SDS ID No.: CLF-2008

Safety Data Sheet (SDS)

Facilities: Burns Harbor

Section 1 – Identification

1(a) Product Identifier Used on Label: Coke Oven Gas Line Residue

1(b) Other Means of Identification: COG Line Deposit, formerly AM USA-2008, CLF-2008

1(c) Recommended Use of the Chemical and Restrictions on Use: None

1(d) Name, Address, and Telephone Number:

Cleveland-Cliffs Steel
1 South Dearborn Street
Chicago, IL 60603-9888

Phone number: 219-787-4901 or
email at: sdssupport@arcelormittal.com

1(e) Emergency Phone Number: 1-760-476-3962 (Verisk 3E Company Code: 333211) or CHEMTREC (Day or Night): 1-800-424-9300

Section 2 – Hazard(s) Identification

2(a) Classification of the Chemical: Coke Oven Gas Line Residue is considered a hazardous material according to the criteria specified in REACH [REGULATION (EC) No 1907/2006] and CLP [REGULATION (EC) No 1272/2008] and OSHA 29 CFR 1910.1200 Hazard Communication Standard. The categories of Health Hazards as defined in "GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition ST/SG/AC.10/30/Rev. 3" United Nations, New York and Geneva, 2009 have been evaluated. Refer to Section 3, 8 and 11 for additional information.

2(b) Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s):

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Carcinogenicity - 1A Single Target Organ Toxicity (STOT) Single Exposure - 2 STOT Repeated Exposure - 1	**DANGER**	May cause cancer. May cause mechanical irritation to skin and lung irritation. Causes damage to lungs through prolonged or repeated exposure. Causes skin irritation. Causes serious eye irritation.
	Eye Irritation - 1 Skin Irritation - 2		

Precautionary Statement(s):

Prevention	Response	Storage/Disposal
Do not breathe dusts or fume. Wear protective gloves / protective clothing / eye protection / face protection. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.	If exposed, concerned or feel unwell: Get medical advice/attention, call a poison center or doctor/physician. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician. If on skin: Take off contaminated clothing and wash it before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.	Dispose of contents in accordance with federal, state and local regulations. Store locked up.

2(c) Hazards Not Otherwise Classified: None Known

2(d) Unknown Acute Toxicity Statement (mixture): None Known

Section 3 – Composition/Information on Ingredients

3(a-c) Chemical Name, Common Name (Synonyms), CAS Number and Other Identifiers, and Concentration:

Chemical Name	CAS Number	EC Number	% weight
Sulfur	7704-34-9	231-722-6	86
Iron Sulfide	11126-12-8 (1317-37-9)	234-367-5 (215-268-6)	9
Magnesium Sulfide	12032-36-9	234-771-1	2
Crystalline Silica (as Quartz)	14808-60-7	238-878-4	1
Calcium Oxide	1305-78-8	215-138-9	1

EC- European Community

CAS- Chemical Abstract Service

Coke Oven Gas Line Residue is primarily a semi-solid deposit of tar oils, phenolic compounds and nitrogen bases which has precipitated from the coke oven gas and condensate inside the gas main distribution system. Depending on factors such as low flow, time in the pipe, and draining off of water portion, there is potential for flammable or combustible materials to be present. These materials may ignite when exposed to an ignition source such as sparks, open flames, hot surfaces, etc., Lastly, powdered iron sulfide, as itself, is pyrophoric.

Section 4 – First-aid Measures

4(a) Description of Necessary Measures: If exposed, concerned or feel unwell: Get medical advice/attention, call a poison center or doctor/physician.

- **Inhalation:** If exposed, concerned or feel unwell: Get medical advice/attention, call a poison center or doctor/physician.
- **Eye Contact:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
- **Skin Contact:** If on skin: Take off contaminated clothing and wash it before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.
- **Ingestion:** If exposed, concerned or feel unwell: Get medical advice/attention, call a poison center or doctor/physician.

4(b) Most Important Symptoms/Effects, Acute and Delayed (Chronic):

Acute Effects:

- **Inhalation:** Excessive exposure to high concentrations of dust may cause irritation to the mucous membranes of the upper respiratory tract.
- **Eye:** Particles of iron or iron compounds may become imbedded in the eye. Excessive exposure to high concentrations of dust may cause irritation to the eyes.
- **Skin:** Skin contact with dusts may cause irritation or sensitization, possibly leading to dermatitis. Skin contact with metallic fumes and dusts may cause physical abrasion.
- **Ingestion:** Ingestion of dust may cause nausea and/or vomiting.

Chronic Effects:

Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure. Persons with pre-existing skin disorders may be more susceptible to dermatitis.

4(c) Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5 – Fire-fighting Measures

5(a) Suitable (and unsuitable) Extinguishing Media: Use steam, water fog, dry chemical or carbon dioxide.

5(b) Specific Hazards Arising from the Chemical: It is unlikely based on the chemistry of this material, in the metal oxide forms that it will present an explosion hazard. However, high concentrations of airborne metallic fines may present an explosion hazard. In addition, depending on factors such as low flow, time in the pipe, and draining off of water portion, there is potential for flammable or combustible materials to be present. These materials may ignite when exposed to an ignition source such as sparks, open flames, hot surfaces, etc. Lastly, powdered iron sulfide, as itself, is pyrophoric.

5(c) Special Protective Equipment and Precautions for Fire-fighters: Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

Section 6 - Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: Use only outdoors or in a well-ventilated area. If material is in a dry state, avoid inhalation of dust. Personnel should be protected against contact with eyes and skin. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations.

6(b) Methods and Materials for Containment and Clean Up: Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

Section 7 - Handling and Storage

7(a) Precautions for Safe Handling: Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Do not breathe dusts or fumes. Wear protective gloves / protective clothing / eye protection / face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid direct contact on skin, eyes or on clothing. Emergency safety showers and eye wash stations should be present. Store locked up.

7(b) Conditions for Safe Storage, Including any Incompatibilities: Store away from acids and incompatible materials.

Section 8 - Exposure Controls / Personal Protection

8(a) Occupational Exposure Limits (OELs): The following exposure limits are offered as reference, for an experience industrial hygienist to review.

Ingredients	OSHA PEL [1]	ACGIH TLV [2]	NIOSH REL [3]	IDLH [4]
Sulfur	NE	NE	NE	NE

Section 8 - Exposure Controls / Personal Protection (continued)

8(a) Occupational Exposure Limits (OELs) (continued):

Ingredients	OSHA PEL [1]	ACGIH TLV [2]	NIOSH REL [3]	IDLH [4]
Iron Sulfide	NE	NE	NE	NE
Magnesium Sulfide	NE	NE	NE	NE
Crystalline Silica (as Quartz)	0.05 mg/m^3 "AL" 0.025 mg/m^3	0.025 mg/m^3 (as respirable fraction[5])	0.05 mg/m^3 (as respirable dust), Ca	50 mg/m^3 (as quartz, Tripoli) 25 mg/m^3 (as cristobalite, tridymite), Ca
Calcium Oxide	5.0 mg/m^3 (as calcium oxide)	2.0 mg/m^3 (as calcium oxide)	2.0 mg/m^3 (as calcium oxide)	25 mg/m^3 (as calcium oxide)

NE - None Established

1. OSHA PELs (Permissible Exposure Limits) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
2. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. DSEN – May cause dermal sensitization. This notation is used to indicate the potential for dermal sensitization resulting from the interaction of an absorbed agent and ultraviolet light (i.e. photosensitization). RSEN – May cause respiratory sensitization.
3. The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL)- Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
4. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994. Ca is designated as carcinogen.
5. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in ACGIH 2021 TLVs ® and BEIs ® Appendix D, paragraph C.

8(b) Appropriate Engineering Controls: Local exhaust ventilation should be used to control the emission of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations. Emergency eye wash stations and deluge safety showers should be available in the work area.

8(c) Individual Protection Measures:

- **Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

  Warning! Air-purifying respirators both negative-pressure and powered-air do not protect workers in oxygen-deficient atmospheres.
- **Eyes**: Wear appropriate eye protection to prevent eye contact. Use safety glasses with side shields or chemical goggles.
- **Skin**: Persons handling this product should wear appropriate clothing to prevent skin contact. Wear protective gloves.
- **Other Protective Equipment**: An eyewash fountain and deluge shower should be readily available in the work area.

Section 9 - Physical and Chemical Properties

9(a) Appearance (physical state, color, etc.): Solid. Black Aggregate

9(b) Odor: odor of naphtha

9(c) Odor Threshold: NA

9(d) pH: 7

9(e) Melting Point/Freezing Point: NA

9(f) Initial Boiling Point and Boiling Range: NA

9(g) Flash Point: NA

9(h) Evaporation Rate: NA

9(i) Flammability (solid, gas): Not flammable

9(j) Upper/lower Flammability or Explosive Limits: NA

9(k) Vapor Pressure: NA

9(l) Vapor Density (Air = 1): NA

9(m) Relative Density: NA

9(n) Solubility(ies): NA

9(o) Partition Coefficient n-octanol/water: NA

9(p) Auto-ignition Temperature: ND

9(q) Decomposition Temperature: ND

9(r) Viscosity: ND

NA - Not Applicable

ND - Not Determined for product as a whole

Section 10 - Stability and Reactivity

10(a) Reactivity: Not Determined (ND)

10(b) Chemical Stability: Coke Oven Gas Line Residue is stable under normal storage and handling conditions.

10(c) Possibility of Hazardous Reaction: None Known

10(d) Conditions to Avoid: Storage with strong acids or calcium hypochlorite.

10(e) Incompatible Materials: Iron oxide dusts in contact with calcium hypochlorite evolve oxygen and may cause an explosion.

10(f) Hazardous Decomposition Products: Toxic fumes and vapors may be released at elevated temperatures.

Section 11 - Toxicological Information

11(a-e) Information on Toxicological Effects: The following toxicity data has been determined for **Coke Oven Gas Line Residue** by using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of OSHA and the EU CPL:

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	EU	OSHA			
Skin Irritation (covers Categories 1A, 1B, and 2)	2	2 [b]		**Warning**	Causes skin irritation.
Eye Damage/Irritation (covers Categories 1, 2A and 2B)	1	1 [c]		**Danger**	Causes serious eye damage.
Germ Cell Mutagenicity (covers Categories 1A, 1B and 2)	2	NR *	NA	**NA**	NA
Carcinogenicity (covers Categories 1A, 1B and 2)	NR	1A [g]		**Danger**	May cause cancer.
Specific Target Organ Toxicity (STOT) Following Single Exposure (covers Categories 1-3)	2	2 [i]		**Warning**	May cause mechanical irritation to skin and lung irritation.
STOT Following Repeated Exposure (covers Categories 1 and 2)	1	1 [j]		**Danger**	Causes damage to lungs through prolonged or repeated exposure.

* NR Not Rated - Available data does not meet criteria for classification.

The Toxicological data listed below are presented regardless to classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

a. No LC_{50} or LD_{50} has been established for **Coke Oven Gas Line Residue**. The following data has been determined for the components:
- **Sulfur:** LD_{50} = 2500 mg/kg (Oral/Rabbit)
- **Iron Oxide:** LD_{50}= >10,000 mg/kg (Oral/ Rat)

b. No Skin (Dermal) Irritation data available for **Coke Oven Gas Line Residue** as a mixture. The following Skin (Dermal) Irritation data has been determined for the components:
- **Sulfur:** Rabbit irritation, edema and erythema 4 at 72 hours all resolved by day 7. (REACH)
- **Iron Oxide:** Moderately irritating.
- **Calcium:** Reacts with moisture to cause burns of skin.

c. No Eye Irritation data available for **Coke Oven Gas Line Residue** as a mixture. The following Eye Irritation information was found for the components:
- **Iron Oxide:** Severely irritating; may cause burns. Human Corrosive (IUCLID).
- **Iron:** Irritating when administered as Iron metal. Rabbit Draize - irritating (IUCLID).
- **Calcium Oxide:** Rabbit Irritating (REACH).
- **Silicon Dioxide:** Crystalline silica may cause abrasion of the cornea**.**

d. No Skin (Dermal)/Respiratory Sensitization data available for **Coke Oven Gas Line Residue** as a mixture or its individual components.

e. No Aspiration Hazard data available for **Coke Oven Gas Line Residue** as a mixture or its individual components.

f. No Germ Cell Mutagenicity data available for **Coke Oven Gas Line Residue** as a mixture. The following Germ Cell Mutagenicity information was found for the components:
- **Iron Oxide:** Both positive and negative data.

Section 11 - Toxicological Information (continued)

11(a-e) Information on Toxicological Effects (continued):

g. Carcinogenicity: IARC, NTP, and OSHA do not list **Coke Oven Gas Line Residue** as carcinogens. The following Carcinogenicity information was found for the components:

- **Iron Oxide (Fe_2O_3):** IARC-3, unclassifiable as to carcinogenicity in humans; ACGIH TLV-A4, not classifiable as a human carcinogen
- **Silicon Dioxide:** IARC-1 (silica, crystalline), carcinogen to humans; ACGIH TLV-A2 (silica, crystalline), suspected human carcinogen; NTP–K, known to be a carcinogen; NIOSH–Ca, potential occupational carcinogen; OSHA-Ca, carcinogen

h. No Toxic Reproduction data available for **Coke Oven Gas Line Residue** as a mixture or its individual components.

i. No Specific Target Organ Toxicity (STOT) following a Single Exposure data available for **Coke Oven Gas Line Residue** as a mixture. The following STOT following a Single Exposure data was found for the components:

- **Iron Oxide:** May cause lung irritation.
- **Calcium Oxide**: Can cause respiratory tract irritation, skin and eye irritation.
- **Silicon Dioxide:** Single exposure to very high airborne levels may cause lung irritation in exposed humans.

j. No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **Coke Oven Gas Line Residue** as a mixture. The following STOT following Repeated Exposure data was found for the components:

- **Iron Oxide:** Some pulmonary and lung effects reported.
- **Silicon Dioxide:** Repeated exposure to crystalline silica causes silicosis and kidney damage as well as increased incidence of autoimmune disorders in humans.

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BEIs) with Other Worldwide Occupational Exposure Values 2021, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS), European Union Classification, Labeling and Packaging. (EU CPL), Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), International Uniform Chemical Information Database (IUCLID), TOXicology Data NETwork (TOXNET), European Risk Assessment Reports (EU RAR).

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s):

Acute Effects by Component:

- **SULFUR:** Sulfur is harmful if swallowed, causes skin and eye irritation.
- **IRON SULFIDE:** Not Reported/ Not Classified
- **MAGNESIUM SULFIDE:** Not Reported/ Not Classified
- **CRYSTALINE SILICA (Silicon Dioxide):** Causes irritation and inflammation of the respiratory tract. May cause abrasion of the cornea. Inhalation may cause cough. A single exposure to very high airborne levels may cause lung irritation in exposed humans.
- **CALCIUM OXIDE:** Calcium oxide is an eye and skin irritant.

Delayed (chronic) Effects by Component:

- **SULFUR:** Sulfur compounds, present in the fumes, may irritate the skin, eyes, lungs and gastrointestinal tract. May cause damage to the lung from prolonged or repeated exposure, Sulfur dioxide vapor is irritating to the respiratory tract and can cause lung damage with repeated or prolonged exposure.
- **IRON SULFIDE:** Not Reported/ Not Classified
- **MAGNESIUM SULFIDE:** Not Reported/ Not Classified
- **SILICA (Crystalline Quartz):** Chronic exposure can cause silicosis, a form of lung scarring that can cause shortness of breath, reduced lung function, and in severe cases, death. Repeated exposure may cause kidney damage as well as increased incidence of autoimmune disorder.
- **CALCIUM OXIDE:** Depending on the concentration and duration of exposure, repeated or prolonged inhalation may cause inflammation of the respiratory passages, ulcers of the mucous membranes, and possible perforation of the nasal septum. Repeated or prolonged skin contact may cause dermatitis.

Section 12 - Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial): No data available for the product, **Coke Oven Gas Line Residue** as a mixture. However, individual components of the product have been found to be toxic to the environment. Dusts may migrate into soil and groundwater and be ingested by wildlife as follows:

- **Iron Oxide**: LC_{50}: >1000 mg/L; Fish
- **Calcium Oxide:** LC_{50}: 159 mg/L; invertebrates

12(b) Persistence & Degradability: No Data Available

12(c) Bioaccumulative Potential: No Data Available

12(d) Mobility (in soil): No Data Available

12(e) Other Adverse Effects: None Known

Additional Information:

Hazard Category: No Category **Signal Word:** No Signal Word

Section 12 - Ecological Information (continued)

Hazard Symbol: No Hazard Symbol

Hazard Statement: No Hazard Statement

Section 13 - Disposal Considerations

Disposal: Dispose of in accordance with Local, State, Federal and International regulations. Observe safe handling precautions.

Container Cleaning and Disposal: Follow Local, State, Federal and International regulations. Observe safe handling precautions.

Section 14 - Transport Information

14 (a-g) Transportation Information:

US Department of Transportation (DOT) under 49 CFR 172.101 may regulate **Coke Oven Gas Line Residue** as a hazardous material under certain circumstances. All Local, State, Federal and international regulations that apply to the transport of this type of material must be adhered to.

Section 15 - Regulatory Information

Regulatory Information: *The following listing of regulations relating to a Cleveland-Cliffs Steel product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.* This product and/or its constituents are subject to the following regulations:

OSHA Regulations: Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-2, Z-3): The product as a mixture is not listed. However, individual components of the product are listed refer to Section 8.

EPA Regulations: The product, **Coke Oven Gas Line Residue** and its components are not listed.

SARA Potential Hazard Categories: Immediate Acute Health Hazard, delayed Chronic Health Hazard

SARA 313 Supplier Notification: The product, **Coke Oven Gas Line Residue** does not contain any of the toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Regulations Key:

CAA	Clean Air Act (42 USC Sec. 7412; 40 CFR Part 61 [As of: 8/18/06])
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (42 USC Secs. 9601(14), 9603(a); 40 CFR Sec. 302.4, Table 302.4, Table 302.4 and App. A)
CWA	Clean Water Act (33 USC Secs. 1311; 1314(b), (c), (e), (g); 136(b), (c); 137(b), (c) [as of 8/2/06])
RCRA	Resource Conservation Recovery Act (42 USC Sec. 6921; 40 CFR Part 261 App VIII)
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III Section 302 Extremely Hazardous Substances (42 USC Secs. 11023, 13106; 40 CFR Sec. 372.65) and Section 313 Toxic Chemicals (42 USC Secs. 11023, 13106; 40 CFR Sec. 372.65 [as of 6/30/05])
TSCA	Toxic Substance Control Act (15 U.S.C. s/s 2601 et seq. [1976])
SDWA	Safe Drinking Water Act (42 U.S.C. s/s 300f et seq. [1974])

State Regulations: The product, **Coke Oven Gas Line Residue** as a mixture is not listed in any state regulations. However, individual components of the product are listed in various state regulations:

Pennsylvania Right to Know: Contains regulated material in the following categories:

- Hazardous Substances: Crystalline silica, Calcium Oxide

California Prop. 65: The product, **Coke Oven Gas Line Residue** can expose you to chemicals including silica, crystalline (airborne particles of respirable size), which is known to the State of California to cause cancer; and does not contain chemicals known to the State of California to cause reproductive toxicity. For more information go to www.P65Warnings.ca.gov.

New Jersey: Contains regulated material in the following categories:

- Hazardous Substance: Crystalline silica, Calcium Oxide
- Special Health Hazard Substances: Crystalline silica, Calcium Oxide

Minnesota: Crystalline silica

Massachusetts: Crystalline silica, Calcium Oxide

Other Regulations:

WHMIS Classification (Canadian): The product, **Coke Oven Gas Line Residue** is not listed as a mixture. However individual components are listed.

Ingredients	WHMIS Classification
Ferrous Sulfide	Combustible dusts* - Self-heating substances and mixtures - Undefined category **
Silica Quartz	Carcinogenicity - Category 1A; Specific target organ toxicity - repeated exposure - Category 1
Calcium Oxide	Skin corrosion/irritation - Category 1; Serious eye damage/eye irritation - Category 1; Health hazards not otherwise classified (corrosion) - Category 1

* This product could belong to the hazard class "Combustible dust", based on various factors related to the combustibility and explosiveness of its dust, including composition, shape and size of the particles.

** This hazard class has been assigned according to the information obtained from the consulted scientific literature, but it does not allow to specify the hazard category.)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Section 16 - Other Information

Prepared By: Cleveland-Cliffs Steel

Original Issue Date: 01/1997 **Revised Date:** 6/15/2021

Additional Information:

Hazardous Material Identification System (HMIS) Classification

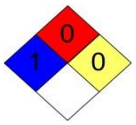
Health Hazard	1
Fire Hazard	0
Physical Hazard	0

HEALTH= **1**, * Denotes possible chronic hazard if airborne dusts or fumes are generated Irritation or minor reversible injury possible.

FIRE= **0**, Materials that will not burn.

PHYSICAL HAZARDS = **0**, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

National Fire Protection Association (NFPA)



HEALTH = **1**, Exposure could cause irritation but only minor residual injury even if no treatment is given.

FIRE = **0,** Materials that will not burn.

INSTABILITY = **0**, Normally stable, even under fire exposure conditions, and are not reactive with water.

ABBREVIATIONS/ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists	**NIF**	No Information Found
BEIs	Biological Exposure Indices	**NIOSH**	National Institute for Occupational Safety and Health
CAS	Chemical Abstracts Service	**NTP**	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	**ORC**	Organization Resources Counselors
CLP	Classification, Labelling and Packaging	**OSHA**	Occupational Safety and Health Administration
CFR	Code of Federal Regulations	**PEL**	Permissible Exposure Limit
CNS	Central Nervous System	**PNOR**	Particulate Not Otherwise Regulated
GI, GIT	Gastro-Intestinal, Gastro-Intestinal Tract	**PNOC**	Particulate Not Otherwise Classified
HMIS	Hazardous Materials Identification System	**PPE**	Personal Protective Equipment
IARC	International Agency for Research on Cancer	**ppm**	parts per million
LC50	Median Lethal Concentration	**RCRA**	Resource Conservation and Recovery Act
LD50	Median Lethal Dose	**REACH**	Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals
LD_{Lo}	Lowest Dose to have killed animals or humans	**RTECS**	Registry of Toxic Effects of Chemical Substances
LEL	Lower Explosive Limit	**SARA**	Superfund Amendment and Reauthorization Act
LOEL	Lowest Observed Effect Level	**SCBA**	Self-contained Breathing Apparatus
LOAEC	Lowest Observable Adverse Effect Concentration	**SDS**	Safety Data Sheet
$\mu g/m^3$	microgram per cubic meter of air	**STEL**	Short-term Exposure Limit
mg/m^3	milligram per cubic meter of air	**TLV**	Threshold Limit Value
mppcf	million particles per cubic foot	**TWA**	Time-weighted Average
MSHA	Mine Safety and Health Administration	**UEL**	Upper Explosive Limit
NFPA	National Fire Protection Association		

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Coke Oven Gas Line Residue

Signal Word: **DANGER**

Symbols:

HAZARD STATEMENTS:

May cause cancer.
May cause mechanical irritation to skin and lung irritation.
Causes damage to lungs through prolonged or repeated exposure.
Causes skin irritation.
Causes serious eye irritation.

PRECAUTIONARY STATEMENTS

Do not breathe dusts or fume.
Wear protective gloves / protective clothing / eye protection / face protection.
Wash thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not eat, drink or smoke when using this product.
If exposed, concerned or feel unwell: Get medical advice/attention, call a poison center or doctor/physician.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
If on skin: Take off contaminated clothing and wash it before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.
Dispose of contents in accordance with federal, state and local regulations.
Store locked up.

SDS ID No.: CLF-2003

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General Information: Phone: 219-787-4901 or email at: sdssupport@clevelandcliffs.com

CHEMTREC (Day or Night): 1-800-424-9300

Emergency Contact: 1-760-476-3962, (Verisk 3E Company Code: 333211)

Original Issue Date: 01/1997 **Revised:** 6/15/2021