Selected (Potentially) Fixable Problems Identified from Review of Cases

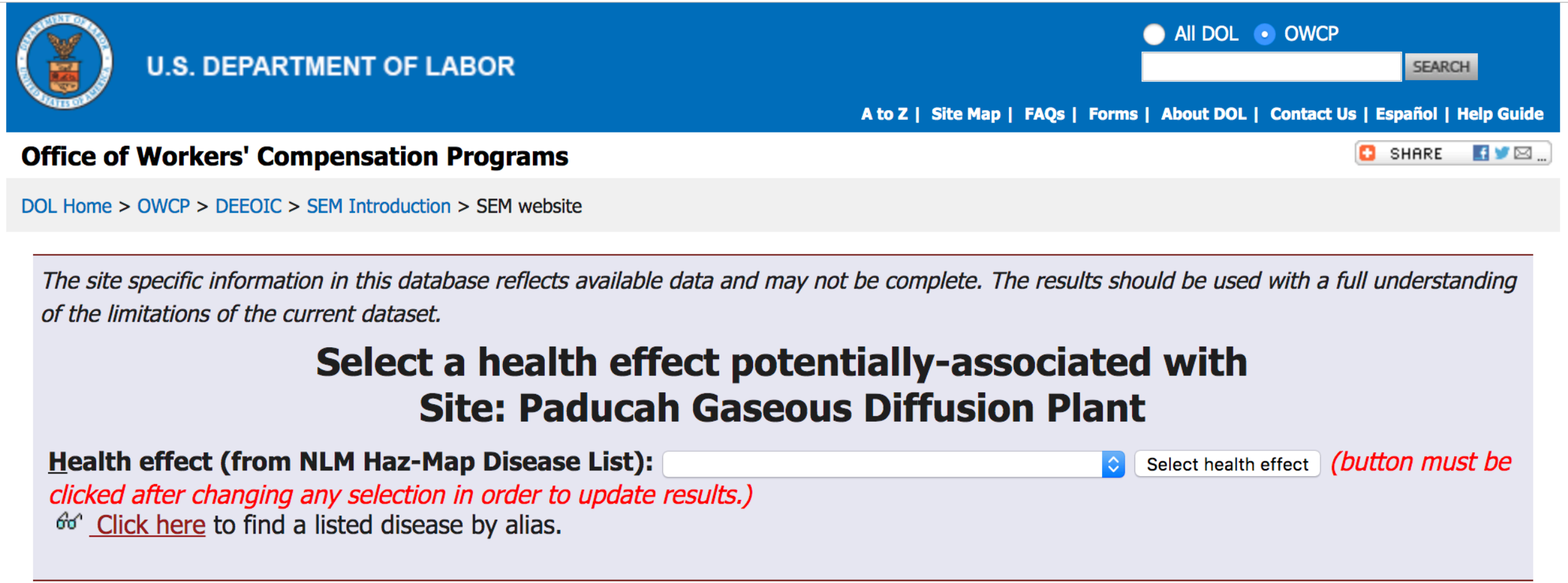
November 20-21 Advisory Board Meeting, Paducah, KY

(revised 1-27-2020)

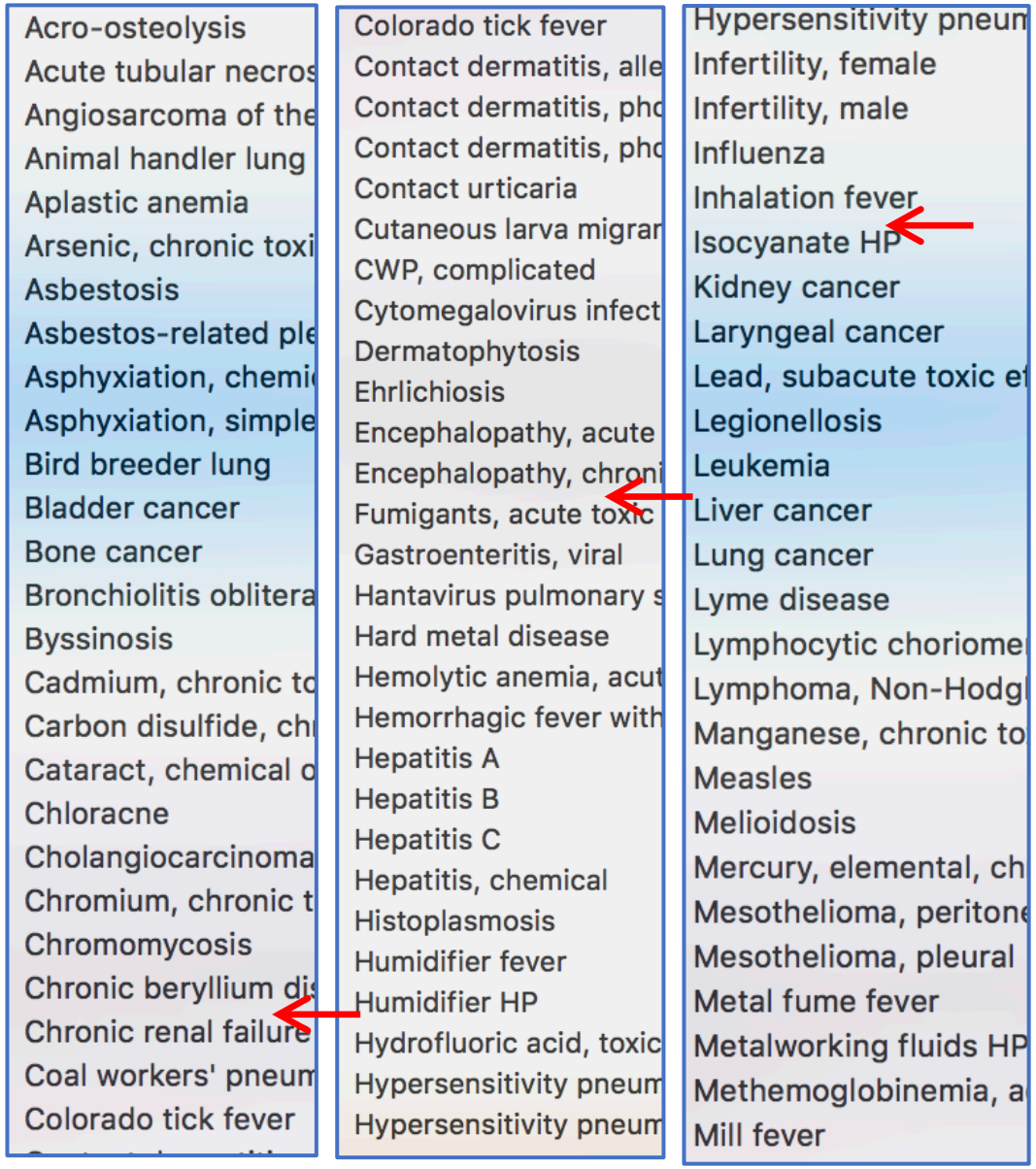
Carrie A. Redlich, MD, MPH

1) SEM
2) Quality Industrial hygiene reports
3) Who gets what information (IH, CMC - eg OHQ, SOAP vs selected medical records)
4) Claims examiner's review of medical record can be inaccurate – omit or inaccurately summarize critical medical information
5) Questions claims examiner asks IH, CMC
6) CMC reports
7) Claims examiner's assessment of treating physician / CMC reports

Example of Fixable SEM Problem – Health Effect and Exposure options / links



SEM – Paducah - Health Effect Choices from Dropdown Menu



SEM is missing commonly used diagnoses:

COPD, emphysema, fibrosis, interstitial lung disease, IPF, pulmonary fibrosis, sarcoid, sarcoidosis

SEM also includes many **rare diagnoses.**

Exposures linked to **Health Effect: Pneumoconioses, other**

SCOPE -- Health Effect List: NLM Haz-Map Disease List Site: Paducah Gaseous Diffusion Plant

IDENTIFICATION	Aliases: Carbonundum pneumoconiosis; Kaolinosis; Graphite pneumoconiosis; Flock workers' lung; Dental technicians' pneumoconiosis; Talcosis; Shalosis; Mixed-dust pneumoconiosis; Mica pneumoconiosis; Diatomaceous earth pneumoconiosis; Fuller's earth pneumoconiosis

Antimony hydride CAS: 780
Antimonwasserstoffes; Antymor
Antimony trioxide CAS: 130
sesquioxide; Antimony white; A
Antimony trisulfide CAS: 13
Antimony sesquisulfide; Antimo
III sulfide; Antimony (III) sulfid
Crimson antimony sulphide; Cri
Needle antimony; Antimony nee
Bentonite CAS: 1302-78-9
USP 4444; Altonit SF; Aquagel;
15; Bengel 23; Bengel A; Benge
Bentonit T; Bentonite 2073; Ber
200; Bulgarben BA; Clarit BW 1
1FC; Detercal G 2FC; Detercol F
(clay); GK 129SA3; GK 129SA5;
creek bentonite; Southern bent
Wilkinite; Wilkonite
Bronze CAS: 7440-50-8; 744
5; 7440-66-6; 7439-92-1 Alias
Carbon (graphite) CAS: 778
carbon; Graphite; AerodagG; Ae
potelot; C; Synthetic carbon gra
Carbon steel CAS: Due to th
CAS numbers are not listed. A
carbon steel; Medium carbon st
steels; Medium-carbon steels; H
Ceric nitrate CAS: 13093-17
Cerium nitrate; Cerium nitrate (
cerium(4+) salt (4:1); Ce(NO3)
Cerium III 2-ethylhexanoat
acid, 2-ethyl-, cerium III salt; H
Ethylhexanoic acid, cerium salt;
Cerium III hydroxide CAS:
(III) hydroxide; Ce(III) hydroxi
hydroxide (Ce(OH)3); Ce(OH)3
Dysprosium CAS: 7429-91-6
158; Dy

Europium CAS: 7440-53-1 Aliases
Europium 154; Eu-154; Eu 154; Europ
Gadolinium CAS: 7440-54-2 Alias
150; Gd-150; Gd 150; Gd
Gadolinium III oxide CAS: 12064
sesquioxide; Digadolinium trioxide; Gd
Lanthanum III nitrate CAS: 1009
Lanthanum nitrate (La(NO3)3); Lanth
salt; Nitric acid, lanthanum(3+) salt; L
Lanthanum oxide CAS: 1312-81-8
sesquioxide; Lanthanum trioxide; Dila
Lanthanum (3+) oxide; La2O3
Mica CAS: 12001-26-2 Aliases: Mic
HSDB 2539; HX 610; Mica, fluorian; M
group minerals; Mica, respirable fracti
silica):MICA; Biotite; Lepidolite; Marga
Anchorlube G-771; (Al,V)2(AlSi3)(K,Na
Monel CAS: 7439-89-6; 7440-02-0;
Aliases: *none*
Naphthenic acid, cerium salt CAS

Naphthenic acid, lanthanum salt
acids, lanthanum salts
Neodecanoic acid, cerium salt CA
neodecanoate; Cerium (III) neodecan
Neodecanoic acid, cerium (3+) salt; N
Neodecanoic acid, lanthanum salt
Lanthanum (III) neodecanoate; Lanth
(3+) neodecanoate; Neodecanoic acid
Neodymium chloride CAS: 10024-
Neodymium (III) chloride; NdCl3; NdC
Neodymium III oxide CAS: 1313-
Neodymium sesquioxide; Neodymia; D
Nd2O3
Polyvinyl chloride CAS: 9002-86-2
Expanded polyvinyl chloride; Polyvinyl
Polychloroethylene; Bakelite; Breon; D
Vinyl chloride resin; Polyvinyl chloride
molecular weight: (H2CCHCl)n

Samarium CAS: 7440-19-9
Samarium 146; Sm-146; Sm 14
Silica gel CAS: 63231-67-4; 1
Silicar; Silicic acid hydrate; Cubo
Mikronisil; Neoxyl ET; Polymeric
hydroxide; Silton TF 06; Siperna
Vulcasil S/GR; Zeosil 45; Silicic a
silicaκLL Precipitated silica; Silic
gel; Amorphous silica, precipitat
Syloid 244; Syloid 63; Separon S
Sillitin N 85; Sillitin PF 100; Silpe
Desicant
Silicon carbide CAS: 409-21-
Annanox CK; Betarundum; Beta
Carbolon; Carbon silicide; Carbo
DU-A 1; DU-A 2; DU-A 3; DU-A
101; HSDB 681; KZ 3M; KZ 5M;
8000; Silicon monocarbide; Silu
carbide (SiC); SiC
Silicon dioxide, amorphous
Aliases: Diatomaceous earth, c
amorphous silica; Silicon dioxide
Silica aerogel; Silica xerogel; Ac
st-1; Cab-o-sil; Cabosil; Carplex
silica; Hydrophobic silica 2482κL
calcined; Neosil; Neosyl; Opal; F
fused; Tokusil TPLM; Ultrasil VH
fumed; Silica powder; Silicon dio
beads; Glass microballoons; Soc
ʊLLglass manufacturing scrap);
colloidal solution; Hi Sil 233; Aq
1000; Hi Tempco 1000 Couplant
Suspension; SiO2
Synthetic vitreous fibers CA
fiber; Manmade mineral fibers;
fiber; Refractory ceramic fibers;
wool fibers; Special purpose gla
Refractory ceramic fiber; Refrac

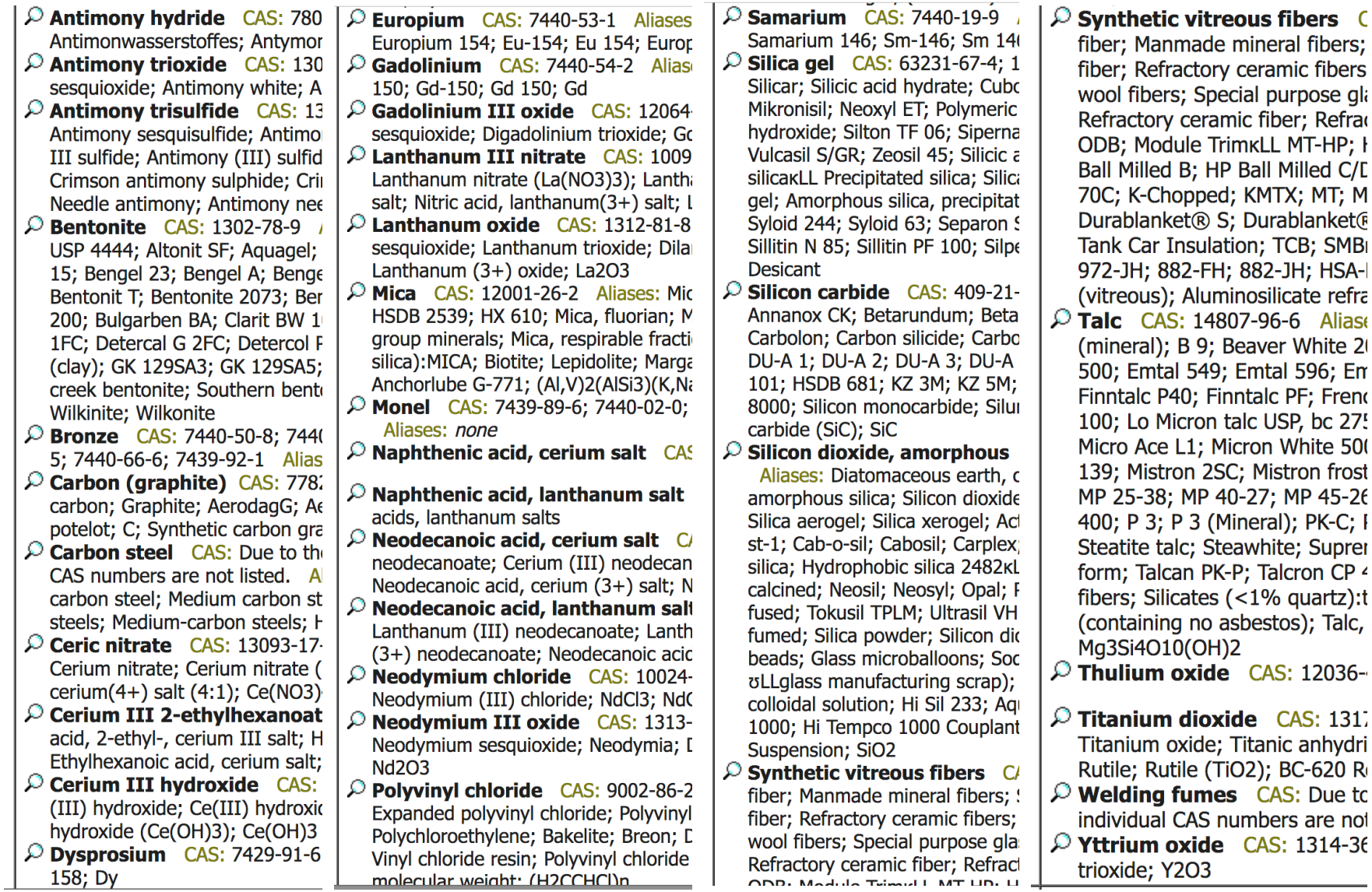
Synthetic vitreous fibers C
fiber; Manmade mineral fibers;
fiber; Refractory ceramic fibers
wool fibers; Special purpose gl
Refractory ceramic fiber; Refra
ODB; Module TrimκLL MT-HP; H
Ball Milled B; HP Ball Milled C/D
70C; K-Chopped; KMTX; MT; M
Durablanket® S; Durablanket®
Tank Car Insulation; TCB; SMBI
972-JH; 882-FH; 882-JH; HSA-
(vitreous); Aluminosilicate refra
Talc CAS: 14807-96-6 Aliase
(mineral); B 9; Beaver White 2
500; Emtal 549; Emtal 596; Em
Finntalc P40; Finntalc PF; Frenc
100; Lo Micron talc USP, bc 275
Micro Ace L1; Micron White 500
139; Mistron 2SC; Mistron frost
MP 25-38; MP 40-27; MP 45-26
400; P 3; P 3 (Mineral); PK-C; F
Steatite talc; Steawhite; Supren
form; Talcan PK-P; Talcron CP 4
fibers; Silicates (<1% quartz):t
(containing no asbestos); Talc,
Mg3Si4O10(OH)2
Thulium oxide CAS: 12036-

Titanium dioxide CAS: 1317
Titanium oxide; Titanic anhydri
Rutile; Rutile (TiO2); BC-620 R
Welding fumes CAS: Due to
individual CAS numbers are not
Yttrium oxide CAS: 1314-36

1) Aliases do not include pulmonary fibrosis, IPF, fibrosis

2)Linked **SEM exposures do NOT INCLUDE ASBESTOS,** one of the most common occupational causes of pulmonary fibrosis

More exposures listed for Pneumoconioses, other: most are uncommon and / or rarely cause pulmonary disease



- **Antimony hydride** CAS: 780 Antimonwasserstoffes; Antymor
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- **Cerium III hydroxide** CAS: (III) hydroxide; Ce(III) hydroxi hydroxide (Ce(OH)3); Ce(OH)3
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- **Europium** CAS: 7440-53-1 Aliases Europium 154; Eu-154; Eu 154; Europ
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- **Gadolinium III oxide** CAS: 12064 sesquioxide; Digadolinium trioxide; Gd
- **Lanthanum III nitrate** CAS: 1009 Lanthanum nitrate (La(NO3)3); Lantha salt; Nitric acid, lanthanum(3+) salt; L
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- **Naphthenic acid, lanthanum salt** acids, lanthanum salts
- **Neodecanoic acid, cerium salt** CA neodecanoate; Cerium (III) neodecan Neodecanoic acid, cerium (3+) salt; N
- **Neodecanoic acid, lanthanum salt** Lanthanum (III) neodecanoate; Lanth (3+) neodecanoate; Neodecanoic acid
- **Neodymium chloride** CAS: 10024- Neodymium (III) chloride; NdCl3; NdC
- **Neodymium III oxide** CAS: 1313- Neodymium sesquioxide; Neodymia; D Nd2O3
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- **Samarium** CAS: 7440-19-9 Samarium 146; Sm-146; Sm 14(
- **Silica gel** CAS: 63231-67-4; 1 Silicar; Silicic acid hydrate; Cubo Mikronisil; Neoxyl ET; Polymeric hydroxide; Silton TF 06; Siperna Vulcasil S/GR; Zeosil 45; Silicic a silicaκLL Precipitated silica; Silica gel; Amorphous silica, precipitat Syloid 244; Syloid 63; Separon S Sillitin N 85; Sillitin PF 100; Silpe Desicant
- **Silicon carbide** CAS: 409-21- Annanox CK; Betarundum; Beta Carbolon; Carbon silicide; Carbo DU-A 1; DU-A 2; DU-A 3; DU-A 101; HSDB 681; KZ 3M; KZ 5M; 8000; Silicon monocarbide; Silu carbide (SiC); SiC
- **Silicon dioxide, amorphous** Aliases: Diatomaceous earth, c amorphous silica; Silicon dioxide Silica aerogel; Silica xerogel; Act st-1; Cab-o-sil; Cabosil; Carplex silica; Hydrophobic silica 2482κL calcined; Neosil; Neosyl; Opal; F fused; Tokusil TPLM; Ultrasil VH fumed; Silica powder; Silicon dio beads; Glass microballoons; Soc ʊLLglass manufacturing scrap); colloidal solution; Hi Sil 233; Aq 1000; Hi Tempco 1000 Couplant Suspension; SiO2
- **Synthetic vitreous fibers** CA fiber; Manmade mineral fibers; fiber; Refractory ceramic fibers; wool fibers; Special purpose gla Refractory ceramic fiber; Refract
- **Synthetic vitreous fibers** C fiber; Manmade mineral fibers; fiber; Refractory ceramic fibers wool fibers; Special purpose gl Refractory ceramic fiber; Refra ODB; Module TrimκLL MT-HP; H Ball Milled B; HP Ball Milled C/D 70C; K-Chopped; KMTX; MT; M Durablanket® S; Durablanket® Tank Car Insulation; TCB; SMB 972-JH; 882-FH; 882-JH; HSA- (vitreous); Aluminosilicate refra
- **Talc** CAS: 14807-96-6 Aliase (mineral); B 9; Beaver White 2 500; Emtal 549; Emtal 596; Em Finntalc P40; Finntalc PF; Frenc 100; Lo Micron talc USP, bc 27 Micro Ace L1; Micron White 50 139; Mistron 2SC; Mistron frost MP 25-38; MP 40-27; MP 45-26 400; P 3; P 3 (Mineral); PK-C; F Steatite talc; Steawhite; Supre form; Talcan PK-P; Talcron CP 4 fibers; Silicates (<1% quartz):t (containing no asbestos); Talc, Mg3Si4O10(OH)2
- **Thulium oxide** CAS: 12036-
- **Titanium dioxide** CAS: 131 Titanium oxide; Titanic anhydri Rutile; Rutile (TiO2); BC-620 R
- **Welding fumes** CAS: Due to individual CAS numbers are not
- **Yttrium oxide** CAS: 1314-36 trioxide; Y2O3

DOES NOT INCLUDE **ASBESTOS**

SEM: Fixable Problems

1) **Revise choice of diagnoses can enter from dropdown menu**

   A) Some of THE MOST COMMON clinical diagnoses are missing: pulmonary fibrosis, idiopathic pulmonary fibrosis (IPF), fibrosis, sarcoidosis, sarcoid, COPD

   2) Numerous rare diagnoses are included

2) **Links between diagnoses and exposures need attention**

   In part related to above.

   ex: asbestos - pulmonary fibrosis; beryllium - sarcoid

3) Other links (eg job title, exposures) need attention – especially office / non-production /lab workers who may have worked in close proximity to production areas.

Selected Fixable Problems Identified from Review of Cases

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5) Questions claims examiner asks IH, CMC
6) CMC reports
7) Claims examiner's assessment of treating physician / CMC reports

Fixable Problem: Questions the Claims Examiner asks CMC

1) Underground uranium miner in UT for over 1 year. Pneumoconiosis documented on chest x-ray, B read.
   CE asks CMC: Was employee's exposure to aluminum a significant factor in causing, contributing to employee's pneumoconiosis?

2) Worker at Paducah GDP for over 30 years. Pulmonary sarcoidosis diagnosed on open lung biopsy.
   CE asks CMC: Was employee's exposure to beryllium a significant factor in causing sarcoidosis?

Solution: see Procedure Manual

Sample questions for physician provided in Procedure Manual (V 4.0, Exhibit 16-1 (pg 520)

Sample Questions For Physician

Questions:

CE: Choose from options below or add your own

1. Impairment: Refer to PM Ch. 2-1300, Impairment Ratings for questions and instructions for CMC's conducting impairment evaluations.

2. Impairment: If it is not possible to complete an impairment rating based on the medical evidence we provided, please advise us what medical records and/or testing is required to complete the rating.

3. Diagnosis: In your opinion, do the medical records support a diagnosis of a medical condition? If so, please provide the first date of diagnosis, diagnosis, and the ICD code.

4. Causation: If a medical condition was diagnosed, in your opinion is it at least as likely as not that exposure to toxic substances during the course of employment at covered facility was a significant factor in aggravating, contributing to, or causing the employee's medical condition?

Ask CMC the causation question more broadly.

If exposure to toxic substance(s) during employment at covered facility was a significant …….. ?

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Quality of CMC Reports

1) Review of cases reveals concerns regarding the quality of some CMCs reports.
2) Quality of the CMC report depends on multiple factors: the CMC, information provided (IH, medical, OHQ etc), questions asked.
3) CMC quality can be hard to assess from on-paper credentials, board certifications. Most pulmonary, internal medicine, occupational medicine physicians do not routinely assess disease causality.

More info on CMC process / performance needed.

Important topic for further discussion.

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Example 1:

Oak Ridge laborer at K-25 and Y-12 in the 1950s -1960s with COPD, fibrosis

Letter to treating physician:

Thank you for your letter dated [redacted]. Within your letter, you stated that exposures to both ammonia and asbestos contributed to the development of asthma and pulmonary fibrosis.

However, the attached industrial hygienist report does not indicate that ammonia or asbestos are linked to the employee's pulmonary fibrosis.

Letter from treating physician to DOL:

Case ID [redacted]

Dear [redacted]

This is concerning your letter of August 2, 2018 regarding the above named patient. I find it incredulous that the matrix does not report that asbestos is associated with pulmonary fibrosis. There are multiple articles that confirm same. I would direct your attention to a review article in the New England Journal, February 10, 2000 in which asbestos is listed as the leading occupational cause of fibrotic changes i.e. pulmonary fibrosis. The article references multiple supporting references. I would question the accuracy of the matrix if it does not list asbestos as a known cause of pulmonary fibrosis. The addition of exposure to ammonia intermittently would have compounded the impact on his lungs along with other respiratory irritants.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Example 1 cont: Case then sent to CMC

More detailed and complicated than is needed. Likely asbestos, welding fumes contributed to fibrosis and COPD.

Now to answer the first three questions posed:

1. In your opinion, is it at least as likely as not that exposure to ammonia asbestos, welding fumes and silicon dioxide, crystalline during the course of employment at the Y- 12 Plant and K-25 Plant was a significant factor in aggravating, contributing to, or causing the employee's COPD?

Answer: No, in my opinion, it is not at least as likely as not that exposure to ammonia asbestos, welding fumes and silicon dioxide, crystalline during the course of employment at the Y- 12 Plant and K-25 Plant was a significant factor in aggravating, contributing to, or causing the employee's COPD.

2. In your opinion, is it at least as likely as not that exposure to Monel and welding fumes during the course of employment at the K-25 Plant was a significant factor in aggravating, contributing to, or causing the employee's Parkinsonism?

Answer: No, in my opinion, it is not at least as likely as not that exposure to Monel and welding fumes during the course of employment at the K-25 Plant was a significant factor in aggravating, contributing to, or causing the employee's Parkinsonism.

3. In your opinion, is it at least as likely as not that exposure to silicon dioxide, amorphous during the course of employment at the Y-12 Plant was a significant factor in aggravating, contributing to, or causing the employee's pulmonary fibrosis?

Answer: No, in my opinion, it is not at least as likely as not that exposure to silicon dioxide, amorphous during the course of employment at the Y-12 Plant was a significant factor in aggravating, contributing to, or causing the employee's pulmonary fibrosis.

Example 2: SRS employee for > 40 yrs, pulmonary sarcoid dx in 1981

CMC Report: likely CBD. CMC provides rationale.

CE disregards this report.

Thank you for referring this case to me for review.

This file was reviewed extensively by me, which included a Statement of Accepted Facts (SOAF), employment information, and a report from an industrial hygienist concerning Mr. [redacted] occupational toxic exposure to beryllium as well as x-ray reports showing a diagnosis of sarcoidosis in [redacted], 1981.

The undersigned was asked to answer the question. Is it "at least as likely as not" that the employee's exposure to beryllium at a DOE facility was a significant factor in aggravating, contributing to, or causing the employee's diagnosis of sarcoidosis based on the guidance provided in the Federal EEOICPA Chapter 18, paragraph 10, Diagnosis of Sarcoidosis?

From the SOAF, we know that Mr. [redacted] was a confirmed covered employee at the Savannah River Site (SRS) from [redacted]1970 to the present. The industrial hygienist wrote that, "Throughout the course of its operations, the potential for beryllium exposure existed at the Savannah River Site, due to beryllium use, residual contamination, and decontamination activities. Therefore, the employee was employed during a time period when beryllium dust, particles, or vapor may have been present."

Summary and Conclusions:

Because of the statutory guidance, cited above, it is not at least as likely as not that Mr. [redacted] exposure to beryllium at a DOE facility was a significant factor in aggravating, contributing to, or causing the employee's diagnosis of sarcoidosis. He, more likely, has CBD.

Example 2 (cont): CE then gets a 2nd CMC report

I don't think this physician understands sarcoidosis. Sarcoidosis is not a Part B claim. Sarcoidosis is only accepted under Part E. He states he reviewed an Industrial Hygienist (IH) report, there is no IH report required for sarcoidosis under Part E. He needs to state if he meets sarcoidosis criteria under Part E. If he is stating the employee has Pre-1993 CBD, he must clearly clarify in his medical rationale the medical that meets the criteria. Can we get this back by November 01, 2017.

No documentation found that CE communicated above back to CMC #1.
SOAF documents pulmonary sarcoidosis with progression in employee worked > 40 yrs at SRS.

[redacted]
U.S. Department of Labor, Claims Examiner

Thank you for referring the case of [redacted] your case number [redacted] for review. All records that I have been provided with have been reviewed and considered in developing a medical opinion. No diagnosis, treatment or care has been provided as a result of this chart review.

1. Is it "at least as likely as not" that the employee's exposure to beryllium at a DOE facility was a significant factor in aggravating, contributing to, or causing the employees diagnosis of sarcoidosis based on the guidance provided in Federal EEOICPA Chapter 18, Paragraph 10, diagnosis of Sarcoidosis?

2nd CMC concludes sarcoidosis, not CBD

Answer: Yes, in my opinion, it is "at least as likely as not" that the employee's exposure to beryllium at a DOE facility was a significant factor in aggravating, contributing to, or causing the employees diagnosis of sarcoidosis based on the guidance provided in Federal EEOICPA Chapter 18, Paragraph 10, diagnosis of Sarcoidosis.

Solution: Claims examiner's assessment of treating physician / CMC reports

Extent problem is unclear - may be only a few CEs

Possible solutions:

Additional CE training, oversight

Certain actions automatically prompt review – such as request for CMC if treating physician provides report, need for 2nd CMC.

Conclusions from Review of Cases:

1) Many ARE properly adjudicated.

2) A number of hopefully /potentially fixable problems have been identified from review of cases