UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

MEMORANDUM

SUBJECT: Request for Approval and Funding for a Time-Critical Removal Action at the Gretna Plating and Polishing Site, Gretna, Jefferson Parish, Louisiana

FROM: Mike McAteer, On-Scene Coordinator
Readiness and Emergency Response Section (SEDER)

Digitally signed by MICHAEL MCATEER
Date: 2022.06.24 12:18:02 -05'00'

THRU: Craig Carroll, Chief
Emergency Management Branch (SEDE)

Digitally signed by CRAIG CARROLL
Date: 2022.06.24 13:22:45 -05'00'

TO: Lisa Price, Acting Director
Superfund and Emergency Management Division (SED)

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the selected removal action described herein in accordance with the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9601 et seq., for the Gretna Plating and Polishing Site, Gretna, Jefferson Parish, Louisiana ("Site"). This time-critical removal action will involve the excavation and disposal of soils and concrete from the Site, city rights-of-ways, and residential properties contaminated by runoff from the Site. In addition, the removal will involve demolition of the abandoned main structure. This action will remove the threat to human health and the environment posed by the identified contaminants of concern listed herein that were a result of the actions conducted at the Site.

The proposed plan of action meets the criteria for initiating a removal action under Section 300.415 of the National Contingency Plan (NCP), 40 C.F.R. § 300.415. This action is expected to require less than twelve months and $2 million to complete.

II. SITE CONDITIONS AND BACKGROUND

SEMS # LAN000605172
Category of Removal: Time-Critical Removal
Site ID #A6LQ
Latitude: 29.931944
Longitude: - 90.0475

A. Site Description

1. Removal Site Evaluation

The Site contains a facility consisting of two buildings utilized by the previous owner to conduct various forms of metal electroplating. Metal plating activities were conducted primarily in Building 1, a 40-foot by 50-foot prefabricated metal building. Building 1 housed multiple vats, drums, totes, and other vessels containing various plating chemicals. Building 2, a 500-square foot, wooden, barn-shaped building adjacent to Building 1, was used for general storage. Drainage around the Site is achieved by open ditches.

The Gretna Plating and Polishing facility was established on January 1, 1981, and provided chrome and nickel decorative plating. Based on previous communications with the owner, the facility conducted the following operations:

- Stripping/cleaning items of dirt, oil, grease, and scale with muriatic acid.
- Grinding and buffing items smooth prior to and during plating.
- Pretreatment of items with sodium hydroxide and/or sulfuric acid.
- Nickel plating using nickel sulfate.
- Chrome plating using chromic acid.
- Treatment of electroplating wastewater.

The facility was also responsible for the generation and storage of hazardous wastes resulting from the various electroplating processes.

2. Physical Location

The Site is located at 725 Carricox Street, Gretna, Jefferson Parish, Louisiana within a residential area. The geographic coordinates are Latitude 29.932172˚ North and Longitude 90.047800˚ West. The Site encompasses a 0.25-acre area of land recorded as Jefferson Parish Tax Assessor parcel number 3100077610 and it is bound to the north, east, west, and south by residential properties.

3. Site Characteristics

The Site consists of an approximate 0.25-acre lot and includes a 4,000 ft^2 warehouse-like building (Building 1) and an adjacent ~500 ft^2 shed (Building 2). The property's east side is covered by pavement and the west side is undeveloped land covered in grass. Residences surround the Site. During the period of approximately 1980 to 2015, the Site was utilized as a metal plating facility where operations were completed under the name of Gretna Plating. Operations ceased around early 2015 and a fire occurred in August 2015.

4. Releases or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant:

The abandoned plating facility housed several containers of chemicals used for plating and polishing operations. In addition, the facility was littered with ash debris caused by the August 2015 fire. EPA conducted emergency stabilization actions at the Site to secure liquids, utilized in the plating process, which were stored within open topped, wooden vats. EPA collected soil samples from the Site and surrounding properties to determine if contaminants had migrated offsite due to fire suppression water runoff. Results from the soil sampling at this time found one location onsite with a level of nickel slightly above the Removal Management Level (RML) as well as one slightly elevated grid with manganese located on the adjoining property to the north. It is worth noting that nickel was also found onsite during the 2021 assessment and manganese was also found on the property to the north. Nickel found onsite will be addressed as part of the proposed removal. The manganese north of the Site is only slightly elevated, and it does not appear to be site-related. No hits of manganese were found on the site or in the wastes abandoned in the old plating facility. All sampling results and inventories were transferred to the Louisiana Department of Environmental Quality (LDEQ) and the responsible party for further cleanup activities.

EPA was contacted by LDEQ and the City of Gretna ("City") after Hurricane Ida made landfall in August of 2021 to inform EPA that the Gretna Plating and Polishing building had received significant damage to the exterior, and portions of the building were open to the elements. LDEQ and the City requested that EPA conduct a response and determine if the damages to the building represented a threat to human health and the environment, due to unrestricted access to the building and exposure of the contents of the building to rainfall. The City informed EPA that the owner of the building was now deceased. When EPA completed the 2021 Emergency Removal of all remaining onsite waste, EPA's Emergency and Rapid Response Services ("ERRS") contractor provided a compiled spreadsheet of all waste collected and disposed of, which is displayed below for reference:

Shipment #	Waste Stream	Ship Date	Manifest #	No. Containers	Type	Quantity	Units	Facility	Final Disposal Date	Final Disposition
1	Waste Flammable Paint	10/8/2021	015765159FLE	6	CF	1	CY	Clean Harbors - Deer Park		Incineration
1	Waste Chromium Trioxide	10/8/2021	015765159FLE	1	DF	10	G	Clean Harbors - Deer Park	11/18/2021	Incineration
1	Waste Plating Solutions	10/8/2021	015765159FLE	1	DF	55	G	Clean Harbors - Deer Park	11/19/2021	Incineration
1	Waste Nitric Acid	10/8/2021	015765159FLE	1	DF	55	G	Clean Harbors - Deer Park		Incineration
1	Waste Acid Liquids	10/8/2021	015765159FLE	5	CF	1	CY	Clean Harbors - Deer Park	11/14/2021	Incineration
1	RCRA Enpty Drums	10/8/2021	015765159FLE	2	DM	55	G	Clean Harbors - Deer Park	11/16/2021	Incineration
1	RCRA Enpty Drums	10/8/2021	015765159FLE	9	DM	85	G	Clean Harbors - Deer Park	11/16/2021	Incineration
1	RCRA Enpty Drums	10/8/2021	015765159FLE	4	DF	55	G	Clean Harbors - Deer Park	11/16/2021	Incineration
1	Waste Hydrogen Peroxide	10/8/2021	015765159FLE	1	DF	55	G	Clean Harbors - Deer Park	11/18/2021	Incineration
1	Waste Aerosols	10/8/2021	015765163FLE	1	CF	1	G	Clean Harbors - Deer Park	11/16/2021	Incineration
1	Waste Sodium Hydroxide	10/8/2021	0157765164FLE	1	DF	95	G	Clean Harbors - Lone Mountain	12/20/2021	Landfill
2	Waste Inorganic Acids	11/4/2021	007988709SKS	3	DF	55	G	Clean Harbors - Lone Mountain	12/29/2021	Landfill
2	Waste Inorganic Acids	11/4/2021	007988709SKS	2	TP	275	G	Clean Harbors - Lone Mountain	12/29/2021	Landfill
2	Waste Nitric Acid	11/4/2021	007988709SKS	1	TP	275	G	Clean Harbors - Lone Mountain		Incineration
2	Waste Inorganic Acids	11/4/2021	007988708SKS	1	TP	275	G	Clean Harbors - Lone Mountain	12/29/2021	Landfill
2	Waste Inorganic Acids	11/4/2021	007988708SKS	12	DF	55	G	Clean Harbors - Lone Mountain	12/29/2021	Landfill
2	Waste Acid Solids	11/4/2022	007988708SKS	15	DM	55	G	Clean Harbors - Lone Mountain	12/29/2021	Landfill
3	Chrome Plating Vat Boxes	11/4/2022	007988696SKS	1	CM	25	CY	Clean Harbors - Lone Mountain	11/18/2022	Landfill
4	Chrome Plating Vat Boxes	11/4/2022	007988695SKS	1	CM	25	CY	Clean Harbors - Lone Mountain	11/18/2022	Landfill
5	Waste Inorganic Acids	1/19/2022	008975335FLE	1	TP	275	G	Clean Harbors - Lone Mountain		Landfill
5	Waste Acid Solids	1/19/2022	008975335FLE	2	DF	55	G	Clean Harbors - Lone Mountain		Landfill
6	Bulk Floor Cleanup	1/19/2022	008975332FLE	1	CM	25	CY	Clean Harbors - Lone Mountain	1/20/2022	Landfill

Gretna Disposal Summary as of 2/9/2022

In November 2021, EPA's Superfund Technical Assessment & Response Team ("START") contractor collected building construction material samples at the Site to determine if any of the building's construction materials would be classified as a hazardous waste or if potentially contaminated construction materials could pose a threat to workers during a scheduled demolition of Site structures.

Construction material sampling was conducted in general accordance with the U.S. EPA Environmental Response Team (ERT) Standard Operating Procedure (SOP) Waste Pile Sampling, (ERT SOP No. 2017), Chip, Wipe and Sweep Sampling (ERT SOP No. 2011) and WESTON SOP for waste sampling (Weston No. 403). Six representative media were selected for sampling based upon those materials remaining onsite after the removal operation was completed. For waste characterization, samples were collected from construction materials (sheet metal, metal beams, concrete floor, wood construction materials, wood flooring, and insulation) and analyzed for reactivity/corrosivity/ignitability profile, Toxicity Characteristics Leaching Procedure (TCLP) Metals, TCLP Pesticides, TCLP Volatile Organic Compounds, and TCLP Semi-volatile Organic Compounds.

For worker exposure determination, wipe samples were collected from the surface of the sheet metal (one sample from the interior, one sample from the exterior), metal beam, wooden construction materials, concrete floor, and the wood floor. Sample-specific 100 square centimeter templates were utilized to ensure consistency during the sampling event. Samples were analyzed for TAL metals, mercury, hexavalent chromium, and cyanide. Of the 9 wipe samples collected, only one sample collected from the concrete floor in the plating room exceeded either the calculated or OSHA specific PEL. The sample exceeded the OSHA PEL for hexavalent chrome.

Due to the inability to collect a wipe sample from the building's insulation, a sample was collected from the media and analyzed for TAL metals, hexavalent chrome, and cyanide "totals". Results indicate that the insulation exceeded the EPA's Regional Screening Level for Industrial Soil for arsenic only.

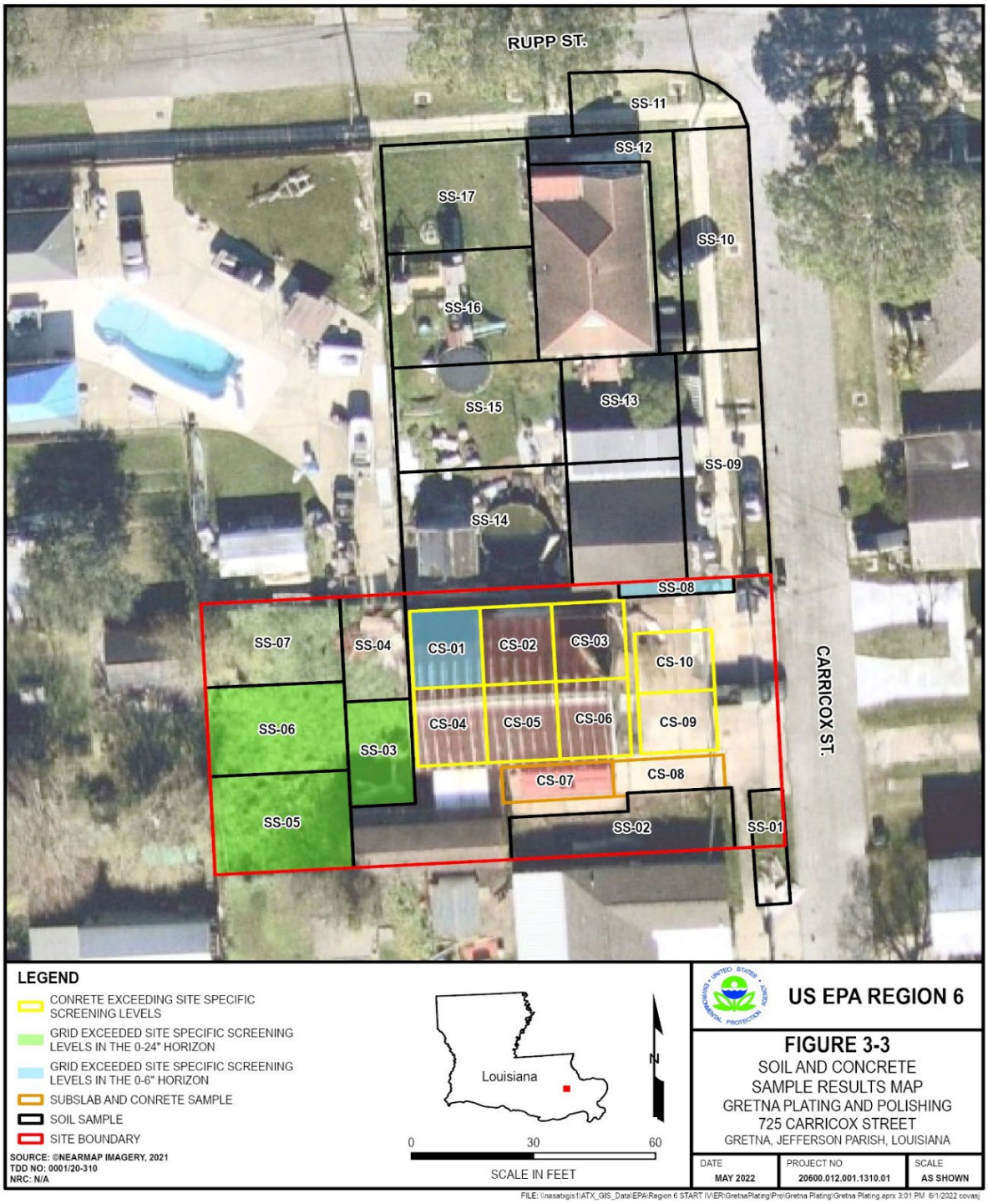
Of the seven building material samples collected and analyzed for TCLP parameters, one sample exceeded the EPA's hazardous waste criteria. The sample collected from the concrete floor in the plating room exceeded the action level for chromium.

On March 14-16, 2022, START returned to the Site to collect concrete samples as well as soil samples from the Site and an adjacent, downgradient residence. EPA collected 11 concrete samples including 1 duplicate from the concrete inside of, and around, the building. The concrete samples were analyzed for TAL metals, cyanide, and hexavalent chromium. One sample contained nickel above the EPA Residential Soil Screening Level and nine samples including one duplicate contained hexavalent chromium above the EPA Residential Soil Screening Level.

START collected 48 composite soil samples including 5 duplicates from up to 3 depths in 8 on-site grids and 9 off-site grids. The soil samples were analyzed for TAL metals, hexavalent chromium, and cyanide. Laboratory analysis found that four on-site grids had parameters above the EPA Residential Soil Screening Level. Analytes found in elevated levels included arsenic, lead, nickel, and hexavalent chromium.

START collected 10 grab soil samples including 1 duplicate from 9 locations under the concrete in the on-site building. One sample contained hexavalent chromium above the EPA Residential

Soil Screening Level.



Soil and Concrete Slab Sample Results

5. NPL Status

The Site is not on the NPL list and is not likely to be included.

6. Maps, Pictures and other graphic representations

Attachment 1 ATSDR Public Health Statement for Asbestos
Attachment 2 Enforcement Addendum (Confidential/FOIA exempt)

Area Map

Containers with plating wastes in the main building

Plating waste containers in the storage shed

Missing portion of the wall on the West side of the plating facility post-Hurricane Ida

Missing portion of the wall on the East side of the facility post-Hurricane Ida

Ash debris inside the main building

Vat room after containers were removed and vacuuming of debris was complete.

Soil sample being extracted next to the secondary building

Core concrete sample being extracted from the floor slab

B. Other Actions to Date

1. Previous Actions

Emergency Response 2021:

The following is a chronological listing of major response activities undertaken by EPA following damage reports from Hurricane Ida at the facility by the City of Gretna. The hurricane struck the New Orleans metropolitan area on August 29, 2021.

On **September 19th, 2021**, EPA restricted access by erecting chain-link fencing along the north, west, and south property boundary, as well as covering exposed areas of the east side for the main building with plywood. The City supplied a structural engineer to assess the building

stability, whose evaluation stated the building was structurally sound and therefore the building was safe enough to enter to remove containers without mechanical means. In addition, pooled storm water within the facility was measured at a pH of 5. Due to the condition of the facility based on the structural engineer's evaluation and lack of indications of an ongoing release, EPA demobilized from the Site after completing the access restriction activities.

On Friday, **October 1, 2021, t**he ERRS Transportation and Disposal (T&D) Coordinator for the Site collected representative samples from containers onsite to gather information regarding compatibility and waste disposal options. Samples were submitted to a subcontracted laboratory to be analyzed for disposal parameters. All work was completed by the end of the workday and samples were shipped to the subcontracted laboratory.

On Thursday, **October 7, 2021**, Operations conducted during the first stage of the removal included lab packing all containers less than 10-gallons, transportation and disposal of all lab packs, bulking all liquids from vats into 250-gallon tote tanks, placing all emptied vats into a roll-off box, staging all 55-gallon drums and any overpacks into a Conex box for temporary storage, and removing any solid wastes from the floor. The ERRS crew utilized 1 cubic yard, lined, corrugated boxes to package all containers less than 10-gallons. Materials were grouped with like or compatible constituents, and adsorbent materials were placed within the boxes to prevent leakage. Ten boxes were filled with small containers, sealed, manifested, and prepared for offsite transportation and disposal. Four 55-gallon salvage drums were filled with acidic materials, sealed, manifested, and prepared for offsite transportation and disposal. The contents of the two vats located outside of the main building were emptied into a 250-gallon tote tank. Approximately 100 gallons of material were transferred for disposal. Air monitoring conducted during removal operations indicated all parameters remained at background levels.

On Friday, **October 8, 2021**, Activities for the day included completing all lab pack activities, shipping all lab packs offsite for disposal, pump out contents of vats into 250-gallon tote tanks, place empty vats into a roll-off box, overpack and place 55-gallon drums in the Conex box, and secure the Site. Crews determined that two additional tote tanks and one additional roll-off box would be required to complete the removal.

On Monday, **October 11, 2021**, Operations for the day included completing the removal of all liquid wastes from the facility, including liquids within vats, drums, and other containers. Two additional tote tanks and one roll-off box were delivered to the Site to accommodate waste removal. The crew utilized a pump to remove the liquid contents from the remaining vats and drums in the facility and placed the liquids into a 250-gallon tote tanks. Once the liquids had been removed from the vats, the crew removed them from the building and placed the vats into the roll-off boxes. All drummed waste and 250-gallon tote tanks were placed into the Conex box for storage until disposal manifests and transportation could be arranged and approved. One tote tank was stored in the building due to some off-gassing of acid vapors occurring. ERRS monitored the tank throughout the day and determined by the next morning that the acids had been neutralized, and no further reaction was ongoing. The lid was secured, and the tank was left within the building until transportation and disposal was arranged. By the end of the day, all wastes had been containerized and removed from the facility, except for the one tote tank.

On Tuesday**, October 26, 2021**, EPA mobilized to the Site and isolated a leaking drum within the Conex box. The metal overpack drum leaked liquid contents due the incompatibility of the contents and the metal drum. The contents of the overpack were repackaged and secured within the Conex box. All spilled material was collected by the ERRS crew, solidified using adsorbents, and placed within an onsite roll-off box. The leaking roll-off box was due to the end door not being properly secured. The ERRS crew tightened the door latches and rechecked the integrity.

On Thursday, **November 4, 2021**, crews prepared all the containerized waste for transportation and inspected the Site to determine if any additional leaks or discharges had occurred since the last mobilization. No additional leaks were noted, and the crews focused on securing the roll-off boxes, totes, and drums for transport to the disposal facility. Throughout the day the crews transported two roll-off boxes, three 250-gallon tote tanks, and 27 drums to the disposal facility or to a staging yard.

On Monday, **November 8, 2021**, the EPA Team mobilized to the Site to begin removal of contaminated debris and ash from the facility. To reduce fugitive dust and worker exposure, the team utilized a vacuum system and vacuum box to removal contaminated materials. The vacuum system was comprised of a trailer mounted motor and pump which pulled air through a cyclone vessel. The cyclone vessel contained approximately 32 dust filters which eliminated any fugitive emissions. Materials vacuumed up by the crew were deposited within the vacuum box. Large pieces of equipment or debris were removed from the area of operation and placed onto pallets which were stored in building 2. By the end of the day, the crew had completed removal of contaminated debris and ash from the main vat room.

On Tuesday, **November 9, 2021**, the crew once again utilized the vacuum system to collect and containerize contaminated debris and ash from the facility floor. During the vacuuming operations, the crew discovered liquid contaminants within 5-gallon buckets that were buried beneath debris in the front portion of the building. The buckets were placed into polyethylene drums and secured onsite. The crew also began placing contaminated debris which could not be vacuumed (due to the size of the material) into the vacuum box, while the unit was powered down, via a hatch located on the top of the vessel. At the completion of the workday, the crew completed removal of ash and debris from the entire facility with the exception of the polishing room where the majority of fire damage occurred.

On Wednesday, **November 10, 2021,** upon completion of the debris and ash removal, the crew began breaking down the vacuum cyclone, removing the dust filter sleeves and placing them within the vacuum box. During the day, the City of Gretna Public Works installed a water meter at the location to provide the team with water access for pressure washing activities scheduled for November 11. By the end of the day, the entire floor of the building had been cleared of ash and debris.

On Thursday, **November 11, 2021**, the EPA Team mobilized to the Site to conduct pressure washing of the floor and removal of the vacuum box. The crew modified the vacuum system from a dry recovery to wet recovery by removing the cyclone and installing a 250-gallon tote tank beneath the primary vacuum recovery vessel. Crews first lined the interior walls of the

building with chemical adsorbent boom to prevent any residual contaminants from being washed outside of the building foundation. Liquids collected during the pressure washing operation were stored within the tote tank. Approximately 60 gallons of liquid were captured, sampled for waste profiling, then secured onsite. At the end of the workday, all removal operations were completed.

On Wednesday, **January 19, 2022**, the EPA Team remobilized to the Site to remove the remaining waste onsite for disposal. Once all remaining waste was transported offsite for disposal, the Emergency Response activities for the Site concluded.

Removal Assessment

In **November 2021**, START collected building construction material samples at the Site to determine if any of the building's construction materials would be classified as a hazardous waste or if potentially contaminated construction materials could pose a threat to workers during a scheduled demolition of Site structures.

On **March 14-16, 2022**, START returned to the Site to collect concrete samples as well as soil samples from the Site and an adjacent, downgradient residence.

C. State and Local Authorities Role

Currently EPA is coordinating with LDEQ and the City of Gretna on all planned time-critical removal work. No additional actions are anticipated by the State or local government entities. After completion of the time-critical removal action, the Site will be referred to the State.

Potential for Continued State/Local Response:

LDEQ and the City of Gretna will continue to assist in the cleanup within the limits of their resources and authorities.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a removal action. Paragraphs (b)(2)(i), (iv), (v) and (vii) directly apply to the conditions at the Site. Any one of these factors may be sufficient to determine whether a removal action is appropriate.

A. Exposure to Human Populations, Animals or the Food Chain, NCP Section 300.415(b)(2)(i).

Site contaminants include arsenic, lead, nickel, and hexavalent chromium, which are hazardous substances as defined at Section 101(14) of CERCLA, 42 U.S.C. 9601(14) and further defined at

40 C.F.R. § 302.4. Site contaminants have migrated out of the original plating facility into onsite soils and the concrete pad surrounding the plating facility. The Site is bordered by residential properties. Therefore, a threat of exposure to human populations exists from impacted onsite contaminated soils and concrete particularly once the old facility is demolished and the property is returned to residential use.

Furthermore, the structure of the main building is currently contaminated from hazardous substances used during plating operations. Construction material samples have demonstrated that the building is contaminated with hexavalent chromium and arsenic. Therefore, the building poses a threat to any potential trespassers.

B. High Levels of Hazardous Substances or Pollutants or Contaminants Soils Largely at or Near the Surface, that May Migrate, NCP Section 300.415(b)(2)(iv).

The hazardous substances and the concentrations located within the surface onsite soils are identified in II.A.3 above. Those concentrations were detected above EPA regional screening levels.

C. Weather Conditions that may cause Hazardous Substances or Pollutants or Contaminants to Migrate or be Released, NCP Section 300.415(b)(2)(v)

Contaminants from inside the former plating facility have migrated outside and have impacted surrounding Site soils. The New Orleans area typically receives just over 63 inches of precipitation annually. New Orleans also experiences tropical cyclones during the Atlantic hurricane season, which can bring heavy rain and significant damage to the city. These weather conditions could cause further dispersion of surface soil contamination as well as further damage to the remaining plating facility and impact nearby residential surface soils.

D. Availability of Other Response Mechanisms, NCP Section 300.415(b)(2)(vii)

There are no other response mechanisms available to conduct this action at this time.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances, pollutants or contaminants from this Site, if not addressed by implementing the response action in this Action Memorandum, present an imminent and substantial endangerment to the public health, welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

None

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. **Action Description**

EPA proposes the excavation of contaminated soils from the Site impacted by the Gretna Plating and Polishing facility. In addition, this action will involve the demolition and offsite disposal of the existing contaminated structure and concrete slab under the old plating facility to facilitate a complete cleanup. The excavated soils and demolition debris will be disposed of at an approved, licensed and compliant landfill followed by restoration of the properties to pre-removal conditions. Dust suppression measures will also be taken during the soil removal process as well as during the building demolition process.

Contaminant	Cleanup Level
Arsenic:	< 35 mg/kg*
Lead:	< 400 mg/kg*
Nickel:	< 1500 mg/kg*
Hexavalent Chromium	< 3 mg/kg*

Gretna Plating and Polishing Waste Estimates

Soil

Depth (In)	CY in situ	Tons
24	69	90
24	62	81
24	35	46
6	7	9
6	3	4
	176	**230**

Concrete Pad

Depth (In)	CY in situ	Tons
8	77	**154**

Debris – non-hazardous

		Tons
		100

Contribution to remedial performance

It is anticipated that no remedial action will take place at the Site. If any remedial action should occur, the completed removal action will be consistent with the remedial action as it removes the source of the contamination.

Description of alternative technologies

At this time, there are no other proven alternative technologies that could feasibly be applied at this Site. The appropriate action is to conduct the Removal Action on the Site as described in this memorandum. If an equally protective and less expensive technology is later identified, it may be considered.

Applicable or Relevant and Appropriate Requirements (ARAR)

This Removal Action will be conducted to eliminate the actual or potential release of a hazardous substance, pollutant, or contaminant to the environment, pursuant to CERCLA, 42 U.S.C. § 9601 et seq., in a manner consistent with the NCP, 40 C.F.R. Part 300. As per 40 C.F.R. § 300.415(i), Fund-financed removal actions pursuant to CERCLA Section 104, 42 U.S.C. § 9604, and removal actions pursuant to CERCLA Section 106, 42 U.S.C. § 9606, shall, to the extent practicable considering the exigencies of the situation, attain the applicable or relevant and appropriate requirements under Federal environmental law, including the Toxic Substances and Control Act (TSCA), 15 U.S.C. § 2601 et. seq., the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300 et. seq., the Clean Air Act (CAA), 42 U.S.C. § 7401 et. seq., Clean Water Act (CWA), 33 U.S.C. § 1251 et. seq., the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 et. seq., or any promulgated standard, applicable or relevant and appropriate requirements, criteria, or limitation under a state environmental or facility citing law that is more stringent than any Federal standard, requirement, criteria, or limitation contained in a program approved, authorized or delegated by the Administrator and identified to the President by the state.

B. Estimated Costs

Extramural Costs:	**Estimated Costs for Removal:**
Cleanup Contractor (ERRS) (estimated)	$277,000
START (estimated)	$ 50,000
Extramural Subtotal	**$327,000**
Extramural Contingency (20%)	$ 65,400
Extramural w/ Contingency	**$392,400**
Funds Expended on Previous Responses	$ 296,999
Removal Ceiling	**$689,399**

Project Schedule:

The estimated time to complete the Removal Action is approximately three to four weeks provided no unforeseen Site conditions are encountered.

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If this response action is not taken, potential for human exposure to contaminants at the Site will remain unabated. The current neighboring residents and/or trespassers who may enter the property would be exposed to the contaminated soils. Also, given that the property is zoned residential, future residences of the property would be exposed to contaminated soils if not removed as part of this proposed action. These contaminated soils may also migrate during storm events which could result in the contamination of additional areas around the Site. In addition, the hurricane-damaged facility poses a risk to any trespassers as well as to nearby residents in the event of another tropical storm or hurricane that could easily dislodge more pieces of the structure and scatter them throughout the nearby community.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues associated with this Site.

IX. ENFORCEMENT

The total cost for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $695,565

(Direct Cost) + (Other Indirect Costs) + 53.75% (Direct + Indirect Costs) =Estimated EPA Cost
$392,400 + $ 60,000 + 0.5375($392,400 + $60,000) = $695,565

Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rated expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2002. The estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only, and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor the deviation of actual total costs from this estimate will affect the United States' right to cost recover.

X. RECOMMENDATION

Conditions at the Site meet the criteria defined in Section 300.415(b)(2) of the NCP, 40 CFR § 300.415(b)(2), for a removal, and I recommend your approval of the proposed removal action described above. The total project ceiling if approved will be $695,565, an estimated $277,000 comes from the Region 6 removal allowance.

APPROVED: Price, Lisa Digitally signed by Price, Lisa Date: 2022.06.24 14:56:31 -05'00' _____ DATE: _____

Lisa Price, Acting Director
Superfund and Emergency Management Division (SED)

Attachments

Attachment 1: ATSDR Tox FAQs for:

1. **Arsenic**
2. **Lead**
3. **Nickel**
4. **Hexavalent Chromium**

Arsenic - ToxFAQs™

CAS # 7440-38-2

This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occur mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found in at least 1,149 of the 1,684 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Copper chromated arsenate (CCA) is used to make "pressure-treated" lumber. CCA is no longer used in the U.S. for residential uses; it is still used in industrial applications. Organic arsenic compounds are used as pesticides, primarily on cotton fields and orchards.

What happens to arsenic when it enters the environment?

- Arsenic occurs naturally in soil and minerals and may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching.
- Arsenic cannot be destroyed in the environment. It can only change its form.
- Rain and snow remove arsenic dust particles from the air.
- Many common arsenic compounds can dissolve in water. Most of the arsenic in water will ultimately end up in soil or sediment.
- Fish and shellfish can accumulate arsenic; most of this arsenic is in an organic form called arsenobetaine that is much less harmful.

How might I be exposed to arsenic?

- Ingesting small amounts present in your food and water or breathing air containing arsenic.
- Breathing sawdust or burning smoke from wood treated with arsenic.
- Living in areas with unusually high natural levels of arsenic in rock.
- Working in a job that involves arsenic production or use, such as copper or lead smelting, wood treating, or pesticide application.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs.

Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

Almost nothing is known regarding health effects of organic arsenic compounds in humans. Studies in animals show that some simple organic arsenic

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CS265956-A

Arsenic

CAS # 7440-38-2

compounds are less toxic than inorganic forms. Ingestion of methyl and dimethyl compounds can cause diarrhea and damage to the kidneys.

How likely is arsenic to cause cancer?

Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the liver, bladder, and lungs. Inhalation of inorganic arsenic can cause increased risk of lung cancer. The Department of Health and Human Services (DHHS) and the EPA have determined that inorganic arsenic is a known human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans.

How can arsenic affect children?

There is some evidence that long-term exposure to arsenic in children may result in lower IQ scores. There is also some evidence that exposure to arsenic in the womb and early childhood may increase mortality in young adults.

There is some evidence that inhaled or ingested arsenic can injure pregnant women or their unborn babies, although the studies are not definitive. Studies in animals show that large doses of arsenic that cause illness in pregnant females, can also cause low birth weight, fetal malformations, and even fetal death. Arsenic can cross the placenta and has been found in fetal tissues. Arsenic is found at low levels in breast milk.

How can families reduce the risks of exposure to arsenic?

- If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.
- If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.
- If you work in a job that may expose you to arsenic, be aware that you may carry arsenic home on your clothing, skin, hair, or tools. Be sure to shower and change clothes before going home.

Is there a medical test to determine whether I've been exposed to arsenic?

There are tests available to measure arsenic in your blood, urine, hair, and fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels of arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict whether the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

The EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or cancelled many of the uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit (PEL) of 10 micrograms of arsenic per cubic meter of workplace air (10 $\mu g/m^3$) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Arsenic (Update). Atlanta, GA: U.S. Department of Health and Human Services. Public Health Service.

Where can I get more information?

For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Human Health Sciences, 1600 Clifton Road NE, Mailstop F-57, Atlanta, GA 30329-4027.

Phone: 1-800-232-4636

ToxFAQs™ Internet address via WWW is http://www.atsdr.cdc.gov/toxfaqs/index.asp.

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Lead - ToxFAQs™

What is lead?

Lead is a metal found naturally in the earth's crust. It can be found in all parts of our environment, including air, water, and soil. Lead can combine with other chemicals to make different compounds.

Lead is used in the production of batteries, ammunition, and metal products (solder and pipes). Because of health concerns, the use of lead in paints, ceramic products, caulking, and pipe solder has been dramatically reduced. The use of lead as an additive to automobile gasoline was banned in 1996 in the United States.

What happens to lead in the environment?

- Lead is an element, so it does not break down.
- When lead is released into the air, it may be transported long distances before it lands and stays on the ground.
- Once on the ground, lead can often stick to soil particles.
- Lead in soil can get into groundwater, but the amount of lead that moves into groundwater will depend on the lead compound and soil type.

How can I be exposed to lead?

Lead can cause health problems in almost every organ and system in your body.

- Eating food or drinking water that contains lead.
- Drinking water from pipes that were soldered with lead can cause exposure.
- Spending time or living in homes with lead-based paints can result in exposure when the paint breaks down and forms dust, which can get on your hands, or into your mouth and nose and be swallowed.
- Spending time in areas where the soil is contaminated with lead.
- Working in a job where lead is used or participating in certain hobbies where lead is used, such as making stained glass.
- Using healthcare products from other countries, alternative treatments, or folk remedies.

How can lead affect my health?

The effects of lead are the same whether it enters the body by breathing it in or eating it. Lead can affect almost every organ and system in your body. The nervous system is the main target for lead poisoning in children and adults. Long-term exposure can result in decreased learning, memory, and attention, and weakness in fingers, wrists, or ankles. Lead exposure can cause anemia (low iron in the blood) and damage to the kidneys. It can also cause increases in blood pressure, particularly in middle-aged and older individuals. Exposure to high lead levels can severely damage the brain and kidneys and can cause death. In pregnant women, exposure to high levels of lead may cause a miscarriage. In men, it can cause damage to reproductive organs.

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ATSDR

Lead

How can lead affect children?

Children are more vulnerable to lead poisoning than adults because their nervous system is still developing. Children can be exposed to lead in their environment and before birth from lead in their mother's body. At lower levels of exposure, lead can decrease mental development, especially learning, intelligence, and behavior. Physical growth may also be decreased. A child who swallows large amounts of lead may develop anemia, severe stomachache, muscle weakness, and brain damage. Exposure to lead during pregnancy can also result in premature births. Some effects of lead poisoning in a child may continue into adulthood.

Can lead cause cancer?

Several agencies and organizations both in the United States and internationally have reviewed studies and made an assessment about whether lead can cause cancer.

- The Department of Health and Human Services (HHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens (causing cancer in people).
- The U.S. Environmental Protection Agency (EPA) has classified lead as a probable human carcinogen.
- The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans, and that there is insufficient information to determine whether organic lead compounds will cause cancer in humans.

Can I get a medical test to check for lead?

A blood test is available to measure the amount of lead in your blood. Blood tests are commonly used to screen children for lead poisoning. Your doctor can draw blood samples and send them to appropriate laboratories for analysis. If you think you or anyone in your family has been exposed to lead, contact your doctor, nurse, or poison control center.

How can I protect my family from lead exposure?

- Avoid exposure to sources of lead.
- Do not allow children to chew or mouth surfaces that may have been painted with lead-based paint.
- If your home contains lead-based paint (built before 1978), or if you live in an area contaminated with lead, wash children's hands and faces often to remove lead dusts and soil, and regularly clean the house to remove lead dust and lead tracked in soil.
- Certain water pipes may contain lead, so if you know that pipes have lead solder, you should avoid drinking from that source.
- Check for lead in some products such as toys and jewelry and avoid such products.
- Lead is sometimes in candies imported from other countries or traditional home remedies; find out if yours has any lead and avoid using these products or giving them to children.
- You can learn more about preventing lead poisoning here: https://www.cdc.gov/nceh/lead/faqs/lead-faqs.htm

Want more information?

Call **CDC-INFO** at 1-800-232-4636, or submit your question online at https://wwwn.cdc.gov/dcs/ContactUs/Form

Go to ATSDR's Toxicological Profile for Lead

CDC Lead Poisoning Prevention Program https://www.cdc.gov/nceh/lead/default.htm

Environmental Protection Agency https://www.epa.gov/lead/protect-your-family-exposures-lead

Go to ATSDR's Toxic Substances Portal: https://wwwn.cdc.gov/TSP/index.aspx

If you have any more questions or concerns, you can also find & contact your ATSDR Regional Representative at http://www.atsdr.cdc.gov/DRO/dro_org.html

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ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

NICKEL

CAS # 7440-02-0

Division of Toxicology ToxFAQs™ **August 2005**

This fact sheet answers the most frequently asked health questions (FAQs) about nickel. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Nickel is a naturally occurring element. Pure nickel is a hard, silvery-white metal used to make stainless steel and other metal alloys. Skin effects are the most common effects in people who are sensitive to nickel. Workers who breathed very large amounts of nickel compounds developed chronic bronchitis and lung and nasal sinus cancers. Nickel has been found in at least 882 of the 1,662 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is nickel?

Nickel is a very abundant natural element. Pure nickel is a hard, silvery-white metal. Nickel can be combined with other metals, such as iron, copper, chromium, and zinc, to form alloys. These alloys are used to make coins, jewelry, and items such as valves and heat exchangers. Most nickel is used to make stainless steel.

Nickel can combine with other elements such as chlorine, sulfur, and oxygen to form nickel compounds. Many nickel compounds dissolve fairly easy in water and have a green color. Nickel compounds are used for nickel plating, to color ceramics, to make some batteries, and as substances known as catalysts that increase the rate of chemical reactions.

Nickel is found in all soil and is emitted from volcanoes. Nickel is also found in meteorites and on the ocean floor. Nickel and its compounds have no characteristic odor or taste.

What happens to nickel when it enters the environment?

- Nickel is released into the atmosphere by industries that make or use nickel, nickel alloys, or nickel compounds. It is also released into the atmosphere by oil-burning power plants, coal-burning power plants, and trash incinerators.
- In the air, it attaches to small particles of dust that settle to the ground or are taken out of the air in rain or snow; this usually takes many days.
- Nickel released in industrial waste water ends up in soil or sediment where it strongly attaches to particles containing iron or manganese.
- Nickel does not appear to accumulate in fish or in other animals used as food.

How might I be exposed to nickel?

- By eating food containing nickel, which is the major source of exposure for most people.
- By skin contact with soil, bath or shower water, or metals containing nickel, as well as by handling coins or touching jewelry containing nickel.
- By drinking water that contains small amounts of nickel.
- By breathing air or smoking tobacco containing nickel.
- Higher exposure may occur if you work in industries that process or use nickel.

How can nickel affect my health?

The most common harmful health effect of nickel in humans is an allergic reaction. Approximately 10-20% of the population is sensitive to nickel. People can become sensitive to nickel when jewelry or other things containing it are in direct contact with the skin for a long time. Once a person is sensitized to nickel, further contact with the metal may produce a reaction. The most common reaction is a skin rash at the site of contact. The skin rash may also

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occur at a site away from the site of contact. Less frequently, some people who are sensitive to nickel have asthma attacks following exposure to nickel. Some sensitized people react when they consume food or water containing nickel or breathe dust containing it.

People working in nickel refineries or nickel-processing plants have experienced chronic bronchitis and reduced lung function. These persons breathed amounts of nickel much higher than levels found normally in the environment.

Workers who drank water containing high amounts of nickel had stomach ache and suffered adverse effects to their blood and kidneys.

Damage to the lung and nasal cavity has been observed in rats and mice breathing nickel compounds. Eating or drinking large amounts of nickel has caused lung disease in dogs and rats and has affected the stomach, blood, liver, kidneys, and immune system in rats and mice, as well as their reproduction and development.

How likely is nickel to cause cancer?

Cancers of the lung and nasal sinus have resulted when workers breathed dust containing high levels of nickel compounds while working in nickel refineries or nickel processing plants. The Department of Health and Human Services (DHHS) has determined that nickel metal may reasonably be anticipated to be a carcinogen and that nickel compounds are known human carcinogens. The International Agency for Research on Cancer (IARC) has determined that some nickel compounds are carcinogenic to humans and that metallic nickel may possibly be carcinogenic to humans. The EPA has determined that nickel refinery dust and nickel subsulfide are human carcinogens.

How can nickel affect children?

It is likely that the health effects seen in children exposed to nickel will be similar to those seen in adults. We do not know whether children differ from adults in their susceptibility to nickel. Human studies that examined whether nickel can harm the fetus are inconclusive. Animal studies have found increases in newborn deaths and decreased newborn weight after ingesting very high amounts of nickel. Nickel can be transferred from the mother to an infant in breast milk and can cross the placenta.

How can families reduce the risks of exposure to nickel?

- ❑ Avoiding jewelry containing nickel will eliminate risks of exposure to this source of the metal.
- ❑ Exposures of the general population from other sources, such as foods and drinking water, are almost always too low to be of concern.

Is there a medical test to determine whether I've been exposed to nickel?

There are tests available to measure nickel in your blood, feces, and urine. More nickel was measured in the urine of workers who were exposed to nickel compounds that dissolve easily in water than in the urine of workers exposed to nickel compounds that are hard to dissolve. This means that it is easier to tell if you have been exposed to soluble nickel compounds than less-soluble compounds. The nickel measurements do not accurately predict potential health effects from exposure to nickel.

Has the federal government made recommendations to protect human health?

The EPA recommends that drinking water should contain no more than 0.1 milligrams of nickel per liter of water (0.1 mg/L). To protect workers, the Occupational Safety and Health Administration (OSHA) has set a limit of 1 mg of nickel per cubic meter of air (1 mg/m^3) for metallic nickel and nickel compounds in workplace air during an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2005. Toxicological Profile for Nickel (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Chromium - ToxFAQs™

CAS # 7440-47-3

This fact sheet answers the most frequently asked health questions (FAQs) about chromium. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to chromium occurs from ingesting contaminated food or drinking water or breathing contaminated workplace air. Chromium(VI) at high levels can damage the nose and cause cancer. Ingesting high levels of chromium(VI) may result in anemia or damage to the stomach or intestines. Chromium(III) is an essential nutrient. Chromium has been found in at least 1,127 of the 1,669 National Priorities List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is chromium?

Chromium is a naturally occurring element found in rocks, animals, plants, and soil. It can exist in several different forms. Depending on the form it takes, it can be a liquid, solid, or gas. The most common forms are chromium(0), chromium(III), and chromium(VI). No taste or odor is associated with chromium compounds.

The metal chromium, which is the chromium(0) form, is used for making steel. Chromium(VI) and chromium(III) are used for chrome plating, dyes and pigments, leather tanning, and wood preserving.

What happens to chromium when it enters the environment?

- Chromium can be found in air, soil, and water after release from the manufacture, use, and disposal of chromium-based products, and during the manufacturing process.
- Chromium does not usually remain in the atmosphere, but is deposited into the soil and water.
- Chromium can easily change from one form to another in water and soil, depending on the conditions present.
- Fish do not accumulate much chromium in their bodies from water.

How might I be exposed to chromium?

- Eating food containing chromium(III).
- Breathing contaminated workplace air or skin contact during use in the workplace.
- Drinking contaminated well water.
- Living near uncontrolled hazardous waste sites containing chromium or industries that use chromium.

How can chromium affect my health?

Chromium(III) is an essential nutrient that helps the body use sugar, protein, and fat.

Breathing high levels of chromium(VI) can cause irritation to the lining of the nose, nose ulcers, runny nose, and breathing problems, such as asthma, cough, shortness of breath, or wheezing. The concentrations of chromium in air that can cause these effects may be different for different types of chromium compounds, with effects occurring at much lower concentrations for chromium(VI) compared to chromium(III).

The main health problems seen in animals following ingestion of chromium(VI) compounds are irritation and ulcers in the stomach and small intestine and anemia. Chromium(III) compounds are much less toxic and do not appear to cause these problems.

Sperm damage and damage to the male reproductive system have also been seen in laboratory animals exposed to chromium(VI).

Skin contact with certain chromium(VI) compounds can cause skin ulcers. Some people are extremely sensitive to chromium(VI) or chromium(III). Allergic reactions consisting of severe redness and swelling of the skin have been noted.

Agency for Toxic Substances and Disease Registry
Division of Toxicology and Human Health Sciences

CS265956-A

Chromium

CAS # 7440-47-3

How likely is chromium to cause cancer?

The Department of Health and Human Services (DHHS), the International Agency for Research on Cancer (IARC), and the EPA have determined that chromium(VI) compounds are known human carcinogens.

In workers, inhalation of chromium(VI) has been shown to cause lung cancer. Chromium(VI) also causes lung cancer in animals. An increase in stomach tumors was observed in humans and animals exposed to chromium(VI) in drinking water.

How can chromium affect children?

It is likely that health effects seen in children exposed to high amounts of chromium will be similar to the effects seen in adults.

We do not know if exposure to chromium will result in birth defects or other developmental effects in people. Some developmental effects have been observed in animals exposed to chromium(VI).

How can families reduce the risk of exposure to chromium?

- Children should avoid playing in soils near uncontrolled hazardous waste sites where chromium may have been discarded.
- Chromium is a component of tobacco smoke. Avoid smoking in enclosed spaces like inside the home or car in order to limit exposure to children and other family members.
- Although chromium(III) is an essential nutrient, you should avoid excessive use of dietary supplements containing chromium.

Is there a medical test to determine whether I've been exposed to chromium?

Since chromium(III) is an essential element and naturally occurs in food, there will always be some level of chromium in your body. Chromium can be measured in hair, urine, and blood.

Higher than normal levels of chromium in blood or urine may indicate that a person has been exposed to chromium. However, increases in blood and urine chromium levels cannot be used to predict the kind of health effects that might develop from that exposure.

Has the federal government made recommendations to protect human health?

The EPA has established a maximum contaminant level of 0.1 mg/L for total chromium in drinking water.

The FDA has determined that the chromium concentration in bottled drinking water should not exceed 0.1 mg/L.

The Occupational Health and Safety Administration (OSHA) has limited workers' exposure to an average of 0.005 mg/m^3 chromium(VI), 0.5 mg/m^3 chromium(III), and 1.0 mg/m^3 chromium(0) for an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2012. Toxicological Profile for Chromium. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information?

For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Human Health Sciences, 1600 Clifton Road NE, Mailstop F-57, Atlanta, GA 30329-4027.

Phone: 1-800-232-4636

ToxFAQs™ Internet address via WWW is http://www.atsdr.cdc.gov/toxfaqs/index.asp.

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

***ATTACHMENT 2*: Enforcement Addendum (Confidential/FOIA Exempt)**