Discussion on Modified Process and Use Reporting

This is a discussion starter to refine the modified Processing and Use Reporting for inorganic byproducts that are recycled, reprocessed, or reused. While this focuses on Part III Processing and Use Reporting, it also includes proposals affecting Part II Production Volume and the addition of a Source Material check box.

Overview

1. Changes to consider for Part II: Manufacturing Information:
   a. Production Volume: For inorganic byproducts, manufacturers report PVs in ranges instead of the current specific production volume. See Appendix A for ranges.
   b. For recyclers: Identify (via a checkbox) that the source material for the chemical substance being reported is a recycled substance.
2. Part III "Lite": For inorganic byproducts that are recycled, reprocessed, or reused, report the reduced processing and use information
   a. Substances ineligible for Part III "lite": TSCA Work Plan chemicals, Chemicals subject to certain TSCA actions (e.g., TSCA section 5(a)(2) SNURS, TSCA section 5(b)(4) rules, etc.)
   b. Data elements: See table.

Check all that apply	And Report	Notes
☐ Consumed in the manufacture of a chemical substance	% PV	Report %PV for each sector See Appendix D for information from reporting to the 2016 CDR for "Processing as a Reactant"; this is supporting information for splitting "Used to manufacture a chemical substance" into two. Appendix B: Sector List
	Sector from list	
☐ Otherwise used to manufacture a chemical substance (e.g., catalyst, inhibitor, oxidizer/reducer)	% PV	
	Sector from list	
☐ Directly used. Select from: o Restricted fill application (e.g., mine fill, road beds) o Widespread applications (e.g., land applications, enriching soil) o Burned as a fuel	% PV *(reported for each selection)*	Retained "burned as a fuel" even though it is not expected to apply to inorganics.
☐ Directly used and incorporated into a product (e.g., wallboard, cement)	Product category from list	Appendix C: Product Category List
	% PV	Report for each product category. If Yes for children's use: also report maximum concentration
	Industrial?	
	Consumer or Commercial?	
	Intended for children's use?	
☐ Other (specify): _____	Product category from list	Appendix C: Product Category List
	% PV	Report for each product category. If Yes for children's use: also report maximum concentration
	Industrial?	
	Consumer or Commercial?	
	Intended for children's use?	

Note: NKRA means "not known or reasonably ascertainable"

Discussion of Part II: Manufacturing Information changes

Reporting Production Volume (PV) in Ranges: For inorganic byproducts, manufacturers would report PV in ranges instead of the current specific PV. See Appendix A for ranges.

- Current reporting requirement: Report production volume to 2 significant figures
- Pro:
  - Would this be less burdensome than reporting to 2 significant figures?
- Con:
  - Loss of specificity, especially if there are either multiple uses of the chemical or multiple sites reporting the chemical.
    - When multiplying by % PV, it is likely EPA will use the top of the range
    - When adding PVs for the same substance from different manufacturers, it is likely EPA will use the top of the range.
- Outstanding questions:
  - Are the PV ranges in Appendix A the correct ranges?

Recyclers identify (via a checkbox) that the source material for the chemical substance being reported is a recycled substance. The recycler who is using an inorganic byproduct as the source chemical substance for the manufacture of a different chemical substance would check a box when reporting for the different chemical substance.

- Pro:
  - Could be used to tell a good story about recycling
  - Supports reduced Part III reporting for byproduct manufacturer (see discussion section on reporting "used to manufacture another chemical substance")
- Con:
  - Recycler would need to know that its source material was a byproduct
- Outstanding questions/notes:
  - Would the recycler know they are using a byproduct as the source material?

Discussion of Part III Processing and Use Information Reduced Reporting

This section discusses the various aspects of reduced processing and use reporting.

- Pros overall
  - Reduces reporting burden associated with Part III reporting
  - Meets statutory obligation to limit reporting requirements
- Cons overall
  - Depending upon final data elements selected, may provide insufficient information for use in prioritization exercises
- Note: Specifics of each data element, discussed below, may be impacted by decisions for exemptions. However, if there is confusion or concerns with exemptions, parties could report their substance and provide information under the reduced Part III, if adopted.

Used to manufacture another chemical substance.

- This is divided into two choices:
  - ***Consumed in the manufacture of a chemical substance*** **-** This would apply to inorganic byproducts consumed in the manufacture of a different chemical substance, such that the original byproduct is fully reacted.
    - Question – would "consumed in the manufacture" this include extraction of a component chemical substance, or is that in a different category?

- ***Otherwise used to manufacture a chemical substance (e.g., catalyst, inhibitor, oxidizer/reducer)*** - This would apply to inorganic byproducts used to manufacture new chemical substance, but for which the byproduct is not consumed.

- ***Report sector and % PV*** for either selection.
  - Sector, combined with whether the byproduct is consumed or not, provides information that helps to identify conditions of use for the byproduct. The related PV helps with the extent of the potential exposure.

- <u>Information gained/information lost:</u>
  - If reporting occurs for extracted component chemicals, it would be information that EPA does not current collect
  - For consumed byproducts, limited information lost under proposed reduced reporting for reacted chemicals (but also minor burden reduction)
    - Sectors: Initially it seemed reasonable to expect that there would only be one line of Process & Use reporting required for an inorganic byproduct recycled via chemical reaction:
      - Processing code (PC -processed as a reactant), industrial sector descriptor (likely IS19 –inorganic chemical manufacture), industrial function (U015 – intermediate), with 100% of the byproduct used in this process & use scenario
      - However, there are a wider range of industrial sector descriptors reported than identified in above bullet (see Appendix D for the sectors reported). Because of this, the reporting of sectors was retained for this item.
    - Information on number of workers downstream would not be reported by the byproduct manufacturer under this proposal:
      - However, downstream recycling entity would be reporting on manufacture of chemical extracted or reacted from byproduct. As part of its CDR submission, it would report number of workers potentially exposed to the manufacture of the extracted/reacted substance under Part II.
        - The addition of the check box indicating a byproduct is the source material would help to connect the manufactured substance and the byproduct, but would not actually identify the byproduct.
      - Presumably, potential exposure to the extracted/reacted chemical would also include potential exposure to the initial byproduct that is used as starting material.
        - EPA won't have the identity of the initial byproduct and would be limited in its ability to use this information.
    - Information on number of sites not reported, but entities recycling the byproduct via chemical reaction would be submitting separate CDR reports assuming reporting thresholds are met.

Directly used.

- This is divided into three choices:
  - ***Restricted fill application*** (e.g., mine fill, road beds)
    - Question – would "road beds" be a restricted fill application? Are there other examples that can be used here?
    - Need to define "restricted fill"
  - ***Widespread* applications** (e.g., land applications, enriching soil)
    - Question –Are there other examples that can be used here?
    - Need to define "widespread application"
  - ***Burned as a fuel*** –

        - Question – Should "burned as a fuel" be included, even though it inorganic byproducts, if burned, would more likely be incinerated than burned as a fuel? Is this statement true?

- ***Report % PV*** for each selection.

- Information gained/information lost:
    - If reporting occurs for soil enrichment or burned as fuel, it would be information that EPA does not currently collect
    - Not reported - number of industrial sites and number of industrial workers, number of commercial workers, maximum concentration

Directly used and incorporated into a product. Report the following information:

- ***Product category from list***
    - Question – Are there industrial uses not covered by the list in Appendix C?
    - Question – Are there situation when byproduct substances used or incorporated in products would not qualify as articles or parts of articles? How about mixtures?
- ***% PV***
- ***Industrial, Consumer or Commercial?***
- ***Intended for children's use? If yes, report Maximum Concentration in use.***
- Information gained/information lost:
    - Industrial function and industrial application information not reported. Given the recycling type, EPA already knows the industrial process code – (PA processing incorporated into an article) (see question above, not sure that this is correct)
    - Not reported - number of industrial sites and number of industrial workers, number of commercial workers, maximum concentration

Other

- ***Write-in general type of use that isn't covered in the above.***
    - Recommendation that if this box is checked, EPA should have a process to immediately assess the use.
- ***% PV***
- ***Product category from list***
- ***Industrial, Consumer or Commercial?***
- ***Intended for children's use? If yes, report Maximum Concentration in use.***
- Information gained/information lost:
    - Industrial function, industrial application, and process code not reported
    - Also not reported - number of industrial sites and number of industrial workers, number of commercial workers, maximum concentration

Appendix A: Production Volume Ranges

<25,000 lb	50,000,000,000 - <60,000,000,000 lb
25,000 - <100,000 lb	60,000,000,000 - <70,000,000,000 lb
100,000 - <500,000 lb	70,000,000,000 - <80,000,000,000 lb
500,000 -< 1,000,000 lb	80,000,000,000 - <90,000,000,000 lb
1,000,000 -< 10,000,000 lb	90,000,000,000 - <100,000,000,000 lb
10,000,000 -< 50,000,000 lb	100,000,000,000 - <110,000,000,000 lb
50,000,000 - <100,000,000 lb	110,000,000,000 - <120,000,000,000 lb
100,000,000 - <250,000,000 lb	120,000,000,000 -< 130,000,000,000 lb
250,000,000 - <500,000,000 lb	130,000,000,000 - <140,000,000,000 lb
500,000,000 - <750,000,000 lb	140,000,000,000 - <150,000,000,000 lb
750,000,000 - <1,000,000,000 lb	150,000,000,000 - <160,000,000,000 lb
1,000,000,000 -< 5,000,000,000 lb	160,000,000,000 - <170,000,000,000 lb
5,000,000,000 - <10,000,000,000 lb	170,000,000,000 - <180,000,000,000 lb
10,000,000,000 - < 20,000,000,000 lb	180,000,000,000 - <190,000,000,000 lb
20,000,000,000 - <30,000,000,000 lb	190,000,000,000 - <200,000,000,000 lb
30,000,000,000 - <40,000,000,000 lb	>200,000,000,000 lb
40,000,000,000 - <50,000,000,000 lb	

Appendix B: Current CDR Sectors

Code	Sector description
IS1	Agriculture, forestry, fishing, and hunting.
IS2	Oil and gas drilling, extraction, and support activities.
IS3	Mining (except oil and gas) and support activities.
IS4	Utilities.
IS5	Construction.
IS6	Food, beverage, and tobacco product manufacturing.
IS7	Textiles, apparel, and leather manufacturing.
IS8	Wood product manufacturing.
IS9	Paper manufacturing.
IS10	Printing and related support activities.
IS11	Petroleum refineries.
IS12	Asphalt paving, roofing, and coating materials manufacturing.
IS13	Petroleum lubricating oil and grease manufacturing.
IS14	All other petroleum and coal products manufacturing.
IS15	Petrochemical manufacturing.

Code	Sector description
IS16	Industrial gas manufacturing.
IS17	Synthetic dye and pigment manufacturing.
IS18	Carbon black manufacturing.
IS19	All other basic inorganic chemical manufacturing.
IS20	Cyclic crude and intermediate manufacturing.
IS21	All other basic organic chemical manufacturing.
IS22	Plastics material and resin manufacturing.
IS23	Synthetic rubber manufacturing.
IS24	Organic fiber manufacturing.
IS25	Pesticide, fertilizer, and other agricultural chemical manufacturing.
IS26	Pharmaceutical and medicine manufacturing.
IS27	Paint and coating manufacturing.
IS28	Adhesive manufacturing.
IS29	Soap, cleaning compound, and toilet preparation manufacturing.
IS30	Printing ink manufacturing.
IS31	Explosives manufacturing.
IS32	Custom compounding of purchased resins.
IS33	Photographic film, paper, plate, and chemical manufacturing.
IS34	All other chemical product and preparation manufacturing.
IS35	Plastics product manufacturing.
IS36	Rubber product manufacturing.
IS37	Non-metallic mineral product manufacturing (includes cement, clay, concrete, glass, gypsum, lime, and other non-metallic mineral product manufacturing).
IS38	Primary metal manufacturing.
IS39	Fabricated metal product manufacturing.
IS40	Machinery manufacturing.
IS41	Computer and electronic product manufacturing.
IS42	Electrical equipment, appliance, and component manufacturing.
IS43	Transportation equipment manufacturing.
IS44	Furniture and related product manufacturing.
IS45	Miscellaneous manufacturing.

Code	Sector description
IS46	Wholesale and retail trade.
IS47	Services.
IS48	Other (requires additional information).

Appendix C: Current CDR Product Categories

Code	Category
Chemical Substances in Furnishing, Cleaning, Treatment Care Products	
C101	Floor coverings.
C102	Foam seating and bedding products.
C103	Furniture and furnishings not covered elsewhere.
C104	Fabric, textile, and leather products not covered elsewhere.
C105	Cleaning and furnishing care products.
C106	Laundry and dishwashing products.
C107	Water treatment products.
C108	Personal care products.
C109	Air care products.
C110	Apparel and footwear care products.
Chemical Substances in Construction, Paint, Electrical, and Metal Products	
C201	Adhesives and sealants.
C202	Paints and coatings.
C203	Building/construction materials—wood and engineered wood products.
C204	Building/construction materials not covered elsewhere.
C205	Electrical and electronic products.
C206	Metal products not covered elsewhere.
C207	Batteries.
Chemical Substances in Packaging, Paper, Plastic, Toys, Hobby Products	
C301	Food packaging.
C302	Paper products.
C303	Plastic and rubber products not covered elsewhere.
C304	Toys, playground, and sporting equipment.

Code	Category
C305	Arts, crafts, and hobby materials.
C306	Ink, toner, and colorant products.
C307	Photographic supplies, film, and photochemicals.
Chemical Substances in Automotive, Fuel, Agriculture, Outdoor Use Products	
C401	Automotive care products.
C402	Lubricants and greases.
C403	Anti-freeze and de-icing products.
C404	Fuels and related products.
C405	Explosive materials.
C406	Agricultural products (non-pesticidal).
C407	Lawn and garden care products.
Chemical Substances in Products not Described by Other Codes	
C980	Non-TSCA use.
C909	Other (specify).

Appendix D: 2016 CDR Inorganics with recycle box checked – reporting "Processing as a reactant"
(from the non-CBI file sent to the Committee prior to the August meeting)

This appendix provides a listing of the industrial sectors reported and the industrial function categories reported only when "Processing as a Reactant" was reported as the process or use code. Note that if IS48-other or U999-other was reported, additional information was required. The tables below include that additional information.

Notes:

- Appendix D of the CDR Instructions contains a listing of the current CDR Process or Use codes, definitions, and list of sectors.
- Many sectors reported on tables D1 and D2 *appear as entered* by submitters on their form U for the "other" category.

Process or Use Code: PC - Processing as a reactant

Table D1. Industrial Sectors Reported:

Industrial Sectors Reported when "Processing as a Reactant"	Count
All other basic inorganic chemical manufacturing	488
Primary metal manufacturing	316
Utilities	277
Paper manufacturing	242
All other basic organic chemical manufacturing	200
Pesticide, fertilizer, and other agricultural chemical manufacturing	160
CBI	120
Nonmetallic mineral product manufacturing (includes clay, glass, cement, concrete, lime, gypsum, and other nonmetallic mineral product manufacturing.	106
All other chemical product and preparation manufacturing	101
Petroleum refineries	98
Mining (except oil and gas) and support activities	93
Synthetic dye and pigment manufacturing	50
Plastic material and resin manufacturing	50
Food, beverage, and tobacco product manufacturing	50
Services	46
Petrochemical manufacturing	42
Agriculture, forestry, fishing and hunting	40
Fabricated metal product manufacturing	30
Wholesale and retail trade	30
Miscellaneous manufacturing	28
Electrical equipment, appliance, and component manufacturing	28
Oil and gas drilling, extraction, and support activities	27
Textiles, apparel, and leather manufacturing	27
Pharmaceutical and medicine manufacturing	23
Industrial gas manufacturing	23
Construction	22
Soap, cleaning compound, and toilet preparation manufacturing	20

Industrial Sectors Reported when "Processing as a Reactant"	Count
Computer and electronic product manufacturing	19
Not known or reasonably ascertainable	17
Plastics product manufacturing	14
Rubber product manufacturing	13
Petroleum lubricating oil and grease manufacturing	12
Explosives manufacturing	11
Transportation equipment manufacturing	10
Synthetic rubber manufacturing	9
Paint and coating manufacturing	9
All other petroleum and coal products manufacturing	6
Other - Secondary Precious Metals Reclaimers	6
Asphalt paving, roofing, and coating materials manufacturing	5
Material Recovery	5
Secondary Metals Refining	5
Organic fiber manufacturing	4
Carbon black manufacturing	4
Machinery manufacturing	4
Photographic film paper, plate, and chemical manufacturing	4
remediation	4
Material recovery facility	3
Wood product manufacturing	3
Laboratory Use	3
Water Treatment	3
Metal Recovery Facility	3
Solar cell manufacturing	3
Metal Recovery	3
corrosion inhibitor	2
carboxylates	2
secondary metal production	2
Waste Water treatment	2
Other - Secondary Precious Metals Reclamers	2
Product is used in catalyst manufacturing for refineries.	1
Wood treatment chemical	1
Waste Management Processors and Landfill Disposal	1
Used to control acid gas emissions from incineration process	1
Clean Harbors hauls lime away as non hazardous waste. Lime is typical used in road construction, agriculture and water treatment	1
waste treatment	1
Sodium hypochlorite manufacturing for potable water disinfectant/potable, swimming pool and waste water disinfection chemicals	1
Used in the production of all cobalt containing compounds onsite.	1
Used for the manufacturing of cutting tools.	1
Copper is manufactured in our electroplating solution	1
Catalyst Manufacturing	1

Industrial Sectors Reported when "Processing as a Reactant"	Count
Other - Secondary Precious Metals Reclamation	1
Produce specialty metals zirconium, hafnium and zircaloy for nuclear power and other industries.	1
Many Industrial Sectors use Hydrochloric acid for pH adjustment in processes and wastewater treatment. Because downstream customers of distributor customer, not all Industrial Sectors are known. Likely includes Inorganic and organic chemical manufacture, steel manufacture, pH control for water and wastewater in many Industrial sectors.	1
Reactant in many IS codes to make inorganic, organic, pesticide chemicals, many others	1
Organics oxidation in water treatment	1
intermediates for ferromoly facility	1
Waste water / Water Treatment both Industrial and Municipal	1
Metal Plating	1
Other- Secondary Precious Metals Reclaimers	1
Material Processing Facility	1
Used to manufacture sodium hypochlorite which can be used for waste & potable water treatment as well as other disinfection purposes. Caustic itself may be distributed to various industries including water treatment.	1
Environmental remediation	1
intermediate, not sold	1
Used to make zinc sulfate plating solution, which is used to plate zinc on wire. We manufacture zinc plated wire.	1
Water treatment processing	1
Sulfuric is used in our electroplating operations for Beadwire and industrial hose	1
Prison and military complexes.	1
Laboratory Reagent	1
Zinc is used in our electroplating process for industrial hose wire	1
IS48 - Material Recovery Facility	1

Table D2. Industrial Function Categories Reported:

Industrial Function Category Reported when "Processing as a Reactant"	Count
Intermediates	1168
Oxidizing/reducing agents	278
Processing aids, not otherwise listed	262
Agricultural chemicals (non-pesticidal)	129
Bleaching agents	91
Not known or reasonably ascertainable	86
CBI	84
Corrosion inhibitors and anti-scaling agents	82
Plating agents and surface treating agents	82
Process regulators	60
Adsorbents and absorbents	59
Processing aids, specific to petroleum production	41
Solids separation agents	39
Pigments	32

Industrial Function Category Reported when "Processing as a Reactant"	Count
Fillers	27
Fuels and fuel additives	23
Adhesives and sealant chemicals	19
Ion exchange agents	14
Chemical manufacturing	13
Flame retardants	12
Lubricants and lubricant additives	11
Surface active agents	11
Metal alloy constituent	11
Laboratory chemicals	8
Paint additives and coating additives not described by other categories	8
Plasticizers	8
Wastewater treatment (dechlorination)	8
Functional fluids (closed systems)	7
air pollution control scrubbing liquor (slaked lime)	6
catalyst	6
Solvents (for cleaning and degreasing)	6
Fining agent in glass melting process (degassing)	6
Dyes	5
Oil and Gas Exploration	5
Abrasives	5
Solvents (which become part of product formulation or mixture)	5
Feedstock	5
Metal Recovery	5
Secondary Metals Refining	5
Aqueous ammonia is converted to anhydrous ammonia in the vaporizer for the selective cathodic reduction system to control nitrous oxide emissions.	4
Used for water treatment and air pollution control.	4
Iron Ore Pellets - Steelmaking feedstock	4
Finishing agents	3
Water treatment.	3
Odor agents	3
Leather tanning	3
Industrial Use	3
Used in the lead smelting process	3
Lead Acid Batteries	3
Water Treatment	3
Raw material in the manufacturing of Aluminum Chlorohydrate	2
Emission Control Equipment	2
Electricity Generation	2
Used in SCR for NOx reduction	2
Ingredient in portland cement	2
Desiccant	2
Metals recovery	2

Industrial Function Category Reported when "Processing as a Reactant"	Count
pH adjustment	2
metal catalyst	2
Propellants and blowing agents	2
Manufacture of hyper-pure silicon for solar cells	2
Fluorinating agent	2
water treatment processing	2
Curative	2
substitute for raw material	2
Acid neutralization	2
Pulp Manufacturing	2
Food processing	2
By-product of hydrochloric acid steel pickling.	2
ZINC DROSS IS CONSIDERED A RAW MATERIAL FOR US ZINC CORPORATION. AFTER PROCESSING, NO ZINC DROSS REMAINS.	2
fluxing agent	1
Solvents production.	1
Raw material for aluminum sulfate manufacturing and poly aluminum chloride	1
Raw Material for aluminum fluoride production.	1
Metals(aluminum).	1
Product is recycled into clean industrial scrap	1
Sales to power utilities for use in plant air pollution control equipment	1
Ammonia used in production of nitric acid and ammonium nitrate solution for sale to wholesalers. Wholesalers distribute for miscellaneous industry uses.	1
ammonia from urea for NOx control in coal-fired electric generating boiler	1
Upgrade to ammonium nitrate	1
Agricultural use: pesticides	1
Reactant for NOx control.	1
refrigerant	1
Selective Noncatalytic Reduction/Urea Injection System	1
Urea (50% solution) is injected into the boiler from the Selective Non-Catalytic Reduction system (SNCR)and coincidetally manufactures ammonia which reduces nitrogen oxides.	1
ammonia generated from urea for NOx control in coal-fired electric generating boiler	1
wastewater treatment	1
A reactant in a Selective Catalytic Reduction system to lower NOx emissions from utility boilers.	1
Pollution Control Agents	1
NOx abatement	1
NOx abatement for stack emissions	1
Product is used in catalyst manufacturing.	1
NOx abatement of stack emissions	1
Product is used in catalyst manufacturing for refineries.	1
Selective Catalytic Reduction	1
Electricty Generation	1
Base metal/other	1
Reactant	1

Industrial Function Category Reported when "Processing as a Reactant"	Count
used as structural fill	1
Pozzolanic reactive waste material additives to meet metals treatment limits and solidify waste materials	1
Used as lightweight aggregate material in the manufacture of concrete block and pavers.	1
The material is donated to area road departments as a traction agent.	1
incorporated into portland cement	1
Mine Backfill	1
Landfill capping; asphaltic chip seal granules	1
Used as part of metals recycling and recovery process	1
Used for SO2 emission control.	1
Air pollution control (SO2)	1
Viscosity adjustors	1
Used for SO2 emission control	1
Regenerated white liquor from green liquor	1
Used on-site for Calcium Hydroxide Production	1
Calcium oxide (CaO) used in the pulp manufacturing	1
sorbent for capture of sulfur dioxide in boiler	1
Metal base production	1
Metal Carbides	1
Carbon black is used to make graphite material that is used to make carbon brushes for electric motors	1
Refractory	1
Feed Stock	1
Additions to steel making.	1
Raw Material used to make a low grade Cobalt Manganese Oxide Grade Blend)	1
Addition to steel production.	1
Addition to steel making	1
Reactant in metal recovery process.	1
Dust is used as a reactant in the facility's zinc smelter, recovering zinc to manufacture zinc, zinc oxide and other commercial products.	1
Waeltz kiln metals recovery process	1
Metals recovery using kiln processing.	1
Reactant for recovery of zinc in a smelter.	1
metal	1
NOx Control reactant	1
thick/thin film pastes to make electronic printed circuits, articles, devices, semiconductors	1
road salt	1
Raw materials for the manufacture of polyaluminum chloride	1
Byproduct	1
Waste Water treatment chemical for pH control	1
Fragrance Ingredients	1
Not specified by customer	1
pH Treated for Deepwell Disposal	1
Chemical reactant - feedstock.	1
Biocide Water/wastewater treatment chemical	1

Industrial Function Category Reported when "Processing as a Reactant"	Count
Chemical manufacturing.	1
Iron ore pellets - Steel-making feedstock	1
Base Metal Material	1
Pregnant Leaching Solution	1
Battery active material	1
Lead Acid Battery	1
Mixed/reacted with sulfuric acid to make lead sulfate which is then mixed with lead oxide, water and fillers to make paste for incorporation into battery plates (a component of a lead-acid battery electrode).	1
Glass Manufacturing	1
Explosives	1
Mixed/reacted with sulfuric acid to make lead sulfate which is them mixed with lead oxide, water and fillers to make paste for incorporation into battery plates (a component of a lead-acid battery electrode.	1
Manufactured as a byproduct	1
Feed material for elemental metal manufacturing.	1
Scrubber reagent	1
Lighting	1
Metals recovery facility	1
Metal recovery facility	1
Metal Alloy Constituents	1
Ferrous Metal	1
Metallurgical Alloy Constituent.	1
Additions to steel manufacturing and catalyst.	1
Steel manufacturing	1
The manufacture of catalysts.	1
metal recobvery	1
Agrium use in ammmonia nitrate production, final AN use for preparing mining explosives	1
Industrial/mining explosives.	1
Photosensitive chemicals	1
Copper Metal	1
Cathodes for Tantalum Capacitors.	1
Metal manufacturing	1
Yeast nutrient for winemaking	1
Processing as a reactant	1
Waste water	1
Scale is Cleaned of Debris and/or Recycled for Metals Content	1
Secondary Metal Production	1
Reactant that is oxidized to impart color to glass containers	1
glass insulation product	1
Slag is recycled to recover copper content.	1
Lead Manufacturing	1
Inorganic Chemical	1
Used for the production of Bromide based products.	1

Industrial Function Category Reported when "Processing as a Reactant"	Count
raw material in the manufacturing of sodium bisulfite	1
neutralization reagent	1
Organic chemical manufacturing	1
Caustic manufacturing	1
Raw material for sulfuric acid manufacturing	1
Agriculture	1
Utilities, steel mills.	1
WASTE WATER pH AJUSTMENT	1
Munitions	1
Raw material in other product manufacturing	1
Industrial Use- Battery Manufacturing	1
Sulfuric Acid used for the capture of ammonia to make ammonium bisulfate	1
waste water treatment	1
reactant and neutralizing agent	1
Catalyst and Catalyst Support	1
Paper mill	1
Used as an oxygen scavenger or chlorine scavenger.	1
Metal Manufacturing.	1
Master Alloy Production	1
Initial Product for chemical reactions	1
By-product of hydrochloric acid steel pickling	1
All spent pickle liquor reported is used as feedstock to on-site hydrochloric acid regeneration process	1
Steel alloy constituent	1
Catalyst synthesis	1
ZINC DROSS IS CONSIDERED A RAW MATERIAL FOR EASTERN ALLOYS, INC. AFTER PROCESSING, NO ZINC DROSS REMAINS.	1

Part III. Processing and Use – Limited Reporting

Check all that apply	And Report
☐ Consumed in the manufacture of a chemical substance	% PV Sector from list
☐ Otherwise used to manufacture a chemical substance (e.g., catalyst, inhibitor, oxidizer/reducer)	% PV Sector from list
☐ Directly used. Select from: o Restricted fill application (e.g., mine fill, road beds) o Widespread applications (e.g., land applications, enriching soil) o Burned as a fuel	% PV *(reported for each selection)*
☐ Directly used and incorporated into a product (e.g., wallboard, cement)	Product category from list % PV *(reported for each category)* Industrial? Consumer or Commercial? Intended for children's use? *If yes, also report maximum concentration*
☐ Other (specify): _____	Product category from list % PV *(reported for each category)* Industrial? Consumer or Commercial? Intended for children's use? *If yes, also report maximum concentration*

Current Part III. Processing and Use

Data elements completely eliminated

Data elements with greatly reduced reporting

PART III. PROCESSING AND USE INFORMATION

SECTION A. INDUSTRIAL PROCESSING AND USE — N/A

	a. Type of Process or Use		b. Sector(s)		c. Industrial Function Category		d. Percent Production Volume		e. Number of Sites		f. Number of Workers	
	Code	CBI*	Code	CBI*	Code	CBI*	%	CBI*	Code	CBI*	Code	CBI*
3.A.1												
3.A.2												
3.A.3												
3.A.4												
3.A.5												
3.A.6												
3.A.7												
3.A.8												
3.A.9												
3.A.10												

SECTION B. CONSUMER AND COMMERCIAL USE — N/A

	a. Product Category		b. Consumer or Commercial or both		c. Used in Products Intended for Children?		d. Percent Production Volume		e. Maximum Concentration		f. Number of Commercial Workers Reasonably Likely to be Exposed	
	Code	CBI*	Code	CBI*	Code	CBI*	%	CBI*	Code	CBI*	Code	CBI*
3.B.1												
3.B.2												
3.B.3												
3.B.4												
3.B.5												
3.B.6												
3.B.7												
3.B.8												
3.B.9												
3.B.10												

Part III. Process and Use Reporting. Addendum. As of September 13, 2017