offer Page - DLA-FERROCHROMIUM (FEB 06) and the "Submittals for Negotiated Offers" found as attachments in this amendment or by clicking the "Getting Started" tab at the DNOSC homepage on <https://www.dnosc.dla.mil>. Send to the attention of DNOSC-R /Bid Custodian at Facsimile No. 703-767-5541.

20. Failure to acknowledge receipt of Amendment No. 003 may result in the Offeror being ineligible for award. Except as provided herein, all other terms and conditions of DLA-FERROCHROMIUM-005 remain unchanged and in full force and effect.

NAME OF FIRM: _____

ADDRESS: _____

TELEPHONE: _____ **FACSIMILE:** _____

COMPLETED BY: _____

SIGNATURE: _____

TITLE: _____

E-MAIL ADDRESS: _____

Access to Solicitation of Offers DLA-FERROCHROMIUM-005 and this Amendment is available at the DNSC Website:
<https://www.dnsc.dla>

SECTION I - SUBMITTALS

COMPLETE AND RETURN ALL OF THE FOLLOWING WITH YOUR OFFER, UNLESS ANNUAL REPRESENTATIONS, CERTIFICATIONS, AND IDENTIFICATIONS HAVE BEEN SUBMITTED THIS FISCAL YEAR, THEN SUBMIT I.1, I.2, I.3, AND I.4 ONLY:

- I.1 Sale of Government Property Negotiated Sales Contract (FEB 06) UNRESTRICTED
- I.1 Sale of Government Property Negotiated Sales Contract (FEB 06) RESTRICTED-FOR EXPORT ONLY
- I.2 Item Offer Page - DLA-FERROCHROMIUM-005 (FEB 06) Low Carbon
- I.2 Item Offer Page-DLA-FERROCHORMIUM-005 (FEB 06) High Carbon
- I.3 Offeror's Proposed Removal Schedule (APR 05)
- 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 (FEB 06) Ferrochromium (UNRESTRICTED)

SALE OF GOVERNMENT PROPERTY NEGOTIATED SALES CONTRACT		CONTRACT NUMBER		PAGE 1 OF	
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 identified below. The Government agrees to sell and the Contractor agrees to buy the material described below in accordance with the terms and conditions of DLA-FERROCHROMIUM-005. In the event of a conflict between the terms on the Solicitation and this Negotiated Sales Contract, the terms on the Negotiated Sales Contract shall govern.					
	PROPERTY DESCRIPTION AND LOCATION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
FERROCHROMIUM:					
CONTRACT PERIOD EXPIRES ON:					
EXECUTION BY CONTRACTOR			EXECUTION BY GOVERNMENT		
DATE (Day, Month, Year)			UNITED STATES OF AMERICA		DATE:
NAME and SIGNATURE OF CONTRACTOR Name and Title: _____			BY: _____		
Signature and Title of Person Authorized to Sign					
CONTRACTOR'S NAME AND ADDRESS (Street, City, State and Zip) _____ _____ _____			NAME AND TITLE OF CONTRACTING OFFICIAL		
Telephone Number: _____ Facsimile Number: _____			Name: _____		
			Contracting Officer		DNSC-C

**I.1 Sale of Government Property Negotiated Sales Contract (FEB 06) Ferrochromium
 (RESTRICTED-EXPORT ONLY)**

SALE OF GOVERNMENT PROPERTY NEGOTIATED SALES CONTRACT		CONTRACT NUMBER		PAGE 1 OF	
<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 identified below. The Government agrees to sell and the Contractor agrees to buy the material described below in accordance with the terms and conditions of DLA-FERROCHROMIUM-005. In the event of a conflict between the terms on the Solicitation and this Negotiated Sales Contract, the terms on the Negotiated Sales Contract shall govern.</p>					
	PROPERTY DESCRIPTION AND LOCATION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
FERROCHROMIUM:					
CONTRACT PERIOD EXPIRES ON:					
EXECUTION BY CONTRACTOR			EXECUTION BY GOVERNMENT		
DATE (Day, Month, Year)			UNITED STATES OF AMERICA		DATE:
NAME and SIGNATURE OF CONTRACTOR Name and Title: _____ _____ Signature and Title of Person Authorized to Sign			BY: _____		
CONTRACTOR'S NAME AND ADDRESS (Street, City, State and Zip) _____ _____ _____ _____ Telephone Number: _____ Facsimile Number: _____			NAME AND TITLE OF CONTRACTING OFFICIAL Name: _____ Contracting Officer DNSC-C		

I.2 Item Offer Page - DLA-Ferrochromium-005 (FEB 06) Low Carbon

Low Carbon Ferrochromium

Item	Pile	Origin	Location	Net Weight (LBS)	Net Weight (LBSCr)	Category (U) or (R)	Qty. Offered (LBSCr)	Unit Price (\$/LBCr)	Total Value
201	006	Japan	Belle Mead, NJ	6,432,400.00	4,274,329.80				\$

Low Carbon Ferrochromium (Con't)

***Note: The Following Items are Sold Analysis of Record ONLY**

Item	Pile	Origin	Location	Net Weight (LBS)	Net Weight (LBSCr)	Category (U) or (R)	Qty. Offered (LBSCr)	Unit Price (\$/LBCr)	Total Value
15	22D	Domestic	Ravenna, OH	10,000,000.00	6,545,000.0000				\$
205	57A	Domestic	Pt. Pleasant, WV	4,423,750.00	3,069,197.7500				\$
1121	112-A	Domestic	New Haven, IN	9,996,280.00	6,859,447.3360				\$
2064	004	W. Germany	Somerville, NJ	11,860,399.00	8,416,139.1304				\$
601	00A	France	Warren, OH	83,497.00	61,495.5405				\$
606	00F	France	Warren, OH	88,818.00	64,837.1400				\$
614	614	S. Rhodesia	Warren, OH	37,140.00	27,106.0980				\$
620	620	S. Rhodesia	Warren, OH	58,957.00	41,753.3474				\$
644	644	S. Rhodesia	Warren, OH	86,664.00	62,432.7456				\$
646	646	S. Rhodesia	Warren, Oh	47,395.00	34,072.2655				\$
647	647	S. Rhodesia	Warren, OH	61,990.00	44,824.9690				\$
650	650	S. Rhodesia	Warren, OH	96,003.00	68,862.9519				\$
652	652	S. Rhodesia	Warren, OH	53,279.00	38,174.4035				\$
653	653	S. Rhodesia	Warren, OH	47,617.00	34,579.4654				\$
654	654	S. Rhodesia	Warren, OH	40,018.00	28,548.8412				\$
		TOTAL ALL	LOW CARBON	43,415,207.00	29,670,801.7844				

**Category (U) denotes the Offeror's intent to purchase for Unrestricted use.
 Category (R) denotes the Offeror's intent to purchase for Export Only.**

Total Offer Quantity Low Carbon (LBCr) _____

Total Offer Value Low Carbon _____

Company Name _____

Name and Title _____

Signature and Date _____

Telephone Number _____

Facsimile Number _____

Email Address _____

I.2 Item Offer Page - DLA-Ferrochromium-005 (FEB 06) High Carbon

High Carbon Ferrochromium

Item	Pile	Origin	Location	Net Weight (ST)	Net Weight (STCr)	Category (U) or (R)	Qty. Offered (STCr)	Unit Price (\$/STCr)	Total Value
36	125	France	Curtis Bay, MD	2,490.58	1,767.8137				\$
300	62	Domestic	Pt. Pleasant, WV	20,000.00	13,236.0000				\$
46	11	Domestic	New Haven, IN	3,852.40	2,647.3713				\$
52	53	W. Germany	New Haven, IN	8,333.86	5,885.3719				\$
		TOTAL ALL	HIGH CARBON	34,676.84	23,536.5569				\$

**Category (U) denotes the Offeror's intent to purchase for Unrestricted use.
 Category (R) denotes the Offeror's intent to purchase for Export Only.**

Total Offer Quantity High Carbon (STCr) _____

Total Offer Value High Carbon _____

Company Name _____

Name and Title _____

Signature and Date _____

Telephone Number _____

Facsimile Number _____

Email Address _____

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 05)

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.

TYPED NAME	TITLE	TELEPHONE NO.

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.3 Shipping Instructions**:

TYPED NAME	SIGNATURE	TITLE	TELEPHONE NO.

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 Analyses (FEB 06)

J.2 Storage Locations (FEB 06)

J.4 Material Safety Data Sheets (DEC 05)

J.5 Fedwire and Electronic Funds Transfer Procedures (OCT 05, Rev.)

J.1 Analyses of Material (FEB 06) Low Carbon Ferrochromium

Ferrochromium Low Carbon

Item	Location	Pile	Cr	C	Si	P	S	Remarks
201	Belle Mead, NJ	006	66.45%	0.080%	0.75%	0.020%	0.020%	DNSC Analysis of Record
15	Ravenna, OH	22-D	65.45%	0.140%	0.73%	0.022%	0.001%	* Recent McCreath Analysis
205	Pt. Pleasant, WV	57-A	69.38%	0.100%	0.65%	0.025%	0.002%	* Recent McCreath Analysis
1121	New Haven, IN	112-A	68.62%	0.091%	0.60%	0.019%	0.001%	* Recent McCreath Analysis
2604	Somerville, NJ	004	70.96%	0.089%	0.54%	0.025%	0.009%	* Recent McCreath Analysis
601	Warren, OH	00A	73.65%	0.022%	0.38%	0.022%	0.007%	* Recent McCreath Analysis
606	Warren, OH	00F	73.00%	0.038%	0.25%	0.023%	0.004%	* Recent McCreath Analysis
614	Warren, OH	614	71.07%	0.043%	0.28%	0.025%	0.003%	* Recent McCreath Analysis
620	Warren, OH	620	70.82%	0.037%	0.41%	0.024%	0.004%	* Recent McCreath Analysis
644	Warren, OH	644	72.04%	0.040%	0.43%	0.025%	0.004%	* Recent McCreath Analysis
646	Warren, OH	646	71.89%	0.041%	0.69%	0.026%	0.004%	* Recent McCreath Analysis
647	Warren, OH	647	72.31%	0.028%	0.60%	0.027%	0.003%	* Recent McCreath Analysis
650	Warren, OH	650	71.13%	0.046%	0.37%	0.025%	0.004%	* Recent McCreath Analysis
652	Warren, OH	652	71.65%	0.026%	0.48%	0.026%	0.004%	* Recent McCreath Analysis
653	Warren, OH	653	72.62%	0.023%	0.62%	0.025%	0.003%	* Recent McCreath Analysis
654	Warren, OH	654	71.34%	0.030%	0.76%	0.027%	0.005%	* Recent McCreath Analysis

* Material has been recently re-piled and an independent analysis performed by Andrew S. McCreath & Sons.

Copies of the Analysis Report can be made available upon request.

Material with this notation is sold basis this new analysis of record only.

J.1 Analyses of Material (FEB 06) High Carbon Ferrochromium

Ferrochromium High Carbon

Item	Location	Pile	Cr	C	Si	P	S	Remarks
36	Curtis Bay, MD	125	70.98%		0.55%	0.020%	0.010%	DNSC Analysis of Record
300	Pt. Pleasant, WV	62	66.18%	6.150%	1.62%	0.050%	0.040%	DNSC Analysis of Record
46	New Haven, IN	11	68.72%	4.560%	1.21%	0.010%	0.060%	DNSC Analysis of Record
52	New Haven, IN	53	70.62%	5.590%	0.99%	0.010%	0.020%	DNSC Analysis of Record

J.2 STORAGE LOCATIONS (FEB 06)

<u>Depot</u>	<u>Status</u>	<u>Address</u>	<u>Manager</u>	<u>Phone #</u>	<u>Fax #</u>	<u>Shipping Hours</u>	<u>Access</u>
Baltimore, MD	Un-Staffed	710 E. Ordnance Road Baltimore, MD 21226-1786	Contact Binghamton, NY, Depot			Mon 1200-1430 Tue-Thu 0700-1430 Fri 0700-1000	Truck/Rail
Belle Mead, NJ	Un-Staffed	Mountain View Road Belle Mead, NJ	Contact Somerville, NJ, Depot			Mon-Fri 0715-1400	Truck
Binghamton, NY	Staffed	Hoyt Avenue Binghamton, NY 13901-1699	Bill Guiton	(607) 773-2602	(607) 773-2722	Mon-Thu 0700-1430 Fri 0800-1430	Truck/Rail
Hammond, IN	Staffed	3200 Sheffield Avenue Hammond, IN 46327-1003	John Olszewski x104	(219) 937-5383 (800) 373-4102	(219) 937-5284	Mon-Fri 0730-1530	Truck/Rail
New Haven, IN	Staffed	15411 Dawkins Road New Haven, IN 46774-9644	John Olszewski*	(260) 749-9544 (800) 373-4107	(260) 749-8467	Mon-Thu 0730-1500 Fri 0730-1430	Truck/Rail
Pt. Pleasant, WV	Staffed	2601 Madison Avenue Pt. Pleasant, WV 25550-1603	Jack Pittano**	(304) 675-3410	(304) 675-1635	Mon-Fri 0700-1430	Truck/Rail

* John Olszewski (219) 937-5383 x104

**Jack Pittano (330) 652-1456

J.2 STORAGE LOCATIONS (FEB 06) Con't.

<u>Depot</u>	<u>Status</u>	<u>Address</u>	<u>Manager</u>	<u>Phone #</u>	<u>Fax #</u>	<u>Shipping Hours</u>	<u>Access</u>
Ravenna, OH	Un-Staffed	8451 State Road 5 Ravenna, OH 44260	Contact Warren, OH, Depot			Mon-Fri 0800-1430	Truck
Scotia, NY	Staffed	Route 5, Bldg #2 Scotia, NY 12302-7463	Dennis Wesolowski	(518) 370-3347	(518) 370-0323	Mon-Fri 0730-1430	Truck/Rail
Somerville, NJ	Staffed	152 U.S.Highway 206 S Hillsborough, NJ 08844-4135	Jim Farley	(908) 725-6400 (800) 742-0620	(908) 707-4350	Mon-Fri 0730-1430	Truck/Rail
Voorheesville, NY	Un-Staffed	5854 Depot Road Altmont, NY	Contact Scotia, NY, Depot			Mon-Fri 0800-1430	Truck
Warren, OH	Staffed	Pine Street Extension Warren, OH 44482-9999	Jack Pittano	(330) 652-1456 (800) 373-4110	(330) 652-5167	Mon-Fri 0730-1430	Truck/Rail

Point of Contact:
 Defense Logistics Agency
 Defense National Stockpile Center
 Attn: Russel Foster
 8725 John J. Kingman Road, Suite 3229
 Telephone: (703) 767-7619
 Facsimile: (703) 767-7608

SECTION J.4 MATERIAL SAFETY DATA SHEETS (DEC 05)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD
SUITE 3339
FORT BELVOIR, VA 22060-6223**

**EMERGENCY TELEPHONE NUMBER:
1-800-424-9300 (NORTH AMERICA)
1-703-527-3887 (INTERNATIONAL)**

SUBSTANCE: FERROCHROMIUM, HIGH CARBON

**TRADE NAMES/SYNONYMS:
DLANA386**

PRODUCT USE: alloy

CREATION DATE: Jul 24 1992
REVISION DATE: Dec 08 2005

2. COMPOSITION, INFORMATION ON INGREDIENTS

**COMPONENT: CHROMIUM
CAS NUMBER: 7440-47-3
EC NUMBER (EINECS): 231-157-5
PERCENTAGE: 62.0-71.0**

**COMPONENT: CARBON
CAS NUMBER: 7440-44-0
EC NUMBER (EINECS): 231-153-3
PERCENTAGE: <8.0**

**COMPONENT: SILICON
CAS NUMBER: 7440-21-3
EC NUMBER (EINECS): 231-130-8
PERCENTAGE: <3.0**

**COMPONENT: MANGANESE
CAS NUMBER: 7439-96-5
EC NUMBER (EINECS): 231-105-1
PERCENTAGE: <0.75**

**COMPONENT: SULFUR
CAS NUMBER: 7704-34-9
EC NUMBER (EINECS): 231-722-6
PERCENTAGE: <0.05**

**COMPONENT: PHOSPHORUS, WHITE
CAS NUMBER: 7723-14-0
EC NUMBER (EINECS): 231-768-7
PERCENTAGE: <0.025**

COMPONENT: ANTIMONY

CAS NUMBER: 7440-36-0
EC NUMBER (EINECS): 231-146-5
PERCENTAGE: <0.01

COMPONENT: ARSENIC
CAS NUMBER: 7440-38-2
EC NUMBER (EINECS): 231-148-6
PERCENTAGE: <0.005

COMPONENT: LEAD
CAS NUMBER: 7439-92-1
EC NUMBER (EINECS): 231-100-4
PERCENTAGE: <0.005

COMPONENT: TIN
CAS NUMBER: 7440-31-5
EC NUMBER (EINECS): 231-141-8
PERCENTAGE: <0.005

COMPONENT: ZINC
CAS NUMBER: 7440-66-6
EC NUMBER (EINECS): 231-175-3
PERCENTAGE: <0.005

3. HAZARDS IDENTIFICATION

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



EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: Hard, dense lumps.

MAJOR HEALTH HAZARDS: No significant target effects reported.

PHYSICAL HAZARDS: 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: irritation, difficulty breathing, lung damage

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: irritation, skin disorders

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: irritation

INGESTION:

SHORT TERM EXPOSURE: gastrointestinal irritation, vomiting, stomach pain, dizziness

LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

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.

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.

6. ACCIDENTAL RELEASE MEASURES

WATER RELEASE:

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:

Collect spilled material in appropriate container for disposal. 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).

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

HANDLING: Use methods to minimize dust.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
CHROMIUM:

1 mg(Cr)/m³ OSHA TWA (metal) (insoluble salts)
0.5 mg(Cr)/m³ OSHA TWA (chromium (II) compounds) (chromium (III) compounds)
0.5 mg/m³ ACGIH TWA
0.5 mg(Cr)/m³ NIOSH recommended TWA 8 hour(s) (chromium (II) compounds) (chromium (III) compounds) (soluble salts)
DFG MAK (skin sensitizer) (dust) (aerosol)
0.5 mg/m³ UK WEL TWA

MEASUREMENT METHOD: Particulate filter; Acid; Flame atomic absorption spectrometry; NIOSH IV # 7024

SILICON:

5 mg/m³ OSHA TWA (respirable dust fraction)
15 mg/m³ OSHA TWA (total dust)
10 mg/m³ OSHA TWA (total particulate) (vacated by 58 FR 35338, June 30, 1993)
10 mg/m³ ACGIH TWA
5 mg/m³ NIOSH recommended TWA 10 hour(s) (respirable fraction)
10 mg/m³ NIOSH recommended TWA 10 hour(s) (total particulate)
10 mg/m³ UK WEL TWA (total inhalable dust)
4 mg/m³ UK WEL TWA (respirable dust)

MEASUREMENT METHOD: Particulate filter; Gravimetric; NIOSH IV # 0500, Nuisance Dust (total), # 0600 (respirable)

VENTILATION: 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: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Hard, dense lumps.

BOILING POINT: Not applicable

MELTING POINT: Not available

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: Not available
PH: Not applicable
VOLATILITY: Not applicable
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

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

CHROMIUM:

ALKALI CARBONATES: Attacked.
ALKALIES (CAUSTIC): Attacked.
AMMONIUM NITRATE (FUSED): Violent or explosive reaction.
BROMINE PENTAFLUORIDE: Violent reaction and possible ignition.
HYDROGEN PEROXIDE: Violent decomposition reaction.
LITHIUM (MOLTEN): Vigorous reaction at elevated temperatures.
NITROGEN OXIDE: Incandescent reaction.
OXIDIZERS (STRONG): Fire and explosion hazard.
POTASSIUM CHLORATE (FUSED): Vigorous incandescent reaction.
SULPHUR DIOXIDE: Incandescent reaction.

CARBON:

ALKALI METALS: Contact may result in an exothermic reaction with ignition or an explosion.
AMMONIUM NITRATE: Possible explosion when heated.
AMMONIUM PERCHLORATE: Possible explosion on heating.
BROMATES: Contact is likely to result in ignition or an explosion.
CALCIUM HYPOCHLORITE: Possible explosion on heating.
CHLORATES: Contact is likely to result in ignition or an explosion.
CHLORINE MONOXIDE: Explodes.
CHROMATES: Incompatible.
DICHLORINE OXIDE: Explosion reaction.
HALOGENS: Contact of carbon with any halogen is liable to result in ignition or an explosion.
INTERHALOGENS: Contact of carbon with any interhalogen is liable to result in ignition or an explosion.
IODATES: Contact is likely to result in ignition or an explosion.
IODINE PENTOXIDE: Explodes when warmed.
METAL NITRATES: Contact is likely to result in ignition or an explosion.
NITRIC ACID: Violent reaction.
NITROGEN OXIDE: Ignition with incandescence.
NITROGEN TRIFLUORIDE: Explosion at reduced temperatures.
OILS (UNSATURATED): Fire and explosion hazard.
OXIDES: Contact with many oxides is likely to result in ignition or an explosion.
OXIDIZERS (STRONG): Fire and explosion hazard.
OXOSALTS: Contact is likely to result in ignition or an explosion.
OXYGEN: May result in ignition or an explosion.

OXYGEN DIFLUORIDE: Possible explosion.
OZONE: Fire hazard.
PEROXIDES: Contact is likely to result in ignition or an explosion.
PEROXYFORMIC ACID: Violent oxidation.
PEROXYFUROIC ACID: Explosive decomposition.
POTASSIUM PERMANGANATE: Ignition on heating.
SODIUM SULFIDE: May undergo spontaneous heating.
TRIOXYGEN DIFLUORIDE: Ignition with possible explosion.

SILICON:

ALUMINUM + LEAD OXIDE: Mixture may explode on heating.
BROMINE TRIFLUORIDE: Ignition reaction.
CESIUM ACETYLIDE: Vigorous reaction on heating.
CALCIUM: Violently incandescent reaction above 1050 C, after a short delay.
CHLORINE (GASEOUS): Ignition on contact at ambient temperatures.
CHLORINE TRIFLUORIDE: Ignition reaction.
COBALT TRIFLUORIDE: Exothermic reaction, attaining red heat on warming.
FLUORINE: Ignites at room temperature; attains temperatures above 1400 C.
HYDROFLUORIC ACID: Attacks silicon.
HYDROFLUORIC ACID + NITRIC ACID MIXTURE: Attacks silicon.
IODINE PENTAFLUORIDE: Incandescent reaction.
IRIDIUM HEXAFLUORIDE: During reduction to pentafluoride, hexafluoride must not be condensed directly onto undiluted silicon powder or explosion may occur.
LEAD OXIDE: An initiating mixture of silicon and lead dioxide (2:1) attains a temperature around 1100 C after ignition by small flame.
MANGANESE TRIFLUORIDE: Violent reaction.
METAL CARBONATES (ALKALI): Exothermic reaction on heating, attaining incandescence and evolving carbon monoxide.
MOLYBDENUM HEXAFLUORIDE: During reduction to pentafluoride, hexafluoride must not be condensed directly onto undiluted silicon powder or explosion may occur.
NITROSYL FLUORIDE: Reacts with incandescence.
OSMIUM HEXAFLUORIDE: During reduction to pentafluoride, hexafluoride must not be condensed directly onto undiluted silicon powder or explosion may occur.
OXIDIZERS (STRONG): Fire and explosion hazard.
OXYGEN DIFLUORIDE: Generates sparks on heating.
PEROXYFORMIC ACID: Traces of manganese dioxide may promote oxidation with ignition.
RHENIUM HEXAFLUORIDE: During reduction to pentafluoride, hexafluoride must not be condensed directly onto undiluted silicon powder or explosion may occur.
RUBIDIUM ACETYLIDE: Reacts vigorously on warming.
SILVER FLUORIDE: Violent reaction.
SODIUM-POTASSIUM ALLOY: The reaction forms sodium silicide, which is spontaneously flammable in air.
URANIUM HEXAFLUORIDE: During reduction to pentafluoride, hexafluoride must not be condensed directly onto undiluted silicon powder or explosion may occur.
WATER: Combustible or explosive reaction at sufficiently high temperatures and pressures.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

CHROMIUM:

TOXICITY DATA:

27500 ug/kg unreported-rat LD50

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3 (Chromium metal); ACGIH: A4 -Not Classifiable as a Human Carcinogen

ACUTE TOXICITY LEVEL: Insufficient Data.

TUMORIGENIC DATA:

2160 ug/kg intravenous-rat TDLo/6 week(s) intermittent; 1200 ug/kg implant-rat TDLo/6 week(s) intermittent; 75 mg/kg implant-rabbit TDLo

MUTAGENIC DATA:

DNA damage - human lung 1 umol/L

ADDITIONAL DATA: May cross the placenta. May be excreted in breast milk.

CARBON:

TOXICITY DATA:

>5 gm/kg oral-rat LD; >5 gm/kg intraperitoneal-rat LD; >5 gm/kg subcutaneous-rat LD; >5 gm/kg oral-mouse LD; >5 gm/kg intraperitoneal-mouse LD; >5 gm/kg subcutaneous-mouse LD; 440 mg/kg intravenous-mouse LD50; >5 gm/kg oral-dog LD; >5 gm/kg intraperitoneal-dog LD; >5 gm/kg subcutaneous-dog LD

ACUTE TOXICITY LEVEL: Insufficient Data.

REPRODUCTIVE EFFECTS DATA:

167 mg/kg subcutaneous-rat TDLo 8 day(s) pregnant female continuous

SILICON:

IRRITATION DATA:

3 mg eyes-rabbit mild

TOXICITY DATA:

3160 mg/kg oral-rat LD50; 500 mg/kg intraperitoneal-rat LDLo

ACUTE TOXICITY LEVEL:

Moderately Toxic: ingestion

ADDITIONAL DATA: Nephrotoxicity has been demonstrated with excessive exposure to silicon.

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

CHROMIUM: High concentrations of dusts or fumes may cause irritation.

CARBON: Inhalation of dust may cause slight mucous membrane irritation.

SILICON: Dust may cause respiratory and mucous membrane irritation. Intratracheal administration of 25 mg in rabbits produced slight pulmonary lesions.

CHRONIC EXPOSURE:

CHROMIUM: Repeated or prolonged exposure to various chromium compounds has been reported to result in ulceration and perforation of the nasal septum, irritation of the throat and lower respiratory tract, less commonly in gastrointestinal disturbances, blood changes, pulmonary sensitization, pulmonary pneumoconiosis or fibrosis, and rarely liver effects. These effects have not been reported from exposure to the metal per se.

CARBON: Repeated or prolonged exposure may cause irritation and pulmonary disorders. Lung damage may result if sufficient exposure occurs.

SILICON: Inert dust may cause excessive production of mucous, mucous gland hypertrophy, and increased airway resistance and may contribute to chronic bronchitis.

SKIN CONTACT:

ACUTE EXPOSURE:

CHROMIUM: Contact with dusts or powder may cause irritation.

CARBON: Contact may cause irritation.

SILICON: May cause mechanical irritation.

CHRONIC EXPOSURE:

CHROMIUM: Repeated or prolonged exposure to various chromium compounds has been reported to cause various types of dermatitis, including eczema, "chrome holes", sensitization, and, in contact with damaged skin, kidney damage. These effects have not been reported from exposure to the metal per se.

CARBON: Repeated or prolonged contact may cause mechanical irritation.

SILICON: No data available.

EYE CONTACT:

ACUTE EXPOSURE:

CHROMIUM: Contact with dusts or powders may cause irritation.

CARBON: Contact with dust may cause mechanical irritation. May also cause conjunctivitis.

SILICON: Silicon dust may cause irritation.

CHRONIC EXPOSURE:

CHROMIUM: Repeated or prolonged exposure to some chromium compounds may cause conjunctivitis and lacrimation. These effects have not been reported from exposure to the metal per se.

CARBON: Repeated or prolonged exposure may cause mechanical irritation.

SILICON: No data available.

INGESTION:

ACUTE EXPOSURE:

CHROMIUM: Chromium metal is poorly absorbed by the intestinal tract. Absorption of sufficient amounts of some chromium compounds may result in dizziness, intense thirst, abdominal pain, vomiting, shock, oliguria or anuria, and uremia, which may be fatal.

CARBON: Extremely large doses may produce gastrointestinal disturbances.

SILICON: No data available.

CHRONIC EXPOSURE:

CHROMIUM: No data available.

CARBON: No data available.

SILICON: No data available.

[12. ECOLOGICAL INFORMATION](#)

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR: No classification assigned.

LAND TRANSPORT RID: No classification assigned.

AIR TRANSPORT IATA: No classification assigned.

AIR TRANSPORT ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

CHROMIUM: 5000 LBS RQ

PHOSPHORUS, WHITE: 1 LBS RQ

ANTIMONY: 5000 LBS RQ

ARSENIC: 1 LBS RQ

LEAD: 10 LBS RQ (solid metal particles < 100 micrometer diameter (0.004 inches))

ZINC: 1000 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: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65):

CHROMIUM

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

STATE REGULATIONS:

California Proposition 65:

Known to the state of California to cause the following:

ARSENIC

Cancer (Feb 27, 1987)

LEAD

Cancer (Oct 01, 1992)

Developmental toxicity (Feb 27, 1987)

Male reproductive toxicity (Feb 27, 1987)

Female reproductive toxicity (Feb 27, 1987)

LEAD COMPOUNDS

Cancer (Oct 01, 1992)

Developmental toxicity (Feb 27, 1987)

Male reproductive toxicity (Feb 27, 1987)

Female reproductive toxicity (Feb 27, 1987)

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

NATIONAL INVENTORY STATUS:

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

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

[16. OTHER INFORMATION](#)

MSDS SUMMARY OF CHANGES

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

SECTION J.4 MATERIAL SAFETY DATA SHEETS (DEC 05) Continued

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD
SUITE 3339
FORT BELVOIR, VA 22060-6223**

**EMERGENCY TELEPHONE NUMBER:
1-800-424-9300 (NORTH AMERICA)
1-703-527-3887 (INTERNATIONAL)**

SUBSTANCE: FERROCHROMIUM, LOW CARBON

**TRADE NAMES/SYNONYMS:
DLANA385**

PRODUCT USE: alloy

CREATION DATE: Jul 29 1992
REVISION DATE: Dec 08 2005

2. COMPOSITION, INFORMATION ON INGREDIENTS

**COMPONENT: CHROMIUM
CAS NUMBER: 7440-47-3
EC NUMBER (EINECS): 231-157-5
PERCENTAGE: >67.0**

**COMPONENT: SILICON
CAS NUMBER: 7440-21-3
EC NUMBER (EINECS): 231-130-8
PERCENTAGE: <1.0**

**COMPONENT: CARBON
CAS NUMBER: 7440-44-0
EC NUMBER (EINECS): 231-153-3
PERCENTAGE: <0.05**

**COMPONENT: PHOSPHORUS, WHITE
CAS NUMBER: 7723-14-0
EC NUMBER (EINECS): 231-768-7
PERCENTAGE: <0.03**

**COMPONENT: SULFUR
CAS NUMBER: 7704-34-9
EC NUMBER (EINECS): 231-722-6
PERCENTAGE: <0.025**

3. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: Hard, dense lumps, bricks, briquettes or pellets.

MAJOR HEALTH HAZARDS: No significant target effects reported.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: irritation

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: irritation, skin disorders

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: irritation

INGESTION:

SHORT TERM EXPOSURE: vomiting, stomach pain, dizziness

LONG TERM EXPOSURE: no information on significant adverse effects



CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

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.

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.

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Collect spilled material in appropriate container for disposal. 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).

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. See original container for storage recommendations. Keep separated from incompatible substances.

HANDLING: Use methods to minimize dust.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

CHROMIUM:

1 mg(Cr)/m³ OSHA TWA (metal) (insoluble salts)

0.5 mg(Cr)/m³ OSHA TWA (chromium (II) compounds) (chromium (III) compounds)

0.5 mg/m³ ACGIH TWA

0.5 mg(Cr)/m³ NIOSH recommended TWA 8 hour(s) (chromium (II) compounds) (chromium (III) compounds) (soluble salts)

DFG MAK (skin sensitizer) (dust) (aerosol)

0.5 mg/m³ UK WEL TWA

MEASUREMENT METHOD: Particulate filter; Acid; Flame atomic absorption spectrometry; NIOSH IV # 7024

VENTILATION: 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: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Hard, dense lumps, bricks, briquettes or pellets.

BOILING POINT: Not applicable

MELTING POINT: Not available

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: Not available

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

INCOMPATIBILITIES: bases, oxidizing materials, halogens, peroxides, metals

CHROMIUM:

ALKALI CARBONATES: Attacked.

ALKALIES (CAUSTIC): Attacked.

AMMONIUM NITRATE (FUSED): Violent or explosive reaction.

BROMINE PENTAFLUORIDE: Violent reaction and possible ignition.

HYDROGEN PEROXIDE: Violent decomposition reaction.

LITHIUM (MOLTEN): Vigorous reaction at elevated temperatures.

NITROGEN OXIDE: Incandescent reaction.

OXIDIZERS (STRONG): Fire and explosion hazard.

POTASSIUM CHLORATE (FUSED): Vigorous incandescent reaction.

SULPHUR DIOXIDE: Incandescent reaction.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

CHROMIUM:

TOXICITY DATA:

27500 ug/kg unreported-rat LD50

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3 (Chromium metal); ACGIH: A4 -Not Classifiable as a Human Carcinogen

ACUTE TOXICITY LEVEL: Insufficient Data.

TUMORIGENIC DATA:

2160 ug/kg intravenous-rat TDLo/6 week(s) intermittent; 1200 ug/kg implant-rat TDLo/6 week(s) intermittent; 75 mg/kg implant-rabbit TDLo

MUTAGENIC DATA:

DNA damage - human lung 1 umol/L

ADDITIONAL DATA: May cross the placenta. May be excreted in breast milk.

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

CHROMIUM: High concentrations of dusts or fumes may cause irritation.

CHRONIC EXPOSURE:

CHROMIUM: Repeated or prolonged exposure to various chromium compounds has been reported to result in ulceration and perforation of the nasal septum, irritation of the throat and lower respiratory tract, less commonly in gastrointestinal disturbances, blood changes, pulmonary sensitization, pulmonary pneumoconiosis or fibrosis, and rarely liver effects. These effects have not been reported from exposure to the metal per se.

SKIN CONTACT:

ACUTE EXPOSURE:

CHROMIUM: Contact with dusts or powder may cause irritation.

CHRONIC EXPOSURE:

CHROMIUM: Repeated or prolonged exposure to various chromium compounds has been reported to cause various types of dermatitis, including eczema, "chrome holes", sensitization, and, in contact with damaged skin, kidney damage. These effects have not been reported from exposure to the metal per se.

EYE CONTACT:

ACUTE EXPOSURE:

CHROMIUM: Contact with dusts or powders may cause irritation.

CHRONIC EXPOSURE:

CHROMIUM: Repeated or prolonged exposure to some chromium compounds may cause conjunctivitis and lacrimation. These effects have not been reported from exposure to the metal per se.

INGESTION:

ACUTE EXPOSURE:

CHROMIUM: Chromium metal is poorly absorbed by the intestinal tract. Absorption of sufficient amounts of some chromium compounds may result in dizziness, intense thirst, abdominal pain, vomiting, shock, oliguria or anuria, and uremia, which may be fatal.

CHRONIC EXPOSURE:

CHROMIUM: No data available.

[12. ECOLOGICAL INFORMATION](#)

Not available

[13. DISPOSAL CONSIDERATIONS](#)

Dispose in accordance with all applicable regulations.

[14. TRANSPORT INFORMATION](#)

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR: No classification assigned.

LAND TRANSPORT RID: No classification assigned.

AIR TRANSPORT IATA: No classification assigned.

AIR TRANSPORT ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

CHROMIUM: 5000 LBS RQ

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: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65):

CHROMIUM

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): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

16. OTHER INFORMATION

MSDS SUMMARY OF CHANGES

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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