



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

IN REPLY
REFER TO:

DNSC-CC

February 23, 2007

**AMENDMENT NO. 010 TO
SOLICITATION OF OFFERS FOR
ALUMINUM OXIDE – ABRASIVE GRAIN
UNDER DLA-ALUMINUM OXIDE-ABRASIVE GRAIN-003**

The above referenced Solicitation of Offers, DLA-ALUMINUM OXIDE-ABRASIVE GRAIN-003, dated July 29, 2003, for the sale of aluminum oxide-abrasive grain is hereby amended to provide a March 7, 2007 offering date, revise various sections of the solicitation and to update the listing of available material as follows:

1. SECTION A - SOLICITATION, Subsection A.1 Introduction (AUG 06), Paragraph a.

Delete this paragraph in its entirety and replace with the following:

- a. The Defense Logistics Agency (DLA), Defense National Stockpile Center (DNSC), is soliciting offers for the sale of approximately **4,500 short tons of aluminum oxide-abrasive grain** for one or more contracts with a contract period not to exceed **360** calendar days. The offering will be held at 1:30 P.M., on **March 7, 2007**. Offers must be received at the address in Section B.2.a. by **1:30 P.M.** local time, Fort Belvoir, VA. In the event that DNSC is closed at that time, offers for that day will be received at 1:30 P.M. on the next DNSC business day.

2. Section E.1 Removal of Material (AUG 05) is hereby deleted in its entirety and replaced with the following:

E.1 Removal of Material (FEB 07)

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

<u>Quantity Awarded in ST</u>	<u>Removal Period in Calendar Days</u>
500 ST or less	90 Days
501-1,000 ST	180 Days
1,001-1,500 ST	270 Days
1,501 ST or more	360 Days

- b. The following minimum removal schedules shall be required based on the contract periods specified above: (1) For an award with a contract period of 90 days, the Contractor shall pay for and remove a minimum of fifty percent (50%) of the total contract award quantity within the first 45 calendar days, and the remainder in the second 45 calendar days; (2) For an award with a contract period of 180 days, the Contractor shall pay for and remove a minimum of 33 1/3% (thirty-three and 1/3 percent) of the total contract award quantity within the first two 60-calendar day periods, and the balance within the final 60 calendar days; (3) For an award with a contract period of 270 days, the Contractor shall pay for and remove a minimum of 33 1/3 % (thirty-three percent) of the total contract award quantity within each of the first two 90-calendar day periods, and the balance within the final 90 calendar days; and (4) For an award with a contract period of 360 days, the Contractor shall pay for and remove a minimum of 25%

(twenty-five percent) of the total contract award quantity within each of the first three 90-calendar day periods, and the balance within the remainder of the 360 calendar day contract period.

- c. If the Contractor fails to pay for and remove the material in accordance with the schedule specified in the contract, Contractor will be considered delinquent and no material will be shipped until payment has been received.
- d. 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.

3. In **SECTION F – SHIPPING**, add the following:

F.8 Environmental Policy (NOV 05)

The Contractor, its agents and employees shall comply with the Environmental Safety and Occupational Health Policy of the Defense National Stockpile Center while on storage facilities where stockpile material is stored. The Contractor shall review information on DNSC's Environmental Safety and Occupational Health Policy on the DNSC Website at <https://www.dnsc.dla.mil> by clicking on "I Am The Key."

4. In **SECTION G – CONTRACT ADMINISTRATION DATA**, add the following:

a. **Section G.13 Applicable Law for Breach of Contract Claim (JUL 06)**

United States law will apply to resolve any claim of breach of this contract.

b. **Section G.14 Bankruptcy (JAN 07)**

In the event the contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the contracting officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed and the identity of the court in which the bankruptcy petition was filed.

5. Section **I.2 Item Offer Page - DLA-ALUMINUM OXIDE-ABRASIVE GRAIN-003 (AUG 06)** is hereby replaced with the attached Section **I.2 Item Offer Page - DLA-ALUMINUM OXIDE-ABRASIVE GRAIN-003 (FEB 07)**.

6. Section **I.4 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance, and Other Responsibility Matters (JUL 97)** is deleted in its entirety and replaced with the attached Section **I.4 Certification Regarding Debarment, Suspension, Proposed Debarment and Other Responsibility Matters (FEB 07)**.

7. In **SECTION I – SUBMITTALS**, add the attached Section **I.9 Disputes: Agreement to Use Alternative Dispute Resolution (JUL 06)**.

8. Section **J.3 Material Safety Data Sheets (JUN 06)** are replaced with the attached Section **J.3 Material Safety Data Sheets (DEC 06)**.

9. In **SECTION J – LIST OF ATTACHMENTS**, add the attached Section **J.5 DWAS WEB Access Request Form (JUL 06)**.

10. Offerors shall indicate acknowledgment of receipt of this Amendment by signing in the space provided below and returning this form and the attached Sections **I.1** through **I.9** along with their offer to:

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

Failure to acknowledge receipt of this Amendment may result in the Offeror being ineligible for award. Except as provided herein, all other terms and conditions of DLA-ALUMINUM OXIDE-ABRASIVE GRAIN-003 and (as amended by) Amendment Nos. 001, 004, 005, 006, 007, 008, 009 remain unchanged and in full force and effect.

NAME OF FIRM: _____

ADDRESS: _____

TELEPHONE: _____

FACSIMILE: _____

EMAIL: _____

BY: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

Solicitation of Offers DLA-ALUMINUM OXIDE-ABRASIVE GRAIN-003, Amendment Nos. 001, 004, 005, 006, 007, 008, 009 and this amendment, are available on the DNSC Website: <https://www.dnsc.dla.mil>.

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 (JUN 05)**
- I.2 Item Offer Page - DLA-ALUMINUM OXIDE-ABRASIVE GRAIN-003 (FEB 07)**
- I.3 Certificate of Independent Price Determination (JAN 01)**
- I.4 Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters (FEB 07)**
- I.5 Type of Business Organization (APR 96)**
- I.6 Authorized Negotiators (JUN 95)**
- I.7 Persons Authorized to Request Shipment of Material (JUL 06)**
- I.8 Offeror's Billing Address (JUL 95)**
- I.9 Disputes: Agreement to Alternative Dispute Resolution (JUL 06)**

I.1 Sale of Government Property Negotiated Sales Contract (JUN 05)

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-ALUMINUM OXIDE-ABRASIVE GRAIN-003. 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
ALUMINUM OXIDE-ABRASIVE GRAIN:					
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.3 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.4 Certification Regarding Debarment, Suspension, Proposed Debarment, and Other Responsibility Matters (FEB 07)

- 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, tax evasion, 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.
 - (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).
- 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 an 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.5 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.6 Authorized Negotiators (JUN 95)

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

TYPED NAME	TITLE	TELEPHONE NO.

I.7 Persons Authorized to Request Shipment of Material (JUL 06)

The Contractor shall provide the name(s), title(s), signature(s), and telephone number(s) of representative(s) authorized to sign Section J.2 Shipping Instructions or to submit shipping instructions via the Internet through DWAS:

Typed Name

Title

Signature

Telephone

Typed Name

Title

Signature

Telephone

Typed Name

Title

Signature

Telephone

I.8 Offeror's Billing Address (JUL 95)

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

FAX: _____

Email: _____

I.9 Disputes: Agreement to Use Alternative Dispute Resolution (JUL 06)

- a. The parties agree to negotiate with each other to try to resolve any disputes that may arise. If unassisted negotiations are unsuccessful, the parties will use alternative dispute resolution (ADR) techniques to try to resolve the dispute. Litigation will only be considered as a last resort when ADR is unsuccessful or has been documented by the party rejecting ADR to be inappropriate for resolving the dispute.
- b. Before either party determines ADR inappropriate, that party must discuss the use of ADR with the other party. The documentation rejecting ADR must be signed by an official authorized to bind the contractor, or, for the Agency, by the contracting officer, and approved at a level above the contracting officer after consultation with the ADR Specialist and with legal counsel. Contractor personnel are also encouraged to include the ADR Specialist in their discussions with the contracting officer before determining ADR to be inappropriate.
- c. If you wish to opt out of this clause, check here (___). Alternate wording may be negotiated with the contracting officer.

J.3 Material Safety Data Sheets (DEC 06)

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: ALUMINUM OXIDE, ABRASIVE GRAIN

TRADE NAMES/SYNONYMS:
DLANA381

CREATION DATE: Jul 24 1992
REVISION DATE: Dec 07 2006

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ALUMINUM OXIDE
CAS NUMBER: 1344-28-1
EC NUMBER (EINECS): 215-691-6
PERCENTAGE: >94.0

COMPONENT: TITANIUM DIOXIDE
CAS NUMBER: 13463-67-7
EC NUMBER (EINECS): 236-675-5
PERCENTAGE: 2.0-3.0

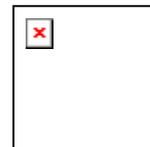
COMPONENT: SILICON DIOXIDE
CAS NUMBER: 7631-86-9
EC NUMBER (EINECS): 231-545-4
PERCENTAGE: <2.0

COMPONENT: FERRIC OXIDE RED
CAS NUMBER: 1309-37-1
EC NUMBER (EINECS): 215-168-2
PERCENTAGE: <0.75

COMPONENT: CALCIUM OXIDE
CAS NUMBER: 1305-78-8
EC NUMBER (EINECS): 215-138-9
PERCENTAGE: <0.35

3. HAZARDS IDENTIFICATION

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



EMERGENCY OVERVIEW:

COLOR: gray to brown, red to brown

PHYSICAL FORM: solid

MAJOR HEALTH HAZARDS: cancer

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, cough, metal fume fever, chest pain, difficulty breathing

LONG TERM EXPOSURE: irritation, cough, weight loss, chest pain, difficulty breathing, bluish skin color, lung damage, cancer

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: irritation

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: eye damage

INGESTION:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information on significant adverse effects

CARCINOGEN STATUS:

OSHA: No

NTP: Yes

IARC: Yes

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 hazard.

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for surrounding fire.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

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:

Large spills: Collect spilled material in appropriate container for disposal. Avoid generating dust. Clean up residue with a high-efficiency particulate filter vacuum.

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:

ALUMINUM OXIDE:

ALUMINUM OXIDE (ALUMINA):

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

1.5 mg/m³ DFG MAK (respirable fraction) (peak limitation category - II, with excursion factor of 8) (fume)

0.25 fibers/cc AGS TRK (fibrous forms) (effective 1 Jan 2005 no longer valid per amendment)

10 mg/m³ UK WEL TWA (total inhalable dust)

4 mg/m³ UK WEL TWA (respirable dust)

MEASUREMENT METHOD: NIOSH IV # 0500, 0600; OSHA ID109SG, ID198SG

TITANIUM DIOXIDE:

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

NIOSH TWA (lowest feasible concentration)

1.5 mg/m³ DFG MAK (respirable fraction)

10 mg/m³ UK WEL TWA (total inhalable dust)

4 mg/m³ UK WEL TWA (respirable dust)

MEASUREMENT METHOD: NIOSH II(3) # S385

SILICON DIOXIDE:

SILICON DIOXIDE, AMORPHOUS (SILICA, AMORPHOUS):

20 mppcf OSHA TWA (

OSHA TWA (

6 mg/m³ NIOSH recommended TWA 10 hour(s)

4 mg/m³ DFG MAK (inhalable fraction)

0.3 mg/m³ DFG MAK (respirable fraction)

6 mg/m³ UK WEL TWA (total inhalable dust)

2.4 mg/m³ UK WEL TWA (respirable dust)

MEASUREMENT METHOD: NIOSH IV # 7501

QUARTZ:

0.3 mg/m³ OSHA TWA (total dust) (30 mg/m³ divided by %SiO₂ + 2, based on size/aerodynamic characteristics)

0.1 mg/m³ OSHA TWA (respirable dust) (10 mg/m³ divided by %SiO₂ + 2, based on size/aerodynamic characteristics)
2.38 mppcf OSHA TWA (respirable dust) (250 mppcf divided by %SiO₂ in airborne sample + 5)
0.025 mg/m³ ACGIH TWA (respirable fraction)
0.05 mg/m³ NIOSH recommended TWA 10 hour(s) (respirable dust)
0.1 mg/m³ UK WEL TWA (respirable particulate) (Chemical Hazard Alert Notice issued)

MEASUREMENT METHOD: NIOSH IV # 7500, 7601, 7602; OSHA # ID142

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 STATE: solid

COLOR: gray to brown, red to brown

ODOR: Not available

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: Avoid generating dust.

INCOMPATIBILITIES: halo carbons, halogens, combustible materials, oxidizing materials, metals, acids, metal

salts

ALUMINUM OXIDE (ALUMINA):

CHLORINATED RUBBER (HOT): Incompatible.

CHLORINE TRIFLUORIDE: Violent reaction and possible ignition.

ETHYLENE OXIDE: May initiate explosive polymerization.

HALOCARBONS: Exothermic reaction above 200 C.

HALOCARBONS + METALS: Exothermic reaction at ambient temperatures.

OXYGEN DIFLUORIDE: Exothermic reaction.

SODIUM NITRATE: May form explosive mixture.

VINYL ACETATE: Possible vigorous reaction.

TITANIUM DIOXIDE:

ALUMINUM: Reaction is accompanied by incandescence.

CALCIUM: Reaction is accompanied by incandescence.

LITHIUM: Reaction occurs around 200 C, with incandescence.

MAGNESIUM: Reaction is accompanied by incandescence.

POTASSIUM: Reaction is accompanied by incandescence.

SODIUM: Reaction is accompanied by incandescence.

ZINC: Reaction is accompanied by incandescence.

SILICON DIOXIDE:

CHLORINE TRIFLUORIDE: Fire hazard.

FLUORINE: Fire hazard.

HYDROCHLORIC ACID + WATER: Explosion hazard with gel form.

HYDROFLUORIC ACID: Dissolves, releasing silicon tetrafluoride.

HYDROGEN FLUORIDE: Incompatible.

HYDROGENATED VEGETABLE OILS: Incompatible.

MAGNESIUM (POWDERED): Explosion hazard on heating in the presence of moisture.

MANGANESE TRIFLUORIDE: May react violently on heating, releasing silicon tetrafluoride.

OXIDIZERS (STRONG): Fire and explosion hazard.

OXYGEN DIFLUORIDE: Explosion hazard under certain conditions and in the presence of moisture.

OZONE: Potential explosion hazard at low temperatures if organic material is present.

PHOSPHORIC ACID (CONCENTRATED): Attacks on heating.

SODIUM (BURNING): Reacts with finely divided silica.

VINYL ACETATE (VAPOR): May react vigorously with gel form.

XENON HEXAFLUORIDE: May react explosively by forming xenon trioxide.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: miscellaneous decomposition products

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

ALUMINUM OXIDE:

TOXICITY DATA: >3600 mg/kg intraperitoneal-mouse LD50; 200 mg/m³/5 hour(s)-28 week(s) intermittent inhalation-rat TCl₀; 200 mg/m³/5 hour(s)-28 week(s) intermittent inhalation-rabbit TCl₀

CARCINOGEN STATUS: ACGIH: A4 -Not Classifiable as a Human Carcinogen

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

TUMORIGENIC DATA: 90 mg/kg intrapleural-rat TDLo; 200 mg/kg implant-rat TDLo; 200 mg/kg implant-rat TD

TITANIUM DIOXIDE:

IRRITATION DATA: 300 ug/3 day(s)-intermittent skin-human mild

TOXICITY DATA: 6820 mg/m³/4 hour(s) inhalation-rat LC50; >24000 mg/kg oral-rat LD50; >100 ug/kg intratracheal-rat LD; 60 gm/kg oral-rat TDLo; 100 mg/kg intratracheal-mouse TDLo; 1 mg/kg inhalation-rat TCLo; 1.25 mg/kg intratracheal-rat TDLo; 1.6 mg/kg intratracheal-rat TDLo; 5 mg/kg intratracheal-rat TDLo; 250 mg/m³/6 hour(s)-4 week(s) intermittent inhalation-rat TCLo; 50 mg/m³/6 hour(s)-13 week(s) intermittent inhalation-rat TCLo; 10 mg/m³/6 hour(s)-13 week(s) intermittent inhalation-mouse TCLo; 250 mg/m³/6 hour(s)-13 week(s) intermittent inhalation-hamster TCLo; 10 mg/m³/6 hour(s)-13 week(s) intermittent inhalation-rat TCLo; 10 mg/m³/6 hour(s)-13 week(s) intermittent inhalation-mouse TCLo; 10 mg/m³/13 week(s) intermittent inhalation-rat TCLo; 10 mg/m³/13 week(s) intermittent inhalation-mouse TCLo; 50 mg/m³/13 week(s) intermittent inhalation-mouse TCLo; 250 mg/m³/13 week(s) intermittent inhalation-mouse TCLo; 50 mg/m³/13 week(s) intermittent inhalation-rat TCLo; 250 mg/m³/13 week(s) intermittent inhalation-rat TCLo; 250 mg/m³/13 week(s) intermittent inhalation-hamster TCLo
CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Sufficient Evidence, Group 2B; ACGIH: A4 -Not Classifiable as a Human Carcinogen

Increased incidences of lung adenomas in rats of both sexes and non-neoplastic pulmonary keratinizing cysts in female rats were observed in animals that had inhaled high but not low doses of titanium dioxide. Another study resulted in increased incidences of benign and malignant tumors in female rats. Intratracheal administration of titanium dioxide to female rats resulted in an increase in the incidence of benign and malignant lung tumors. Significant exposure is not expected when bound in materials such as paint.

ACUTE TOXICITY LEVEL:

Moderately Toxic: inhalation

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

TUMORIGENIC DATA: 250 mg/m³ inhalation-rat TCLo/6 hour(s)-2 year(s) intermittent; 360 mg/kg intramuscular-rat TDLo/2 year(s) intermittent; 260 mg/kg intramuscular-rat TD/84 week(s) intermittent; 10 mg/m³ inhalation-rat TC/18 hour(s)-2 year(s) intermittent

MUTAGENIC DATA: micronucleus test - mouse intraperitoneal 3 gm/kg 3 day(s)-continuous; micronucleus test - hamster ovary 5 umol/L; DNA inhibition - hamster lung 500 mg/L; sister chromatid exchange - hamster ovary 1 umol/L

SILICON DIOXIDE:

TOXICITY DATA: >200 gm/m³/1 hour(s) inhalation-rat LC; 1 mg/kg intratracheal-rat TDLo; 224 mg/kg/4 week(s) continuous oral-dog TDLo

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3 (Amorphous silica)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

QUARTZ:

TOXICITY DATA: 16 mppcf/8 hour(s)-17.9 year(s) intermittent inhalation-human TCLo; 300 ug/m³/10 year(s) intermittent inhalation-human LCLo; 90 mg/kg intravenous-rat LDLo; 200 mg/kg intratracheal-rat LDLo; 40 mg/kg intravenous-mouse LDLo; >20 mg/kg intratracheal-mouse LD; 20 mg/kg intravenous-dog LDLo; 200 mg/kg inhalation-rat TCLo; 250 mg/kg intratracheal-rat LDLo; 240 mg/kg/1 hour(s) intratracheal-rat TDLo; 1.5 mg/kg intratracheal-rat TDLo; 120 gm/kg oral-rat TDLo; 15.69 mg/kg intratracheal-rat TDLo; 16.7 mg/kg intratracheal-mouse TDLo; 40 mg/kg inhalation-mouse TCLo; 25 mg/kg intratracheal-rat TDLo; 20 mg/kg implant-rabbit TDLo; 80 mg/kg intratracheal-mouse TDLo; 150 mg/kg intratracheal-rat TDLo; 40 mg/kg inhalation-mouse TCLo; 80 mg/kg intratracheal-mouse TDLo; 100 mg/kg intratracheal-mouse TDLo; 1 mg/kg inhalation-rat TCLo; 10 mg/kg intratracheal-rat TDLo; 1250 ug/kg intratracheal-rat TDLo; 100 mg/kg intratracheal-rat TDLo; 30 mg/kg intratracheal-rat TDLo; 50 mg/kg intratracheal-rat TDLo; 10 mg/kg intratracheal-rat TDLo; 5 mg/kg intratracheal-rat TDLo; 5 mg/kg intratracheal-rat TDLo; 100 mg/kg intratracheal-mouse TDLo; 1 mg/kg intratracheal-rat TDLo; 80 mg/m³/26 week(s) intermittent inhalation-rat TCLo; 108 mg/m³/6 hour(s)-3 day(s) intermittent inhalation-rat TCLo; 58 mg/m³/13 week(s) intermittent inhalation-rat TCLo; 1475 ug/m³/8 hour(s)-21 week(s) intermittent inhalation-mouse TCLo; 4932 ug/m³/24 hour(s)-39 week(s) continuous inhalation-mouse TCLo; 28 mg/m³/3 week(s) intermittent inhalation-guinea pig TCLo; 3 mg/m³/6 hour(s)-78 week(s) intermittent inhalation-hamster TCLo; 1000 gm/m³/10 day(s) intermittent inhalation-domestic animal TCLo; 2.88 mg/kg/12 week(s) intermittent intratracheal-rat

TDL_o; 11.52 mg/kg/12 week(s) intermittent intratracheal-rat TDL_o; 15 mg/m³/26 week(s) intermittent inhalation-rat TDL_o; 0.74 mg/m³/2 year(s) intermittent inhalation-rat TDL_o; 10 mg/m³/75 day(s) intermittent inhalation-rat TDL_o; 10 mg/m³/818 day(s) intermittent inhalation-monkey TDL_o; 240 ug/kg/12 week(s) intermittent intratracheal-rat TDL_o; 960 ug/kg/12 week(s) intermittent intratracheal-rat TDL_o; 160 mg/kg/2 week(s) intermittent inhalation-mouse TDL_o; 6.2 mg/m³/6 hour(s)-6 week(s) intermittent inhalation-rat TDL_o; 15 mg/m³/79 day(s) intermittent inhalation-rat TDL_o; 300 ug/kg/12 week(s) intermittent intratracheal-rat TDL_o; 25 mg/m³/5 day(s) intermittent inhalation-rat TDL_o

CARCINOGEN STATUS: NTP: Known Human Carcinogen; IARC: Human Sufficient Evidence, Animal Sufficient Evidence, Group 1; ACGIH: A2 -Suspected Human Carcinogen; EC: Category 2

Adenocarcinomas and squamous-cell carcinomas of the lung in rats were produced after inhalation or repeated intratracheal instillation of various forms of crystalline silica. Malignant lymphomas developed in rats after intrapleural and intraperitoneal injections of quartz suspensions and intrapleural injection of cristobalite and tridymite. Epidemiologic studies indicate lung cancer occurs more frequently among silicotics than in the general population.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders

TUMORIGENIC DATA: 50 mg/m³ inhalation-rat TDL_o/6 hour(s)-71 week(s) intermittent; 45 mg/kg intraperitoneal-rat TDL_o; 90 mg/kg intravenous-rat TDL_o; 90 mg/kg intrapleural-rat TDL_o; 111 mg/kg intratracheal-rat TDL_o; 100 mg/kg intratracheal-rat TDL_o/19 week(s) intermittent; 900 mg/kg implant-rat TDL_o; 4000 mg/kg implant-mouse TDL_o; 83 mg/kg intrapleural-hamster TDL_o; 90 mg/kg intraperitoneal-rat TD/4 week(s) intermittent; 450 mg/kg intraperitoneal-rat TD/4 week(s) intermittent; 4554 mg/kg implant-rat TD; 200 mg/kg intrapleural-rat TD; 100 mg/kg intrapleural-rat TD; 100 mg/kg intrapleural-rat TD; 100 mg/kg intrapleural-rat TD

MUTAGENIC DATA: micronucleus test - human lung 40 ug/cm²; micronucleus test - hamster lung 160 ug/cm²; DNA damage - rat intratracheal 3 mg/kg

ADDITIONAL DATA: Smoking may enhance the toxic effects.

HEALTH EFFECTS:

INHALATION:

ALUMINUM OXIDE (ALUMINA): Inhalation of high concentrations may cause coughing, shortness of breath, respiratory tract irritation due to mechanical action, unpleasant deposits in the nasal passages, and exacerbation of symptoms in persons with impaired pulmonary function. Humans exposed chronically to aluminum oxide, particle size approximately 1.2 microns, did not experience either systemic or respiratory adverse effects. Hydrated aluminum oxide, injected intratracheally, produced dense and numerous nodules of advanced fibrosis in rats, a reticulin network with occasional collagen fibers in mice and guinea pigs, and only a slight reticulin network in rabbits. A production process in which aluminum oxide (bauxite), iron, coke, and silica are fused at 2000 C poses a threat of Shaver's disease, a rapidly progressive and often fatal interstitial fibrosis of the lungs. See information on metal fume fever.

ACUTE EXPOSURE:

METAL FUME FEVER: Metal fume fever, an influenza-like illness, may occur due to the inhalation of freshly formed metal 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.

TITANIUM DIOXIDE: Inhalation may cause irritation with cough and sneezing. Nuisance dusts may cause unpleasant deposits in the nasal passages.

SILICON DIOXIDE: Dusts may cause irritation of the respiratory tract and coughing.

QUARTZ: Exposure to high concentrations may cause physical discomfort of the upper respiratory tract.

CHRONIC EXPOSURE:

METAL FUME FEVER: There is no form of chronic metal fume fever, however, repeated bouts with symptoms as described above are quite common. Resistance to the condition develops after a few days of exposure, but is quickly lost in 1 or 2 days.

TITANIUM DIOXIDE: Long-term exposure may cause pulmonary irritation with cough, difficulty breathing, a decline in pulmonary function, and x-ray evidence of mild fibrosis. A few cases of slight fibrosis without disabling injury have been reported from occupational exposure. Rats repeatedly exposed to concentrations of 10-328 million particles/ft³ for as long as 13 months showed small focal areas of emphysema which were attributed to large deposits of dust. Rats exposed to concentrations of 10, 50, and 250 mg/m³ for 6 hours/day, 5 days/week, for 2 years, showed no abnormal clinical signs, body weight changes, or excess mortality in any exposed group. There were, however, dose-dependent increases in the incidence of pneumonia, tracheitis, and rhinitis, with squamous metaplasia in the anterior nasal cavity. At 10 mg/m³, the pulmonary response satisfied the criteria for a nuisance dust. Bronchioalveolar adenomas and non-neoplastic pulmonary keratinizing cysts occurred only at the 250 mg/m³ level, twenty-five times the threshold limit value. These lung tumors were different from common human lung cancers in terms of tumor type, location, and tumorigenesis, and were devoid of tumor metastasis.

SILICON DIOXIDE: Exposure to dusts of crystalline or amorphous silica for 6 months to 30 years may result in silicosis with symptoms of cough, chest pain, dyspnea, tachypnea, marked weakness and weight loss. This pulmonary insufficiency may be characterized by diffuse nodular fibrosis, distortion of bronchi, diminished chest expansion, decreased vital capacity and compensatory and bullous emphysema. Although pulmonary fibrosis has been reported from workers exposed to amorphous silica, the crystalline form is the established cause of fibrotic response in the lung. However, the amorphous form has been reported fibrogenic to a lesser extent. As the disease progresses, cor pulmonale, cardiorespiratory failure, and death may occur. Various forms and preparations of crystalline silica produced adenocarcinomas and squamous cell carcinomas of the lungs in rats.

QUARTZ: Inhalation of very high concentrations of finely divided crystalline silica dust, exposure ranging from a few weeks to 4-5 years, may cause a rapidly developing silicosis, characterized by pulmonary insufficiency with severe dyspnea, violent coughing, tachypnea, weight loss, and cyanosis leading to the development of cor pulmonale and death within a relatively short period of time. A slowly developing silicosis may result from exposure for 6 months-30 years to relatively low levels of the dust. The first symptom is usually a slowly increasing, non-disabling, exertional dyspnea due to pulmonary fibrosis and the emphysema associated with it. Continued exposure may increase the rate of progression of the disease. Also, the fibrogenic action may continue when exposure ceases. As the fibrosis advances, other symptoms may include shortness of breath, productive cough, wheezing, chest tightness or pain, marked weakness, decreased capacity for work, and repeated non-specific chest illnesses. Cyanosis, clubbing of digits, orthopnea, or serious weight loss are not usually evident until the disease is advanced. Pulmonary infections, which may be indicated by hemoptysis, and cardiac decompensation may exacerbate the symptoms. Three major complications, which are the most frequent causes of death, are pulmonary tuberculosis, respiratory insufficiency which is due to the massive emphysematous and fibrotic changes and is sometimes accompanied by chronic cor pulmonale, and acute bronchopulmonary infection. A number of studies have shown that persons diagnosed as having silicosis have an increased risk for dying from lung cancer. This increase has been seen among miners, quarry workers, foundry workers, ceramic workers, granite workers, and stone cutters. In some of these studies, the risk of lung cancer increased with the duration of employment. Various forms and preparations of crystalline silica produced adenocarcinomas and squamous cell carcinomas of the lungs in rats.

SKIN CONTACT:

ACUTE EXPOSURE:

ALUMINUM OXIDE (ALUMINA): Contact may cause an irritant dermatitis accompanied by pruritis.

TITANIUM DIOXIDE: Topically, it is reported to be devoid of toxicity and chemically non-irritating. However, titanium dioxide may occasionally be so occlusive that it produces miliaria.

SILICON DIOXIDE: Prolonged skin contact with dry particulate may cause drying of the skin.

QUARTZ: May cause irritation of intact skin due to mechanical abrasion. If the skin is abraded, a heavy growth of scar tissue may be induced.

CHRONIC EXPOSURE:

ALUMINUM OXIDE (ALUMINA): No data available.

TITANIUM DIOXIDE: Application of 300 ug for 3 days intermittently to human skin produced mild irritation.

SILICON DIOXIDE: No data available.

QUARTZ: No data available.

EYE CONTACT:

ACUTE EXPOSURE:

ALUMINUM OXIDE (ALUMINA): Dust may cause mechanical irritation with redness and possibly swelling of the conjunctiva.

TITANIUM DIOXIDE: Introduction by tattooing into the cornea of rabbit eyes and patients with corneal scars resulted in permanent white coloration, but no irritation.

SILICON DIOXIDE: Dusts may cause irritation with redness and pain.

QUARTZ: May cause irritation due to mechanical action. Particles of silica in the range of 2-3 micrometers introduced into the corneal stroma of rabbit eyes caused very little reaction. These same particles introduced into the anterior chamber resulted in an inflammatory reaction in 3-5 weeks with the formation of fibrotic nodules in the iridocorneal angle. Finely divided silica injected into the vitreous of rabbit eyes has caused necrosis of the retina and atrophy of the choroid.

CHRONIC EXPOSURE:

ALUMINUM OXIDE (ALUMINA): No data available.

TITANIUM DIOXIDE: No data available.

SILICON DIOXIDE: No data available.

QUARTZ: An abnormally high silicon content in the cornea, and a gradual decrease in visual acuity due to corneal opacities in the pupillary area, have been reported in a group of foundry workers.

INGESTION:

ACUTE EXPOSURE:

ALUMINUM OXIDE (ALUMINA): No data available.

TITANIUM DIOXIDE: Titanium dioxide has been reported to be physiologically inert. Ingestion of large quantities may cause intestinal obstruction. However, a pound has been ingested without apparent harm or distress.

SILICON DIOXIDE: The effects of ingestion are purely mechanical as the substance is inert chemically and biologically.

QUARTZ: Effects of ingestion are due to mechanical action as crystalline silicas are biologically inert.

CHRONIC EXPOSURE:

ALUMINUM OXIDE (ALUMINA): Some aluminum compounds cause constipation.

TITANIUM DIOXIDE: Mice and rats fed 50,000 and 25,000 ppm for 103 weeks showed no evidence of toxicity and no increased incidence of tumors.

SILICON DIOXIDE: No data available.

QUARTZ: 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): 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: Yes

FIRE: No

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:

Known to the state of California to cause the following:

Silica, crystalline (airborne particles of respirable size)

Cancer (Oct 01, 1988)

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): All the components of this substance are listed on or are exempt from the inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

16. OTHER INFORMATION

MSDS SUMMARY OF CHANGES

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

11. TOXICOLOGICAL INFORMATION

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J.5 DWAS WEB Access Request Form (JUL 06)

Shipping instructions may be submitted via the Internet through access to the Defense Working Capital Fund Accounting System (DWAS). Contractors that wish to submit shipping instructions in this manner and that do not **already** have access to DWAS should complete and submit the attached form to the following address:

ATTN: DNSC-C, Aluminum Oxide-Abrasive Grain Contracting Officer
Defense National Stockpile Center
8725 John J. Kingman Road, Suite 3229
Ft. Belvoir, VA 22060-6223
Facsimile Number: **(703) 767-5411 or (703)-767-5494**

A separate form must be submitted for each individual requesting access and each individual must sign his/her own form. Individuals requesting online access to DWAS to submit shipping instructions must be designated in the certification Section **I.7 Persons Authorized to Request Shipment of Material (JUL 06)**.

J.5 DWAS WEB Access Request Form (JUL 06)

**Defense National Stockpile (DNSC)
Customer
DWAS WEB Access Request Form**

TYPE OF REQUEST: INITIAL MODIFICATION DISABLE

PART I (To Be Completed By Customer /User)

Company Name :
Street:
City : State : Zip Code:
Country:

User Name: First: Last:
Job Title/Function:
Phone : Email:
Fax:

Statement of Accountability

I understand my obligation to protect my password/login. I understand and will comply with the Instructions provided me and will not divulge the password/login to any other person.

Signature: Date:

PART II (TO BE COMPLETED BY DNSC TRUSTED AGENT)

Name: Title:

Phone (COMM): (DSN):

Authentication

I certify that the User identified in Part I is authorized to be assigned to the "Customer" group in DWAS Web Production.

Signature: Date:
Account # :

PART III (TO BE COMPLETED BY DFAS-CO TASCO)

Assigned USER ID: Assigned PASSWORD:

User ID/Password assigned by: Date:
Signature: Date: