

# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Material name** BLACK BEAUTY®  
**Version #** 01  
**Issue date** 08-November-2013  
**Revision date** -  
**Supersedes date** -  
**CAS #** 68476-96-0  
**Product code** Slag, coal  
**Product use** Abrasives and Roofing Products and Other Aggregate Uses.  
**Manufacturer/Supplier** Harsco  
P.O. Box 0515, Camp Hill, PA 17001-0515  
reedcs@harsco.com  
Contact Person: Steve Stanislawczyk  
717-506-4666  
**Emergency** 855-393-9889  
Access code 13793

## 2. Hazards Identification

**Physical state** Solid.  
**Appearance** Black granular solid.  
**Emergency overview** WARNING  
Abrasive blasting agents may cause inflammation and pulmonary fibrosis. Dust may irritate the respiratory tract, skin and eyes.  
**OSHA regulatory status** This product is hazardous according to OSHA 29 CFR 1910.1200.  
**Potential health effects**  
**Routes of exposure** Inhalation. Eye contact. Skin contact.  
**Eyes** Dust in the eyes will cause irritation. May cause redness and pain.  
**Skin** Dust may irritate skin.  
**Inhalation** Abrasive blasting agents may cause inflammation and pulmonary fibrosis. Dust may irritate throat and respiratory system and cause coughing.  
**Ingestion** Ingestion of dusts generated during working operations may cause nausea and vomiting.  
**Target organs** Eyes. Respiratory system.  
**Chronic effects** Frequent inhalation of fume/dust over a long period of time increases the risk of developing lung diseases.  
**Signs and symptoms** Irritation of nose and throat. Irritation of eyes and mucous membranes.  
**Potential environmental effects** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

## 3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Constituents	CAS #	Percent
Silicon dioxide	7631-86-9	41-53
Iron oxide	1309-37-1	7-31
Aluminum oxide	1344-28-1	17-25
Calcium oxide	1305-78-8	3-15
Magnesium oxide	1309-48-4	0-4
Potassium Oxide	12136-45-7	0-3
Titanium dioxide	13463-67-7	0-2

Constituents	CAS #	Percent
Silicon dioxide, crystalline	14808-60-7	<0.1
Manganese	7439-96-5	0-0.05
Beryllium	7440-41-7	0-0.001
Cadmium	7440-43-9	0-0.001

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First Aid Measures

##### First aid procedures

###### Eye contact

Do not rub eyes. Remove any contact lenses. Flush eyes thoroughly with water, taking care to rinse under eyelids. If irritation persists, continue flushing for 15 minutes, rinsing from time to time under eyelids. If discomfort continues, consult a physician.

###### Skin contact

Contact with dust: Wash with soap and water. Get medical attention if irritation develops or persists.

###### Inhalation

Move to fresh air. Get medical attention if discomfort persists.

###### Ingestion

Rinse mouth thoroughly if dust is ingested. Do not induce vomiting. Get medical attention if any discomfort continues.

##### Notes to physician

Treat symptomatically.

##### General advice

Show this safety data sheet to the doctor in attendance.

#### 5. Fire Fighting Measures

##### Flammable properties

The product is non-combustible.

##### Extinguishing media

###### Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

###### Unsuitable extinguishing media

None known.

##### Protection of firefighters

###### Specific hazards arising from the chemical

None known.

###### Protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

##### Fire fighting equipment/instructions

Move container from fire area if it can be done without risk. Cool containers with flooding quantities of water until well after fire is out.

#### 6. Accidental Release Measures

##### Personal precautions

Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing. Use personal protection recommended in Section 8 of the MSDS.

##### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

##### Methods for containment

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

##### Methods for cleaning up

Collect dust using a vacuum cleaner equipped with HEPA filter. If not possible, gently moisten dust with water fog before it is collected with shovel, broom or the like. Avoid dust formation. After removal flush contaminated area thoroughly with water.

Never return spills to original containers for re-use.

##### Other information

Clean up in accordance with all applicable regulations.

#### 7. Handling and Storage

##### Handling

Avoid inhalation of dust and contact with skin and eyes. Use only with adequate ventilation. Use work methods which minimize dust production. Keep the workplace clean. Observe good industrial hygiene practices.

##### Storage

Keep container tightly closed. Store away from incompatible materials.

## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0.01 mg/m <sup>3</sup>	
		0.002 mg/m <sup>3</sup>	Respirable fraction.
Beryllium (CAS 7440-41-7)	TWA	0.00005 mg/m <sup>3</sup>	Inhalable fraction.
Manganese (CAS 7439-96-5)	TWA	0.1 mg/m <sup>3</sup>	Inhalable fraction.
		0.02 mg/m <sup>3</sup>	Respirable fraction.
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.025 mg/m <sup>3</sup>	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m <sup>3</sup>	
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m <sup>3</sup>	
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m <sup>3</sup>	Inhalable fraction.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m <sup>3</sup>	Respirable fraction.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Constituents	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0.005 mg/m <sup>3</sup>

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Constituents	Type	Value	Form
Manganese (CAS 7439-96-5)	Ceiling	5 mg/m <sup>3</sup>	Fume.
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m <sup>3</sup>	Total dust.
Calcium oxide (CAS 1305-78-8)	PEL	5 mg/m <sup>3</sup>	
Magnesium oxide (CAS 1309-48-4)	PEL	15 mg/m <sup>3</sup>	Total particulate.
Aluminum oxide (CAS 1344-28-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
Iron oxide (CAS 1309-37-1)	PEL	10 mg/m <sup>3</sup>	Fume.

#### US. OSHA Table Z-2 (29 CFR 1910.1000)

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	Ceiling	0.6 mg/m <sup>3</sup>	Dust.
		0.3 mg/m <sup>3</sup>	Fume.
	TWA	0.2 mg/m <sup>3</sup>	Dust.
		0.1 mg/m <sup>3</sup>	Fume.
Beryllium (CAS 7440-41-7)	Ceiling	0.005 mg/m <sup>3</sup>	
	TWA	0.002 mg/m <sup>3</sup>	

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Constituents	Type	Value	Form
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.3 mg/m <sup>3</sup>	Total dust.
		0.1 mg/m <sup>3</sup>	Respirable.
Silicon dioxide (CAS 7631-86-9)	TWA	2.4 millions of particle	Respirable.
		0.8 mg/m <sup>3</sup>	
		20 mppcf	

**Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)**

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0.01 mg/m3	
Beryllium (CAS 7440-41-7)	STEL	0.01 mg/m3	
	TWA	0.002 mg/m3	
Manganese (CAS 7439-96-5)	TWA	0.2 mg/m3	
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable particles.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3	
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	Fume.
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m3	Respirable.

**Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)**

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0.01 mg/m3	
		0.002 mg/m3	Respirable.
Beryllium (CAS 7440-41-7)	STEL	0.01 mg/m3	
	TWA	0.002 mg/m3	
Manganese (CAS 7439-96-5)	TWA	0.2 mg/m3	
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3	
Magnesium oxide (CAS 1309-48-4)	STEL	10 mg/m3	Respirable dust and/or fume.
	TWA	3 mg/m3	Respirable dust and/or fume.
		10 mg/m3	Inhalable fume.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable.
Iron oxide (CAS 1309-37-1)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		5 mg/m3	Dust.
		3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.
Silicon dioxide (CAS 7631-86-9)	TWA	4 mg/m3	Total
		1.5 mg/m3	Respirable.

**Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)**

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0.01 mg/m3	
		0.002 mg/m3	Respirable fraction.
Beryllium (CAS 7440-41-7)	TWA	0.00005 mg/m3	Inhalable fraction.
Manganese (CAS 7439-96-5)	TWA	0.1 mg/m3	Inhalable fraction.
		0.02 mg/m3	Respirable fraction.
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

**Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)**

Constituents	Type	Value	Form
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3	
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	Inhalable fraction.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m3	Respirable fraction.

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0.01 mg/m3	
Beryllium (CAS 7440-41-7)	STEL	0.01 mg/m3	
	TWA	0.002 mg/m3	
Manganese (CAS 7439-96-5)	TWA	0.2 mg/m3	
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3	
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	Inhalable fraction.
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m3	Respirable fraction.
Silicon dioxide (CAS 7631-86-9)	TWA	10 mg/m3	

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0.025 mg/m3	
Beryllium (CAS 7440-41-7)	TWA	0.00015 mg/m3	
Manganese (CAS 7439-96-5)	STEL	3 mg/m3	Fume.
	TWA	5 mg/m3	Dust.
		1 mg/m3	Fume.
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	Total dust.
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3	
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	Fume.
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3	Total dust.
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m3	Dust and fume.
		10 mg/m3	Total dust.
Silicon dioxide (CAS 7631-86-9)	TWA	6 mg/m3	Respirable dust.

**Mexico. Occupational Exposure Limit Values**

Constituents	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0.01 mg/m3	Total dust.
		0.002 mg/m3	Respirable dust.
Beryllium (CAS 7440-41-7)	TWA	0.002 mg/m3	
Manganese (CAS 7439-96-5)	STEL	3 mg/m3	Fume.
	TWA	1 mg/m3	Fume.
		0.2 mg/m3	

## Mexico. Occupational Exposure Limit Values

Constituents	Type	Value	Form
Silicon dioxide, crystalline (CAS 14808-60-7)	TWA	0.1 mg/m3	
Titanium dioxide (CAS 13463-67-7)	STEL	20 mg/m3	
	TWA	10 mg/m3	
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3	
Magnesium oxide (CAS 1309-48-4)	TWA	10 mg/m3	Fume.
Aluminum oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Iron oxide (CAS 1309-37-1)	STEL	10 mg/m3	
	TWA	5 mg/m3	

### Exposure guidelines

#### Canada - British Columbia OELs: Skin designation

Beryllium (CAS 7440-41-7) Can be absorbed through the skin.

#### Canada - Manitoba OELs: Skin designation

Beryllium (CAS 7440-41-7) Can be absorbed through the skin.

#### Canada - Ontario OELs: Skin designation

Beryllium (CAS 7440-41-7) Can be absorbed through the skin.

#### US ACGIH Threshold Limit Values: Skin designation

Beryllium (CAS 7440-41-7) Can be absorbed through the skin.

**Engineering controls** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

### Personal protective equipment

**Eye / face protection** Wear safety glasses with side shields. Use tight fitting goggles if dust is generated.

**Skin protection** Use protective gloves. Wear suitable protective clothing.

**Respiratory protection** Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

**General hygiene considerations** Wash hands after handling. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical & Chemical Properties

<b>Appearance</b>	Black granular solid.
<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Color</b>	Black.
<b>Odor</b>	Odorless.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Boiling point</b>	Not available.
<b>Melting point/Freezing point</b>	> 2500 °F (> 1371.11 °C)
<b>Solubility (water)</b>	Negligible.
<b>Specific gravity</b>	2.7
<b>Flash point</b>	Not available.
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	The product is stable and non reactive under normal conditions of use, storage and transport.
<b>Conditions to avoid</b>	None known.
<b>Incompatible materials</b>	Strong acids.
<b>Hazardous decomposition products</b>	None known.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.

## 11. Toxicological Information

### Toxicological data

Constituents	Species	Test Results
Cadmium (CAS 7440-43-9)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	0.025 mg/l, 900 Days
<i>Oral</i>		
LD50	Rat	225 mg/kg
Manganese (CAS 7439-96-5)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	9000 mg/kg

**Sensitization** Not a skin or respiratory sensitizer.

**Acute effects** Abrasive blasting agents may cause inflammation and pulmonary fibrosis. Ingestion of dusts generated during working operations may cause nausea and vomiting.

**Local effects** May cause eye, skin and respiratory tract irritation.

**Chronic effects** Frequent inhalation of fume/dust over a long period of time increases the risk of developing lung diseases.

**Carcinogenicity** Suspected of causing cancer.

#### ACGIH Carcinogens

Aluminum oxide (CAS 1344-28-1)	A4 Not classifiable as a human carcinogen.
Beryllium (CAS 7440-41-7)	A1 Confirmed human carcinogen.
Cadmium (CAS 7440-43-9)	A2 Suspected human carcinogen.
Iron oxide (CAS 1309-37-1)	A4 Not classifiable as a human carcinogen.
Magnesium oxide (CAS 1309-48-4)	A4 Not classifiable as a human carcinogen.
Manganese (CAS 7439-96-5)	A4 Not classifiable as a human carcinogen.
Silicon dioxide, crystalline (CAS 14808-60-7)	A2 Suspected human carcinogen.
Titanium dioxide (CAS 13463-67-7)	A4 Not classifiable as a human carcinogen.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Beryllium (CAS 7440-41-7)	1 Carcinogenic to humans.
Cadmium (CAS 7440-43-9)	1 Carcinogenic to humans.
Iron oxide (CAS 1309-37-1)	3 Not classifiable as to carcinogenicity to humans.
Silicon dioxide (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
Silicon dioxide, crystalline (CAS 14808-60-7)	1 Carcinogenic to humans.
Titanium dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

#### US NTP Report on Carcinogens: Known carcinogen

Beryllium (CAS 7440-41-7)	Known To Be Human Carcinogen.
Cadmium (CAS 7440-43-9)	Known To Be Human Carcinogen.
Silicon dioxide, crystalline (CAS 14808-60-7)	Known To Be Human Carcinogen.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Cadmium (CAS 7440-43-9)	Cancer
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**Mutagenicity** Not classified.

**Reproductive effects** Not classified.

**Symptoms and target organs** Irritation of nose and throat. Irritation of eyes and mucous membranes. May cause respiratory tract irritation. Shortness of breath.

## 12. Ecological Information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
<b>Persistence and degradability</b>	The product is not biodegradable.
<b>Bioaccumulation / Accumulation</b>	The product is not bioaccumulating.

## 13. Disposal Considerations

**Waste codes** The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

### US RCRA Hazardous Waste P List: Reference

Beryllium (CAS 7440-41-7) P015

**Disposal instructions** Dispose in accordance with all applicable regulations.

**Waste from residues / unused products** Dispose in accordance with all applicable regulations.

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport Information

### DOT

Not regulated as a hazardous material by DOT.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

### TDG

Not regulated as dangerous goods.

## 15. Regulatory Information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Beryllium (CAS 7440-41-7)

Cadmium (CAS 7440-43-9)

Manganese (CAS 7439-96-5)

### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Aluminum oxide (CAS 1344-28-1) 1.0 %

Beryllium (CAS 7440-41-7) 0.1 %

Cadmium (CAS 7440-43-9) 0.1 %

Manganese (CAS 7439-96-5) 1.0 %

### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Aluminum oxide (CAS 1344-28-1) Listed.

Beryllium (CAS 7440-41-7) Listed.

Cadmium (CAS 7440-43-9) Listed.

Manganese (CAS 7439-96-5) Listed.

### CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

None

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - No  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No



<b>Section 302 extremely hazardous substance (40 CFR 355, Appendix A)</b>	No
<b>SARA 311/312 Hazardous chemical</b>	Yes
<b>Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)</b>	Not controlled
<b>Canadian regulations</b>	This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
<b>WHMIS status</b>	Non-controlled

#### Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**State regulations** WARNING: This product contains chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

#### US - California Hazardous Substances (Director's): Listed substance

Aluminum oxide (CAS 1344-28-1)	Listed.
Beryllium (CAS 7440-41-7)	Listed.
Cadmium (CAS 7440-43-9)	Listed.
Calcium oxide (CAS 1305-78-8)	Listed.
Iron oxide (CAS 1309-37-1)	Listed.
Magnesium oxide (CAS 1309-48-4)	Listed.
Manganese (CAS 7439-96-5)	Listed.
Silicon dioxide (CAS 7631-86-9)	Listed.

#### US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Beryllium (CAS 7440-41-7)	Listed.
Cadmium (CAS 7440-43-9)	Listed.
Silicon dioxide, crystalline (CAS 14808-60-7)	Listed.
Titanium dioxide (CAS 13463-67-7)	Listed.

#### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Beryllium (CAS 7440-41-7)	Listed: October 1, 1987 Carcinogenic.
Cadmium (CAS 7440-43-9)	Listed: October 1, 1987 Carcinogenic.
Silicon dioxide, crystalline (CAS 14808-60-7)	Listed: October 1, 1988 Carcinogenic.
Titanium dioxide (CAS 13463-67-7)	Listed: September 2, 2011 Carcinogenic.

#### US - California Proposition 65 - CRT: Listed date/Developmental toxin

Cadmium (CAS 7440-43-9)	Listed: May 1, 1997 Developmental toxin.
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#### US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Cadmium (CAS 7440-43-9)	Listed: May 1, 1997 Male reproductive toxin.
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**US - New Jersey RTK - Substances: Listed substance**

Aluminum oxide (CAS 1344-28-1)	Listed.
Beryllium (CAS 7440-41-7)	Listed.
Cadmium (CAS 7440-43-9)	Listed.
Calcium oxide (CAS 1305-78-8)	Listed.
Iron oxide (CAS 1309-37-1)	Listed.
Magnesium oxide (CAS 1309-48-4)	Listed.
Manganese (CAS 7439-96-5)	Listed.
Potassium Oxide (CAS 12136-45-7)	Listed.
Silicon dioxide (CAS 7631-86-9)	Listed.
Silicon dioxide, crystalline (CAS 14808-60-7)	Listed.
Titanium dioxide (CAS 13463-67-7)	Listed.

**US - Pennsylvania RTK - Hazardous Substances: All compounds of this substance are considered environmental hazards**

Beryllium (CAS 7440-41-7)	LISTED
Cadmium (CAS 7440-43-9)	LISTED
Manganese (CAS 7439-96-5)	LISTED

**US - Pennsylvania RTK - Hazardous Substances: Special hazard**

Beryllium (CAS 7440-41-7)	Special hazard.
Cadmium (CAS 7440-43-9)	Special hazard.

**US. Massachusetts RTK - Substance List**

Aluminum oxide (CAS 1344-28-1)	Listed.
Beryllium (CAS 7440-41-7)	Listed.
Cadmium (CAS 7440-43-9)	Listed.
Calcium oxide (CAS 1305-78-8)	Listed.
Iron oxide (CAS 1309-37-1)	Listed.
Magnesium oxide (CAS 1309-48-4)	Listed.
Manganese (CAS 7439-96-5)	Listed.
Silicon dioxide (CAS 7631-86-9)	Listed.
Silicon dioxide, crystalline (CAS 14808-60-7)	Listed.
Titanium dioxide (CAS 13463-67-7)	Listed.

**US. New Jersey Worker and Community Right-to-Know Act**

Aluminum oxide (CAS 1344-28-1)	500 lbs
Beryllium (CAS 7440-41-7)	500 lbs
Cadmium (CAS 7440-43-9)	500 lbs
Manganese (CAS 7439-96-5)	500 lbs

**US. Pennsylvania RTK - Hazardous Substances**

Aluminum oxide (CAS 1344-28-1)	Listed.
Beryllium (CAS 7440-41-7)	Listed.
Cadmium (CAS 7440-43-9)	Listed.
Calcium oxide (CAS 1305-78-8)	Listed.
Iron oxide (CAS 1309-37-1)	Listed.
Magnesium oxide (CAS 1309-48-4)	Listed.
Manganese (CAS 7439-96-5)	Listed.
Silicon dioxide (CAS 7631-86-9)	Listed.
Silicon dioxide, crystalline (CAS 14808-60-7)	Listed.
Titanium dioxide (CAS 13463-67-7)	Listed.

**Mexico regulations**

This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).

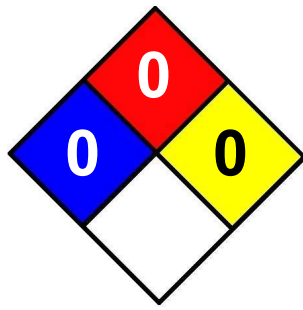
**16. Other Information****Further information**

HMIS® is a registered trade and service mark of the NPCA.  
A HMIS® Health rating including an \* indicates a chronic hazard.

**HMIS® ratings**

Health: 0  
Flammability: 0  
Physical hazard: 0

**NFPA Ratings**



**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.