

Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200)

Revision: December 18, 2019

1 Identification

- **Product identifier**
- **Trade name:** **BLACK BEAUTY**
- **Product code:** Coal-Fired Boiler Slag
- **Recommended use and restriction on use**
- **Recommended use:** Abrasives
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Harsco Corporation
Harsco Environmental
350 Poplar Church Road
Camp Hill, PA 17011
Phone: 717-763-7064
E-Mail: reedcs@harsco.com
- **Emergency telephone number:**
Emergency Contact: Verisk 3E
Emergency Phone: 855-393-9889 (Access Code: 13793)
Manufacturer Contact: Customer Service Department
Manufacturer Emergency Phone: 888-733-3646 ext. 2

2 Hazard(s) identification

- **Classification of the substance or mixture**
Classification references product both as delivered and as a fine dust generated during use.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Dam. 1 H318 Causes serious eye damage.
Carc. 1B H350 May cause cancer. Route of exposure: Inhalation.
STOT SE 3 H335 May cause respiratory irritation.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure. Route of exposure: Inhalation.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS05 GHS07 GHS08

- **Signal word:** Danger

- **Hazard statements:**

H315 Causes skin irritation.
H318 Causes serious eye damage.
H350 May cause cancer. Route of exposure: Inhalation.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure. Route of exposure: Inhalation.

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· **Precautionary statements:**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection.
P302+P352	If on skin: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P314	Get medical advice/attention if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**· **Components:**

60676-86-0	Silica, fused	40-53%
1309-37-1	Red Iron Oxide	5-31%
1344-28-1	Aluminum oxide ⚠ STOT RE 2, H373	17-25%
1305-78-8	Calcium oxide ⚠ Eye Dam. 1, H318 ⚠ Skin Irrit. 2, H315; STOT SE 3, H335	3-20%
1309-48-4	Magnesium oxide	0.1-7%
12136-45-7	Dipotassium oxide ⚠ Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	0.1-3%
13463-67-7	Titanium dioxide ⚠ Carc. 2, H351	0.1-2%
14808-60-7	Quartz (SiO ₂) ⚠ Carc. 1A, H350; STOT RE 1, H372	<0.1%
7439-96-5	Manganese	0.01-0.05%
7440-41-7	Beryllium ⚠ Acute Tox. 3, H301; Acute Tox. 2, H330 ⚠ Carc. 1B, H350; STOT RE 1, H372 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	0-0.0005%
7440-43-9	Cadmium (non-pyrophoric) ⚠ Acute Tox. 3, H301; Acute Tox. 2, H330	<0.001%

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	 Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 1, H372
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· **Additional information:** For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

- **Description of first aid measures**

- **After inhalation:**

Supply fresh air.

Provide oxygen treatment if affected person has difficulty breathing.

If experiencing respiratory symptoms: Call a doctor.

- **After skin contact:**

Brush off loose particles from skin.

Wash with soap and water.

If skin irritation continues, consult a doctor.

- **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

- **Most important symptoms and effects, both acute and delayed:**

Coughing

Breathing difficulty

Mechanical irritation to eyes and skin.

Strong irritant with the danger of severe eye injury.

- **Danger:**

Danger of impaired breathing.

Causes serious eye damage.

May cause cancer. Route of exposure: Inhalation.

May cause damage to organs through prolonged or repeated exposure. Route of exposure: Inhalation.

- **Indication of any immediate medical attention and special treatment needed:**

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

- **For safety reasons unsuitable extinguishing agents:** No relevant information available.

- **Special hazards arising from the substance or mixture** No relevant information available.

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

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6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Isolate area and prevent access.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

- **Environmental precautions** Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up**

Sweep up and place into an appropriate container.

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Handling**

- **Precautions for safe handling:** Use only in well ventilated areas.

- **Information about protection against explosions and fires:** No special measures required.

- **Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and receptacles:** No special requirements.

- **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with alkalis (caustic solutions).

Do not store together with acids.

- **Further information about storage conditions:** Keep containers tightly sealed.

- **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

60676-86-0 Silica, fused

PEL (USA)	20mppcf or 80mg/m ³ /%SiO ₂
TLV (USA)	TLV withdrawn
EV (Canada)	Long-term value: 0.1 mg/m ³ respirable
LMPE (Mexico)	Long-term value: 0.1 mg/m ³ (j)

1309-37-1 Red Iron Oxide

PEL (USA)	Long-term value: 10* mg/m ³ *Fume
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REL (USA)	Long-term value: 5 mg/m ³ Dust & fume, as Fe
TLV (USA)	Long-term value: 5* mg/m ³ *as respirable fraction
EL (Canada)	Short-term value: 10** mg/m ³ Long-term value: 5* 10*** 3**** mg/m ³ *dust & fume**fume; Rouge: ***total dust****resp.
EV (Canada)	Long-term value: 5* 10** mg/m ³ *respirable, including Rouge;**total dust
LMPE (Mexico)	Long-term value: 5* mg/m ³ A4, *fracción respirable

1344-28-1 Aluminum oxide

PEL (USA)	Long-term value: 15*; 5** mg/m ³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m ³ as Al; *as respirable fraction
EL (Canada)	Long-term value: 1.0 mg/m ³ respirable, as Al
EV (Canada)	Long-term value: 10 mg/m ³ total dust
LMPE (Mexico)	Long-term value: 1* mg/m ³ A4, *fracción respirable

1305-78-8 Calcium oxide

PEL (USA)	Long-term value: 5 mg/m ³
REL (USA)	Long-term value: 2 mg/m ³
TLV (USA)	Long-term value: 2 mg/m ³
EL (Canada)	Long-term value: 2 mg/m ³
EV (Canada)	Long-term value: 2 mg/m ³
LMPE (Mexico)	Long-term value: 2 mg/m ³

1309-48-4 Magnesium oxide

PEL (USA)	Long-term value: 15* mg/m ³ fume; *total particulate
TLV (USA)	Long-term value: 10* mg/m ³ *as inhalable fraction
EL (Canada)	Short-term value: 10** mg/m ³ Long-term value: 10* 3** mg/m ³ *inhalable fume;**respirable dust and fume
EV (Canada)	Long-term value: 10 mg/m ³ inhalable
LMPE (Mexico)	Long-term value: 10* mg/m ³ A4, *fracción respirable

13463-67-7 Titanium dioxide

PEL (USA)	Long-term value: 15* mg/m ³
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REL (USA)	*total dust See Pocket Guide App. A
TLV (USA)	Long-term value: 10 mg/m ³
EL (Canada)	Long-term value: 10* 3** mg/m ³ *total dust;**respirable fraction; IARC 2B
EV (Canada)	Long-term value: 10 mg/m ³ total dust
LMPE (Mexico)	Long-term value: 10 mg/m ³ A4
14808-60-7 Quartz (SiO₂)	
PEL (USA)	Long-term value: 0.05* mg/m ³
REL (USA)	Long-term value: 0.025* mg/m ³ *respirable dust; See Pocket Guide App. A
TLV (USA)	Long-term value: 0.025* mg/m ³ *as respirable fraction
EL (Canada)	Long-term value: 0.025 mg/m ³ ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.10* mg/m ³ *respirable fraction
LMPE (Mexico)	Long-term value: 0.025* mg/m ³ A2, *fracción respirable

- **Exposure controls**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Engineering controls:** Provide adequate ventilation.

- **Breathing equipment:**

Suitable respiratory protective device recommended.

A NIOSH approved dust respirator should be used for operations generating dust.

- **Protection of hands:**



Protective gloves

Wear gloves for protection against thermal and mechanical hazards according to OSHA and NIOSH rules.

- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:** Protective work clothing

- **Limitation and supervision of exposure into the environment**

No relevant information available.

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· **Risk management measures** No relevant information available.

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9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

Form: Granular or powdered solid.

Color: Black

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** The product is not flammable.

· **Flammability (solid, gaseous):** Not determined.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits

Lower: Not determined.

Upper: Not determined.

· **Oxidizing properties:** Non-oxidizing.

· **Vapor pressure:** Not determined.

· **Density:** 2.6-2.8 g/cm³ (21.7-23.37 lbs/gal)

· **Relative density:** Not determined.

· **Vapor density:** Not applicable.

· **Evaporation rate:** Not applicable.

· Solubility in / Miscibility with

Water: Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity

Dynamic: Not applicable.

Kinematic: Not applicable.

· **Other information** No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.

· **Chemical stability:** Stable under normal temperatures and pressures.

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

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- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**
Alkalis.
Acids.
- **Hazardous decomposition products**
Under fire conditions only:
Toxic metal oxide smoke

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

13463-67-7 Titanium dioxide

Oral	LD50	>20000 mg/kg (rat)
Dermal	LD50	>10000 mg/kg (rabbit)

- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Based on available data, the classification criteria are not met.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer):

1309-37-1	Red Iron Oxide	3
13463-67-7	Titanium dioxide	2B
14808-60-7	Quartz (SiO ₂)	1
7440-41-7	beryllium	1
7440-43-9	cadmium (pyrophoric)	1

· NTP (National Toxicology Program):

14808-60-7	Quartz (SiO ₂)	K
7440-41-7	beryllium	K
7440-43-9	cadmium (pyrophoric)	K

· OSHA-Ca (Occupational Safety & Health Administration):

7440-43-9	cadmium (pyrophoric)
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· Probable route(s) of exposure:

Ingestion.
Inhalation.
Eye contact.
Skin contact.

· Acute effects (acute toxicity, irritation and corrosivity):

Causes serious eye damage.
Irritating to respiratory system and skin.

· Repeated dose toxicity: Possible risk of irreversible effects.

· Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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- **Carcinogenicity:** May cause cancer. Route of exposure: Inhalation.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** May cause respiratory irritation.
- **STOT-repeated exposure:**
May cause damage to organs through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Other adverse effects** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---------------------------------------|-----------------|
| · UN-Number | |
| · DOT, ADR/RID/ADN, IMDG, IATA | Not regulated. |
| · UN proper shipping name | |
| · DOT, ADR/RID/ADN, IMDG, IATA | Not regulated. |
| · Transport hazard class(es) | |
| · DOT, ADR/RID/ADN, IMDG, IATA | |
| · Class | Not regulated. |
| · Packing group | |
| · DOT, ADR/RID/ADN, IMDG, IATA | Not regulated. |
| · Environmental hazards | Not applicable. |

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- | | |
|--|-----------------|
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· Section 302 (extremely hazardous substances):
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None of the ingredients are listed.

· Section 355 (extremely hazardous substances):
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None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):
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1344-28-1	Aluminum oxide
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· TSCA (Toxic Substances Control Act)
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All ingredients are listed or exempt.

· Proposition 65 (California)

· Chemicals known to cause cancer:

13463-67-7	Titanium dioxide
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14808-60-7	Quartz (SiO ₂)
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7440-41-7	beryllium
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7440-43-9	cadmium (pyrophoric)
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· Chemicals known to cause developmental toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity for males:

7440-43-9	cadmium (pyrophoric)
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· Chemicals known to cause developmental toxicity:

7440-43-9	cadmium (pyrophoric)
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· EPA (Environmental Protection Agency):

None of the ingredients are listed.

· IARC (International Agency for Research on Cancer):
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60676-86-0	Silica, fused				3
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1309-37-1	Red Iron Oxide				3
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13463-67-7	Titanium dioxide				2B
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14808-60-7	Quartz (SiO ₂)				1
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7440-41-7	beryllium				1
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7440-43-9	cadmium (pyrophoric)				1
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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H290 May be corrosive to metals.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H350 May cause cancer. Route of exposure: Inhalation.

H351 Suspected of causing cancer. Route of exposure: Inhalation.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H373 May cause damage to organs through prolonged or repeated exposure. Route of exposure: Inhalation.

- **Date of preparation / last revision** December 18, 2019 / -

- **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Met. Corr. 1: Corrosive to metals – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1A: Carcinogenicity – Category 1A

Carc. 1B: Carcinogenicity – Category 1B

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

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Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN:
978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers