



SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT IDENTIFIER

Black Iron Oxide

MANUFACTURER

Dynamic Color Solutions
2024 S Lenox St.
Milwaukee, WI 53207
www.dynamiccolorsolutions.com

CONTACT/TELEPHONE NUMBER

800-657-0737
414-769-2580

RECOMMENDED USE AND RESTRICTIONS ON USE

Used as a pigment in concrete and mortar applications. Used as a sand additive for metal casting. No restrictions on use.

SECTION 2: HAZARDS IDENTIFICATION

Hazard Classification

Physical Hazards

None

Health Hazards

Carcinogenicity - Category 1A, Known human carcinogen

Label Elements

Signal Word

DANGER

Pictograms



Hazard Statements

H350 May cause cancer (lung)
H372 Causes damage to organs (lungs) through prolonged or repeated inhalation exposure

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 exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, respiratory, eye and face protection.
P314	Get medical advice/attention if you feel unwell.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

All values are expressed as weight percent and are approximate. The percent composition reflects the range that is possible in this product.

Ingredient	CAS #	% in Product
Iron oxide (II, III)(Ferrous ferric oxide)	1317-61-9	97-100
Silica, crystalline (quartz)	14808-60-7	<2.5

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

Precautions

None known

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Eye Contact

Rinse eyes cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

Skin Contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most Important Symptoms and Effects, both Acute and Delayed

Inhalation: Particles may cause mechanical irritation. Long-term inhalation exposure to dusts containing respirable crystalline silica can cause silicosis and lung cancer.

Eye Contact: Particles may cause mechanical irritation.

Skin Contact: Particles may cause mechanical irritation.

Ingestion: No known significant effects or critical hazards.

Indication of Immediate Medical Attention and Special Treatment Needs

Not applicable.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Use an extinguishing agent suitable for the surrounding fire. In case of fire, use water spray (fog), foam or dry chemical powder.

Unsuitable extinguishing media

None known.

Hazardous Combustion Products

Decomposition products may include the following materials: metal oxides

Special Protective Measures for Fire Fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Unusual Fire and Explosion Hazards

None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear adequate personal protective equipment as indicated in Section 8. Isolate spill area, preventing entry by unauthorized persons. Do not breathe dusts.

Environmental Precautions

Avoid release into the environment. Keep out of sewers and waterways. Report spills as required by local and national regulations.

Methods and Material for Containment and Clean-up

Avoid dispersal of dust in the air. Carefully shovel or sweep up spilled material or vacuum dust with a HEPA vacuum and place in appropriate containers for reuse or disposal in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Obtain and follow special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation to control dust exposures below their applicable occupational exposure limits. Employee exposures should be assessed to determine what specific corrective actions and personal protective equipment may be needed when performing tasks that release dust or may result in skin and eye contact.

Even after hardening, respirable crystalline silica dust may be released if materials containing this product are cut, sawed, ground, buffed or polished. Dried product or dry materials containing this product may create airborne dust exposure during housekeeping activities such as dry sweeping, blowing, shoveling or brushing. Respirable particles may not be visible to the unaided eye. Use appropriate engineering and work practice controls to maintain airborne dust exposures below their applicable occupational exposure limits.

Do not eat, smoke or drink when handling this product. Wash hands after handling product. Keep in the original container or an approved alternative made from a compatible material and keep the container tightly closed when not in use.

Conditions for Safe Storage, Including Any Incompatibilities

Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials such as strong oxidizers, sources of heat, or near flammable or combustible materials. At temperatures greater than 176° F (80° C), this product may become unstable and slowly auto-oxidize into Fe₂O₃ (ferric oxide) which generates additional heat. Under certain conditions this heat may be sufficient to cause combustible materials to ignite.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limits

Ingredient	CAS #	FEDERAL OSHA PEL (mg/m ³)	ACGIH TLV® (mg/m ³)
Iron oxide (II, III)(Ferrous ferric oxide)	1317-61-9	15, 5 (R)* (TWA)	10 (I), 3 (R)** (TWA)
Silica, crystalline (quartz)	14808-60-7	0.05 (R) (TWA)	0.025 (R) (TWA)

* Considered by OSHA to be a PNOR-Particle Not Otherwise Regulated

** Considered to the ACGIH to be a Particle (insoluble or poorly soluble) Not Otherwise Specified (PNOS)

The following State OSHA Plans have adopted PELs that are different from Federal PELs listed above (all are expressed as TWAs and are for the total fraction of dust unless designated as the respirable fraction):

Particles Not Otherwise Regulated (PNORs): 10 mg/m³ (total)(TWA) and 5 mg/m³ (respirable)(TWA) (California, Oregon, Washington); 20 mg/m³ (total)(STEL) and 10 mg/m³ (respirable)(STEL) (Washington)

Exposure Limit Abbreviations

NE= None Established

ACGIH TLV= American Conference of Governmental Industrial Hygienists Threshold Limit Value®, 2016 Edition

OSHA PEL= Occupational Health and Safety Administration Permissible Exposure Limit

TWA= Time Weighted Average

C= Ceiling

STEL= Short Term Exposure Limit

mg/m³= milligram of substance per cubic meter of air

R= Respirable fraction of particulate

I= Inhalable fraction of particulate

Appropriate Engineering Controls

Avoid the generation of airborne dust. Industrial hygiene sampling should be conducted to determine what specific corrective actions are necessary. Respirable crystalline silica dust may be released if materials containing this product are cut, sawed, ground, buffed or polished. Dried product or dry materials containing this product may create airborne dust exposure during housekeeping activities such as dry sweeping, blowing,

shoveling or brushing. Respirable particles may not be visible to the unaided eye. Engineering controls such as process enclosures, isolation and exhaust ventilation should be used to control exposures to the listed ingredients below their applicable occupational exposure limits.

Personal Protective Equipment

Eye Protection

Wear safety glasses with side-shields if there is a risk of particles getting in eyes.

Skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory Protection

Respiratory protection may be necessary if the concentrations of the hazardous substances listed in the Table above exceed their applicable occupational exposure limits. For dust exposures, NIOSH approved respirators that offer protection from particle exposures should be used. Selection of a specific type of respirator should be based on the physical and chemical form of the substance and its concentration in the air. Protection provided by air purifying respirators is limited. The OSHA Respiratory Protection Standard (29 CFR 1910.134) should be consulted for further information about requirements for respirator selection and use.

Ingestion Exposure

Do not eat, smoke or drink when handling this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Appearance and Odor:	Solid, black material. Odorless.
Odor threshold	Not applicable
pH	4-8 for aqueous suspensions.
Melting Point:	>1, 000° C (>1,832° F)
Initial boiling point & boiling range	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not applicable
Flammability	Not applicable
Upper/Lower flammability or explosive limits	Not applicable
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Relative Density	4-5
Solubility in Water	Insoluble
Partition Coefficient:	Not applicable
Auto-Ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical Stability

Chemically stable under normal storage and handling conditions.

Possibility of Hazardous Reactions

None expected under normal storage and handling conditions.

Conditions to Avoid

Avoid contact with strong oxidizers and excessive heat.

Incompatible Materials

Strong oxidizers.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products are not expected to be produced. At temperatures greater than 176° F (80° C), this product may become unstable and slowly auto-oxidize into Fe₂O₃ (ferric oxide) which generates additional heat. Under certain conditions this heat may be sufficient to cause combustible materials to ignite.

SECTION 11: TOXICOLOGICAL INFORMATION

This product has not been tested as a mixture. Information provided is for component ingredients.

Acute Toxicity

The constituents do not meet the criteria to be classified in this category.

Skin Irritation

The constituents do not meet the criteria to be classified in this category.

Serious Eye Damage or Irritation

The constituents do not meet the criteria to be classified in this category. Particles may cause mechanical irritation.

Respiratory or Skin Sensitization

The constituents do not meet the criteria to be classified in this category.

Germ Cell Mutagenicity

The constituents do not meet the criteria to be classified in this category.

Carcinogenicity

Classified as a Carcinogen, Category 1 due to the presence of crystalline silica above 0.1% in the mixture. Respirable crystalline silica has the following carcinogen designations: IARC (International Agency for Research on Cancer) -Group 1 (Carcinogenic to humans); NTP (National Toxicology Program) -K (Known to be a Human Carcinogen); OSHA-Carcinogen. Prolonged exposure to respirable crystalline silica particles has been associated with an increased risk of lung cancer.

Reproductive Effects

The constituents do not meet the criteria to be classified in this category.

Specific Target Organ Toxicity-Single Exposure

The constituents do not meet the criteria to be classified in this category.

Specific Target Organ Toxicity-Repeated Exposure

Classified as Specific Target Organ Toxicity- Single Exposure, Category 1 due to the presence of crystalline silica. Prolonged inhalation of respirable crystalline silica may cause silicosis, a fibrotic lung disease. It has also been associated with adverse kidney and immune system effects. The extent and severity of lung injury correlates with the length of exposure and dust concentration. Individuals with silicosis are at increased risk to develop pulmonary tuberculosis if exposed to persons with active tuberculosis. Exposure to respirable

crystalline silica has also been associated with the increased incidence of kidney diseases and several autoimmune disorders including scleroderma, systemic lupus erythematosus and rheumatoid arthritis.

While not a factor in the classification, long-term exposure to high concentrations of dust containing iron oxides may cause a benign lung condition called "siderosis". This condition is not associated with any physical impairment of lung function.

Aspiration Hazard

Based on the physical form, the product is not expected to be an aspiration hazard.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

The product is not classified as environmentally hazardous. This does not, however, exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and Degradation

Not available

Bioaccumulation

Not available

Mobility in Soil

Not available

SECTION 13: DISPOSAL INFORMATION

Recover or recycle if possible. Dispose of according to federal, state and local regulations.

SECTION 14: TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)

Product is not regulated

International Maritime Dangerous Goods (IMDG)

Product is not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Product is not regulated

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

Product is not regulated

SECTION 15: REGULATORY INFORMATION

Other Regulatory Information

Substance	CAS #	CERCLA RQ (lbs)	Section 313	California Prop 65
Iron oxide (II, III)(ferrous ferric oxide)	1317-61-9	-	-	Not listed
Silica, crystalline (quartz) (airborne particles of respirable size)	14808-60-7	-	-	Carcinogen

CAS- Chemical Abstract Service- Registry Number

CERCLA RQ (reportable quantity)-- if a value is listed, then releases of particles, $\leq 100 \mu\text{m}$ in size, to the environment may require reporting under CERCLA Sections 102-103 (40 CFR Part 302)

Section 313 - if 'Yes' is listed then substance may be subject to the reporting requirements found under EPCRA Section 313 (40 CFR Part 372)

California Prop 65 - This product may contain chemical(s) known to the state of California to cause cancer and/or birth defects. These chemicals are listed in the table.

SECTION 16: OTHER INFORMATION

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This SDS is intended to be used as a guide to the appropriate handling, storage, and use of this product by an adequately trained person. This document has been prepared solely for the intent of compliance with the provisions of Subpart 2 of Part 1910 of Title 29 of the Code of Federal Regulations, paragraph 1910.1200. DYNAMIC COLOR SOLUTIONS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTIES OTHERWISE ARISING FROM COURSE OF DEALING OR TRADE.
