

MATERIAL SAFETY DATA SHEET

Product: Iron Oxide, Black
Revision Date: February 2001
Review Date: February 2001

I: COMPANY INFORMATION:

Distributor's Name/Agent: SERVICE CHEMICAL, INC.
Address: 2651 Penn Avenue Hatfield, PA 19440
Emergency Telephone No: 1(800)255-3924 (CHEMTEL)
Other Information Call: 215-362-0411

II: PRODUCT CLASSIFICATION:

PRODUCT NAME: Black Iron Oxide
CHEMICAL NAME: Iron Oxide
CHEMICAL FAMILY: Inorganic Metal Oxide
SYNONYMS: C.I. Pigment Black 11
FORMULA: Fe₃O₄
CAS NUMBER: 1317-61-9
TSCA STATUS: Chemical components in this product are listed on the TSCA list.

III: PHYSICAL PROPERTIES:

PHYSICAL FORM: Solid; Powder
COLOR: Black
ODOR: Odorless
BOILING POINT: Not applicable
MELTING POINT: Greater than 1832 F (1000 C)
SOLUBILITY IN WATER: Essentially insoluble
SPECIFIC GRAVITY: Approx. 4.6 @ 68 F
VAPOR PRESSURE: Not applicable
BULK DENSITY: 600 to 800 kg/m³ @ 68 F
PH: 4 to 8 @ 50 g/L water in aqueous suspension

IV: HAZARDOUS INGREDIENTS:

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>CONCENTRATION (%)</u>	<u>EXPOSURE LIMITS</u>
Silicon Dioxide	7631-86-9	Approx. 1%	TLV(ACGIH) 10.00mg/m ³ TWA PEL (OSHA) 80.00 mg/m ³ *

*Divide 80 mg/3 by the %SiO₂ determined from air sample analysis to obtain the PEL.

**Although no exposure limit has been established for this product, the OSHA-PEL for particulates (not otherwise regulated) of 15 mg.m³-total particulate, 5mg/m³-respirable particulate is recommended. In addition, the ACGIH-TLV for Particulates Not Otherwise Classified (PNOC) of 10mg/m³-inhalable particulate, 3mg/m³-respirable particulate is recommended.

V: FIRE AND EXPLOSION DATA:

FLASH POINT: N/A

AUTO-IGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS:

LEL: N/A

UEL: N/A

EXTINGUISHING MEDIA: Material is not combustible. Use extinguishing media suitable for other combustibles materials in the area.

SPECIAL FIRE FIGHTING PROCEDURES: None

VI: HUMAN HEALTH DATA:

ROUTE(S) OF ENTRY: Eye, Skin, Inhalation

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE EFFECTS: On the basis of Animal Toxicity Data, we would expect this product to be non-irritating to the eyes and skin and essentially non-toxic by ingestion. However, exposure to airborne dust may cause unpleasant deposits and mechanical irritation to the eyes and respiratory tract. Rigorous skin cleaning necessary for removal of dust can cause irritation.

CHRONIC EFFECTS OF EXPOSURE: Prolonged inhalation of amorphous silica may produce x-ray changes in the lungs without disability.

CARCINOGENICITY: IARC-not listed, NTP-not listed; OSHA-not listed.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known

VII: EMERGENCY AND FIRST AID PROCEDURES:

FIRST AID FOR EYES Flush eyes with plenty of water, lifting lids periodically for at least 15 minutes. Consult a physician if irritation persists.

FIRST AID FOR SKIN: Wash skin with soap and water.

FIRST AID FOR INHALATION: Remove from dusty area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

FIRST AID FOR INGESTION: Immediately contact a physician.

VIII: EMPLOYEE PROTECTION RECOMMENDATIONS:

EYE PROTECTION REQUIREMENTS: Safety glasses are recommended.

SKIN PROTECTION REQUIREMENTS: Rubber, cloth, or plastic gloves are recommended to reduce skin contact where appropriate for job condition.

RESPIRATORY REQUIREMENTS: Ambient concentrations in the work area should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved dust respirator should be worn.

VENTILATION REQUIREMENTS: Use local ventilation to maintain air levels below the recommended exposure limit if dusting is a problem.

ADDITIONAL PROTECTIVE MEASURES: Eye wash stations and washing facilities should be made available.

IX: REACTIVITY DATA:

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITIES: None known

INSTABILITY CONDITIONS: Excessive temperatures. At temperatures greater than 176 F (80 C), product may become unstable and auto-oxidize into Fe₂O₃

DECOMPOSITION TEMPERATURE: Greater than 176 F (80 C)

DECOMPOSITION PRODUCTS: None known

X: SPILL AND LEAK PROCEDURES:

SPILL OR LEAK PROCEDURES: Vacuum or scoop material into an appropriately marked container for reclamation or disposal. Avoid excessive generation of dust. If dust is generated, use appropriate respiratory protection.

WASTE DISPOSAL METHOD: Material which cannot be recycled into your process should be land filled in accordance with local, state, and federal regulations.

XI: SPECIAL PRECAUTIONS & STORAGE DATA:

STORAGE TEMPERATURE (MIN/MAX) Ambient/Ambient

SHELF LIFE: Indefinite when store properly (in tightly closed containers)

SPECIAL SENSITIVITY: Temperatures greater than 176 F (80 C). Exposure to excessive heat may cause this product to become unstable (slowly auto oxidizes) which generates additional heat. Under certain conditions this heat may be sufficient to cause combustible materials to ignite. Do not store near sources of heat (furnaces, kilns, boilers, etc.)

HANDLING/STORAGE PRECAUTIONS: Store dry at ambient temperature away from food and beverages. Avoid breathing dust. Avoid contact with eyes and skin. Wash thoroughly after handling. Do not store near strong oxidizers, sources of heat, or near flammable or combustible materials.

XII: SHIPPING INFORMATION:

PROPER SHIPPING NAME: Iron Oxide, Black

Not a DOT regulated material.

XIII: TOXICITY DATA:

ACUTE TOXICITY: Oral LD50.....: Greater than 5000 mg/kg (Rat)

Eye Effects.....: Non irritating to rabbit eyes

Skin Effects.....: Non irritating to rabbit skin

AQUATIC TOXICITY: LCo: Greater than 1000 mg/l Golden Orfe

XIV: FEDERAL REGULATORY INFORMATION:

RCRA STATUS: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

CALIFORNIA PROPOSITION 65: This product contains material which the State of California has found to cause cancer, birth defects or other reproductive harm.

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200

TSCA STATUS: Chemical components of this product are listed on the TSCA list.

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

<u>Component Name/ CAS Number</u>	<u>Concentration</u>	<u>State Code</u>
Iron Oxide (Fe ₃ O ₄ – C.I. Pigment Black 11) – may also be described by CAS# 12227-89-3 1317-61-9	Approx. 99%	PA3, NJ4
Silicon Dioxide (Amorphous) 7631-86-9	Approx. 1%	PA1, MA, NJ1
Arsenic 7440-38-2	Max 50 ppm*	CA3, MA
Nickel 7440-02-0	Max 300 ppm*	CA1, MA
Lead 7439-92-1	Max 10 ppm*	CA3

CA1 = Warning! This chemical is known to the State of California to cause cancer.

CA3 = Warning! This chemical is known to the State of California to cause cancer and birth defects or other reproductive harm.

MA = Massachusetts Hazardous Substance List

NJ1 = New Jersey Hazardous Substance List.

NJ4 = New Jersey Other-included in 5 predominant ingredients > 1%

PA1 = Pennsylvania Hazardous Substance List

PA3 = Pennsylvania Non-Hazardous present at 3% or greater.

*Please note that these were random sample analysis and content may vary from batch to batch.

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