

Strategic Initiatives at NIOSH

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Overview

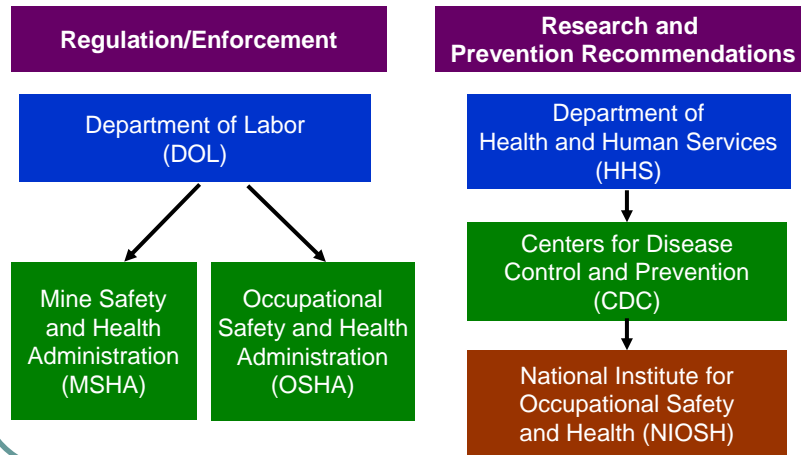
- Management Initiatives
 - Program Portfolio
 - Program Planning
 - Program Evaluation
- Science Initiatives
- Science Policy Issues
- Emerging Issues



Workplace Safety and Health



Framework



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NIOSH Program Portfolio

- Sector Programs
- Cross-sector Programs
- Emphasis Programs



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Sector Programs

- Agriculture, Forestry, Fishing
- Construction
- Health Care
- Manufacturing
- Mining w/ Oil & Gas Extraction
- Services
- Transportation, Warehousing & Utilities
- Wholesale and Retail Trade



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Cross-sector Programs

- Cancer, reproductive and cardiovascular
- Hearing loss prevention
- Immune and dermal diseases
- Musculoskeletal disorders
- Respiratory Diseases
- Traumatic Injury
- Work Organization & Stress-related disorders

...more



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Emphasis Programs

- Economics
- Exposure Assessment
- Engineering Controls
- Nanotechnology
- Health Disparities
- Small Business
- Surveillance

...more



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Home Page: www.cdc.gov/niosh



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Program Portfolio Website

The screenshot shows the NIOSH Program Portfolio website. At the top, there is a navigation bar with links for 'CDC Home', 'CDC Search', 'CDC Health Topics A-Z', 'Search NIOSH', 'NIOSH Home', 'NIOSH Topics', 'Site Map', 'Databases and Information Resources', 'NIOSH Products', and 'Contact Us'. The main heading is 'NIOSH Program Portfolio'. Below this, there is a paragraph describing NIOSH's mission and the purpose of the portfolio. To the right, there is a small image titled 'NIOSH Program Portfolio' showing several people working together. Below the main text, there are two sections: 'NORA Sector Programs' and 'NIOSH Cross-Sector Programs'. A red arrow points to the 'NORA Sector Programs' section, which lists various industries and sectors including Agriculture, Forestry and Fishing; Construction; Health Care and Social Assistance; Manufacturing; Mining, Oil & Gas Extraction, Subsector; Services; Transportation, Warehousing and Utilities; and Wholesale and Retail Trade. The 'NIOSH Cross-Sector Programs' section lists areas like Authoritative Recommendations, Career Development and Career Progression, Communications and Information Dissemination, Emergency Preparedness and Response, Global Collaboration, and Health Hazard Evaluation.

NIOSH Program Portfolio

NIOSH conducts a range of efforts in the area of research, guidance, information, and service. To better coordinate these efforts, NIOSH is organizing our portfolio into various specific programmatic categories that can be readily communicated and strategically governed and evaluated. The NIOSH Program Portfolio focuses on relevance, quality, and impact. This is achieved through among involvement of partners and stakeholders throughout the entire research continuum (conceiving, planning, conducting, translating, disseminating and evaluating research). NIOSH programmatic and support structures provide a foundation for NIOSH staff to carry out its mission to provide national and world leadership to prevent and reduce diseases and injuries.

The NIOSH Program Portfolio has been organized into 3 NORA Sector Programs that represent industrial sectors, and 15 cross-sector programs organized around adverse health outcomes, statutory programs and global efforts. In addition to these program areas, NIOSH is organizing 3 Coordinated Emphasis Areas that support the Sector and Cross-Sector Programs.

NIOSH has assigned Managers and Coordinators, and Assistant Coordinators to each of the 30 Program Portfolio categories. Research consults (for NORA Sector Programs) and steering committees (for NIOSH Cross-Sector Programs and Coordinated Emphasis Areas) have been formed to participate in planning efforts leading to output and outcome goals and a timeline for assessing performance.

NORA Sector Programs

- [Agriculture, Forestry and Fishing](#)
- [Construction](#)
- [Health Care and Social Assistance](#)
- [Manufacturing](#)
- [Mining, Oil & Gas Extraction, Subsector](#)
- [Services](#)
- [Transportation, Warehousing and Utilities](#)
- [Wholesale and Retail Trade](#)

NIOSH Cross-Sector Programs

- [Authoritative Recommendations](#)
- [Career Development and Career Progression](#)
- [Communications and Information Dissemination](#)
- [Emergency Preparedness and Response](#)
- [Global Collaboration](#)
- [Health Hazard Evaluation \(HHE\)](#)

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CDC **NIOSH** National Institute for Occupational Safety and Health

Construction Sector (example)

The screenshot shows the NIOSH Construction Sector Program Description page. The main heading is 'Construction'. Below this, there is a section titled 'Program Description' which contains a paragraph about the mission of the NIOSH research program for the Construction sector. This is followed by a list of bullet points detailing the program's goals and activities, including High Quality Research, Practical Solutions, Partnerships, and Research to Practice. To the right, there is a sidebar titled 'Construction' which contains a list of links for various program components. A red circle highlights the 'Outputs' section in this sidebar, which includes links for Publications, Topic Pages, Research to Practice, Conferences, and Outcomes. The 'Outcomes' section further links to Reviews & Evaluation, Process Review, and National Academies Evaluation.

Construction

Program Description

The mission of the NIOSH research program for the Construction sector is to eliminate occupational diseases, injuries, and fatalities among individuals working in these industries through a focused program of research and prevention. The program strives to fulfill its mission through:

- High Quality Research:** NIOSH will continually strive for high quality research and prevention activities that will lead to reductions in occupational injuries and illnesses among workers in the Construction industries.
- Practical Solutions:** The NIOSH program for the Construction sector is committed to the development of practical solutions to the complex problems that cause occupational diseases, injuries, and fatalities among workers in construction. We want to tailor these solutions to fit unique Construction sector attributes.
- Partnerships:** We recognize that collaborative efforts in partnership with labor, industry, government, and other stakeholders are usually the best means of achieving successful outcomes. Partners are important for identifying the most relevant problems, for developing and participating in research projects, and as intermediate customers transforming research outputs into products for use by construction employers and workers. Fostering these partnerships is a cornerstone of the NIOSH program for the Construction sector.
- Research to Practice (R2P):** We believe that our research only realizes its true value when put into practice. Every research project within the NIOSH program for the Construction sector formulates a strategy to promote the transfer and translation of research findings into prevention practices and products that will be adopted in the workplace.

Over the years, NIOSH and its partners have completed numerous research projects to address construction safety and health issues. NIOSH supports targeted surveillance activities involving a number of state health departments on important construction topics such as lead exposure. Support is also provided for extramural construction research projects conducted by academic and other researchers through grants and cooperative agreements.

Projects of across a number of important construction issues. For example, past projects have addressed important causes of injuries and fatalities such as falls and electrical hazards. Projects have addressed musculoskeletal disorders associated with construction work, and health hazards such as noise, asphalt fumes, silica, and welding fumes. Research has also been

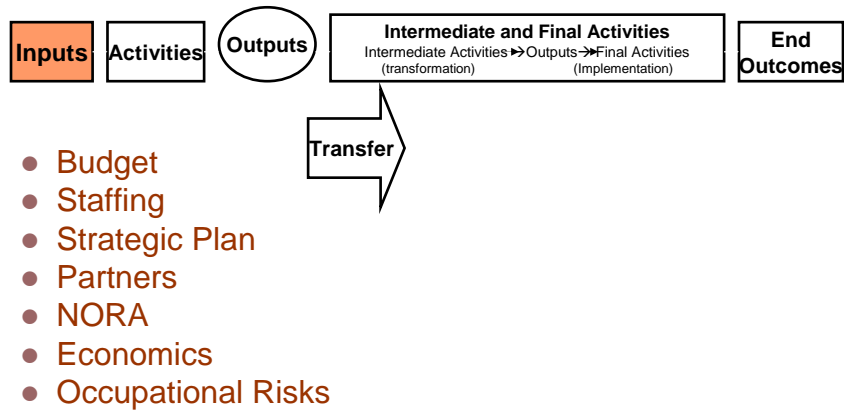
Construction

- Program Description**
- Inputs**
 - [Sector Description](#)
 - [Economic Factors](#)
 - [Occupational Risks](#)
 - [National Research Agenda \(NORA\)](#)
 - [NIOSH Strategic Goals](#)
 - [Partners](#)
 - [NIOSH Contacts](#)
- Activities**
 - [NIOSH Research Projects](#)
 - [NIOSH Funded Research Grants](#)
- Outputs**
 - [Publications](#)
 - [Topic Pages](#)
 - [Research to Practice](#)
 - [Conferences](#)
 - Outcomes**
 - [Reviews & Evaluation](#)
 - [Process Review](#)
 - [National Academies Evaluation](#)

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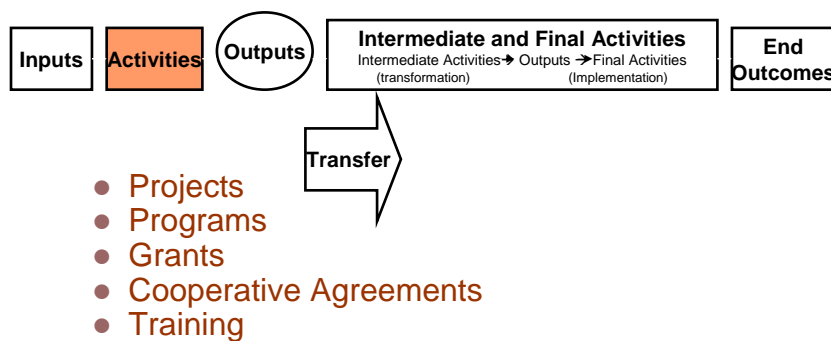
Logic Model: Inputs



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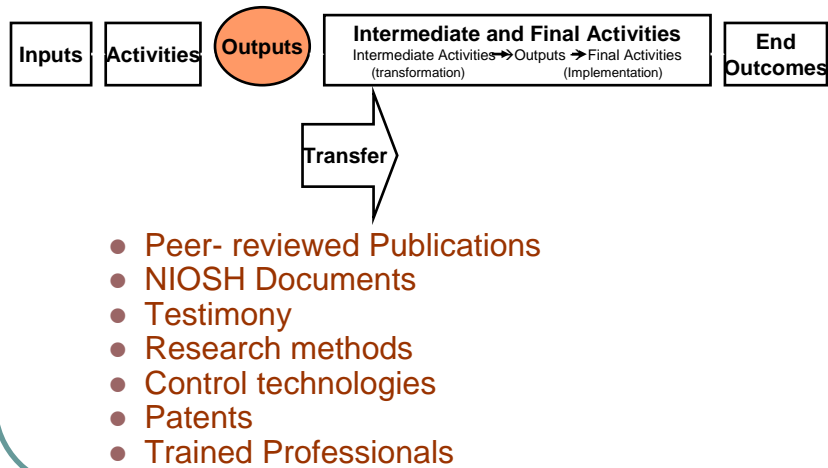
Logic Model: Activities



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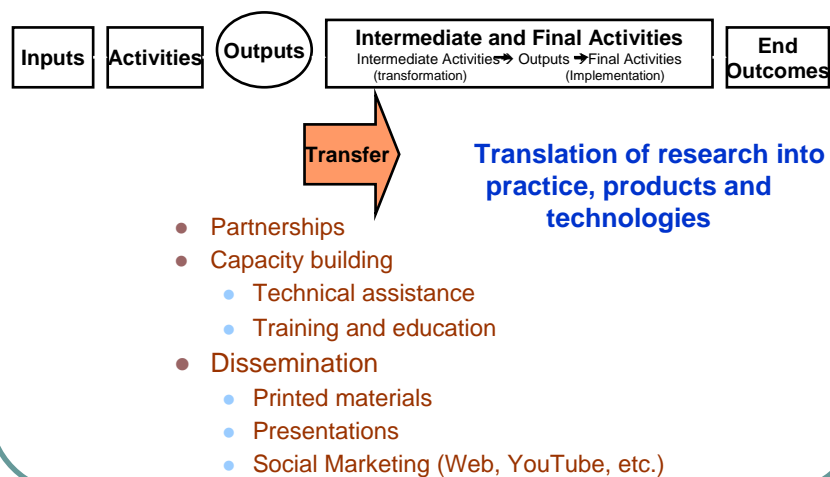
Logic Model: Outputs



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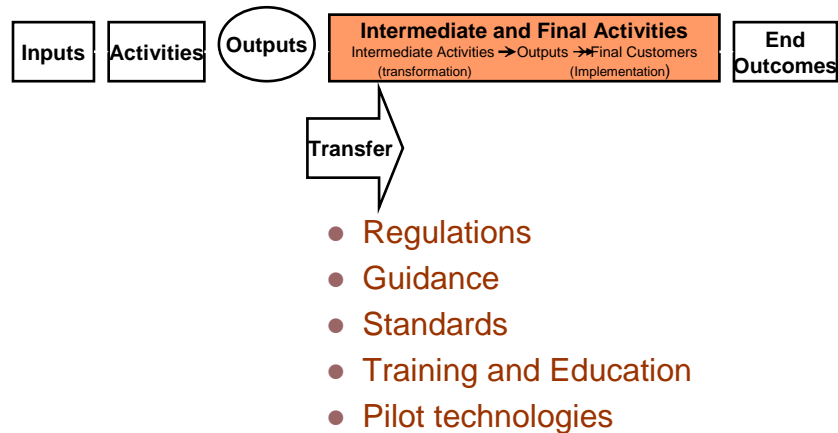
Logic Model: Transfer Activities



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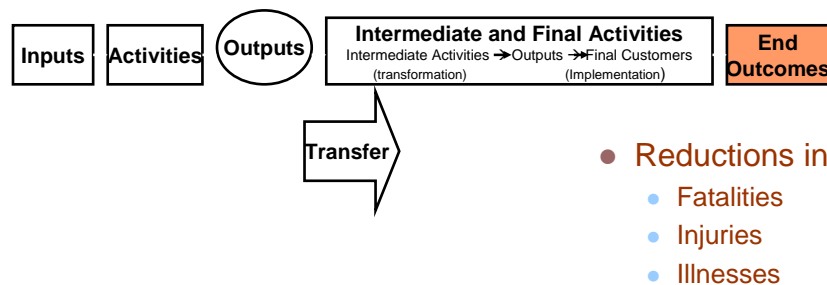
Logic Model: Intermediate Outcomes



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Logic Model: End Outcomes



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National Occupational Research Agenda (NORA)

- NORA Town Hall Meetings
- On-line comments:
 - www.cdc.gov/niosh/nora
- NORA Symposium 2006



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National Occupational Research Agenda (NORA)

- Sector Councils
 - Developing national strategic plans
- NORA Symposium
 - July 29, 2008
 - Sheraton Denver West



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National Academies Review

THE NATIONAL ACADEMIES *Advisers to the Nation on Science, Engineering, and Medicine*

- Framework Committee:
 - Review programs, not projects
 - Quantitative and qualitative assessment
- Bottom line:
 - Effectiveness
 - Not a review of processes



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Program Evaluation Principles

THE NATIONAL ACADEMIES *Advisers to the Nation on Science, Engineering, and Medicine*

- Relevance
- Impact



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National Academies Review

- **Completed**
 - Hearing Loss Prevention
 - Mining
- **In Progress**
 - Ag, Forestry, Fishing
 - Construction
 - Respiratory Disease
 - Traumatic Injury
 - Personal Protective Technology
 - Health Hazard Evaluation (HHE)



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National Academies Review

- **Cost:**
 - \$5.6 million to NA
 - Staff time, many hours
- **Benefits**
 - Forced programmatic thinking
 - Focused staff on real-world impacts
- **Compared to EPA, NSF, NOAA, the NIOSH review was:**
 - Most costly
 - Most rigorous
 - Most independent
 - Only one of two to get OMB approval

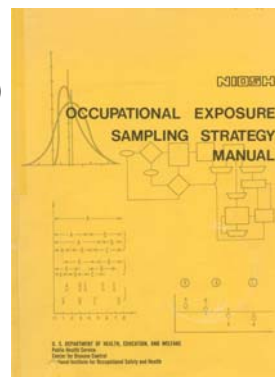


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Science Initiatives

- Prevention Through Design (PtD)
- Research-to-Practice (r2p)
- Nanotechnology
- WorkLife
- Sampling Strategy Manual



NIOSH Occupational Exposure Sampling Strategies Manual Update

November 8 and 9, 2007

Washington Court Hotel, Washington, DC



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r2p: Personal Dust Monitor



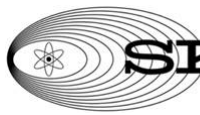
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r2p: Lead Disclosing Kit

CDC/NIOSH: **FULL DISCLOSURE**[®]
The instant wipe method for the presence of lead

U.S. Patent
No. 6,248,593



SKC[®]



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r2p: Asphalt Pavers Partnership

NIOSH NAPA FHWA

State
DOTs

AI



IUOE

OSHA

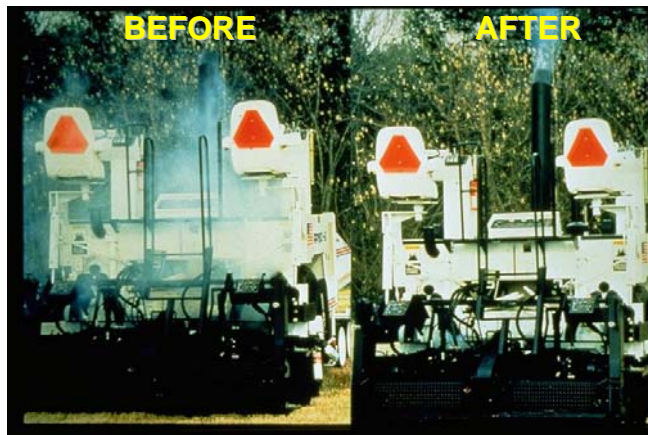
LHSFNA



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r2p: Asphalt Pavers Partnership



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Science Policy Issues

- Asbestos Roadmap
 - Measurement: PCM, TEM, STEM?
 - Defining asbestos: amphiboles?
 - Identify fibers: cleavage fragments?
- Occupational Exposure Limits
 - Beyond PEL and REL
 - Use in NIOSH Manual of Analytical Methods

CDC

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OELs in NMAM: Beryllium

BERYLLIUM and compounds, as Be

7102

Be MW: 9.01 CAS: 7440-41-7 RTECS: DS1750000

METHOD: 7102, Issue 2

EVALUATION: FULL

Issue 1: 15 February 1984
Issue 2: 15 August 1994

OSHA : 2 $\mu\text{g}/\text{m}^3$; C 5 $\mu\text{g}/\text{m}^3$; P 25 $\mu\text{g}/\text{m}^3/30$ min
NIOSH: not to exceed 0.5 $\mu\text{g}/\text{m}^3$ (suspect carcinogen)
ACGIH: 2 $\mu\text{g}/\text{m}^3$ (suspect carcinogen)

PROPERTIES: hard, light metal; valence +2;
MP 1284 to 1300 °C

SYNONYMS: Vary as to compound.

SAMPLING

SAMPLER: FILTER
(0.8 μm cellulose ester membrane)

MEASUREMENT

TECHNIQUE: ATOMIC ABSORPTION, GRAPHITE
FURNACE



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OELs in NMAM: Beryllium (new)

Beryllium

U.S. Regulatory Occupational Exposure Limits (OEL)

Occupational Exposure Limits 8-hour		Occupational Exposure Limits Short Term
MSHA	2 $\mu\text{g}/\text{m}^3$	
OSHA PEL	2 $\mu\text{g}/\text{m}^3$	Ceiling: 5 $\mu\text{g}/\text{m}^3$ 25 $\mu\text{g}/\text{m}^3$ (30-min max peak)
10 CFR		
DOE 850	0.2 $\mu\text{g}/\text{m}^3$	

Other Published 8-hour Occupational Exposure Limits and Guidelines

5 $\mu\text{g}/\text{m}^3$	Germany				
2 $\mu\text{g}/\text{m}^3$	ACGIH TLV®	Argentina	Belgium	Bulgaria	Canada
	China (HK)	Columbia	Egypt	Finland	France
	Ireland	India	Japan	Jordan	Korea
	Malaysia	Mexico	Netherlands	N. Zealand	Philippines
	Singapore	S. Africa	Spain	Sweden	Switzerland
	Thailand	Turkey	UK	Vietnam	
1 $\mu\text{g}/\text{m}^3$	Czech Republic	Denmark	Hungary	Norway	Poland
	Russia				
0.5 $\mu\text{g}/\text{m}^3$	NIOSH REL				
0.1 $\mu\text{g}/\text{m}^3$	China				



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REL and IDLH Summary

- NIOSH has issued 677 RELs
 - Most comprehensive treatment given to those issued in a Criteria Document
 - Many adopted by testimony during the PEL Project
- NIOSH has developed an issued 385 IDLHs
- OSHA has issued 471 PELs

Compare this with the current state in the US

- Approx. 90,000 chemicals on TSCA inventory
 - Approx. 9,000 produced in 'commercial' quantity
 - Approx. 2,200 are High Production Volume



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Authoritative Recommendations

- Criteria Documents
 - TiO_2
 - Cr VI
 - Bromopropane
 - Gluteraldehyde
 - Skin Notations
- IDLH's

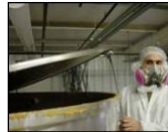


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Emerging Issues

- Mining
 - Underground communications
 - Refuge chambers
- Flavorings research (diacetyl)
- Respirator Certification:
 - Closed-Circuit Escape Respirator (CCER)
 - Powered Air Purifying Respirator (PAPR)
 - Total Inward Leakage Testing (TIL)



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Emerging energy issues



Photo Credit: Dino Mattorano, NIOSH

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