

MATERIAL SAFETY DATA SHEET



LANXESS, Inc.
1265 Vidal Street South
Sarnia, Ontario, N7T 7M2
Canada

TRANSPORTATION EMERGENCY

CALL CANUTEC: (613) 996-6666
INTERNATIONAL: (703) 527-3887

NON-TRANSPORTATION

LANXESS Emergency Phone: (519) 337-1907
LANXESS Information Phone: (800)LANXESS

1. Product and Company Identification

Product Name: BAYFERROX 140M
Material Number: 56546425
Chemical Family: Inorganic Metal Oxide
Color Index Name: Pigment Red 101
Product Use: Inorganic pigment
Formula: Fe₂O₃

2. Hazards Identification

Emergency Overview

Color: Red **Form:** solid Powder **Odor:** Odorless.
Product poses little or no hazard if spilled. May cause mechanical irritation (abrasion).
May cause lung damage.

Potential Health Effects

Primary Routes of Entry: Inhalation, Skin Contact, Eye Contact, Ingestion

Medical Conditions Aggravated by Exposure: Respiratory disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation

Acute Inhalation

For Component: Iron (III) Oxide

May cause mechanical irritation.

For Component: Amorphous Silica

May cause mechanical irritation.

Chronic Inhalation**For Component: Amorphous Silica**

Prolonged inhalation of amorphous silica may produce x-ray changes in the lungs without disability.

Skin**Acute Skin****For Component: Iron (III) Oxide**

May cause mechanical irritation.

Eye**Acute Eye****For Component: Iron (III) Oxide**

May cause mechanical irritation.

For Component: Amorphous Silica

May cause mechanical irritation.

Other Effects of Exposure**For Component: Iron (III) Oxide**

Prolonged inhalation (6 to 10 years) of iron oxide fume has been reported to produce changes in lung x-rays of exposed individuals. This condition, siderosis, is considered to be a benign pneumoconiosis that exhibits no adverse health effects. Siderosis has been observed among occupations such as arc-welders where iron oxide fumes are present. To the best of our knowledge, this condition has not been observed after prolonged exposure to iron oxide pigments.

Carcinogenicity:

No Carcinogenic substances as defined by IARC, NTP, OSHA and/or ACGIH.

3. Composition/Information on Ingredients**Hazardous Components**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
>=95%	Iron (III) Oxide	1309-37-1
3 - 7%	Amorphous Silica	7631-86-9

4. First Aid Measures**Eye Contact**

In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops.

Skin Contact

In case of skin contact, wash affected areas with soap and water.

Inhalation

If inhaled, remove to fresh air. Get medical attention if irritation develops.

Ingestion

If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

5. Fire-Fighting Measures

Conditions of Flammability Not Available

Suitable Extinguishing Media: Material is not combustible. Use extinguishing media suitable for other combustible materials in the area.

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

Unusual Fire/Explosion Hazards Not Available

Flash Point: not applicable

Lower Flammable Limit: Not Available

Upper Flammable Limit: Not Available

Autoignition Temperature: Not Applicable

Hazardous Combustion Products

None known.

Sensitivity to Mechanical Impact Not Available

Sensitivity to Static Discharge Not Available

6. Accidental release measures

Spill and Leak Procedures

Spills should be swept up and placed in appropriate containers for disposal. Clean up promptly by scoop or vacuum. Avoid creating dusty conditions.

7. Handling and Storage

Storage Period

If stored under the correct conditions (no climatic influence, kept dry and no extreme fluctuations in temperature) we expect that our products would have a shelf life of 5 years provided, however, the material has been stored correctly and the packaging materials remain unchanged.

Handling/Storage Precautions

Protect against weathering. Store in a dry place and avoid extreme fluctuations in temperature. Special conditions for opened packaging: Close bags after use to prevent the absorption of moisture and contamination.

Further Info on Storage Conditions

Material can be stored safely at ambient temperatures.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

Iron (III) Oxide (1309-37-1)

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

PEL: 10 mg/m³ (Fume.)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 5 mg/m³ (Respirable fraction.)

US. ACGIH Threshold Limit Values

Hazard Designation: Group A4 Not classifiable as a human carcinogen.

Amorphous Silica (7631-86-9)

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

Time Weighted Average (TWA): 20 millions of particles per cubic foot of air

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

Time Weighted Average (TWA): 0.8 mg/m³ The exposure limit is calculated from the equation, 80/(%SiO₂), using a value of 100% SiO₂. Lower values of % SiO₂ will give higher exposure limits.

Industrial Hygiene/Ventilation Measures

Under normal conditions of use, special ventilation is not required.

Respiratory Protection

The following respirator is recommended if airborne concentrations exceed the appropriate standard/guideline., NIOSH approved, air-purifying particulate respirator with N-95 filters.

Eye Protection

safety glasses.

Skin and body protection

No special skin protection requirements during normal handling and use.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

9. Physical and chemical properties

Form:	solid
Appearance:	Powder
Color:	Red
Odor:	Odorless
Odor Threshold:	Not Available
pH:	4 - 8 @ 50 g/l
Freezing Point:	Begins at 1,000 °C (1,832 °F)
Boiling Point/Range	Not Available
Evaporation Rate	Not Available
Vapor Pressure:	not applicable
Vapor Density:	Not Available
Specific Gravity:	4 - 5 @ 20 °C (68 °F)
Solubility in Water:	Insoluble
Partition Coefficient (n-octanol/water)	Not Available
Viscosity, Dynamic:	not applicable

Bulk Density: 300 - 1,000 kg/m³

10. Stability and Reactivity

Hazardous Reactions

Hazardous polymerization does not occur.

Stability

Stable

Materials to avoid

None known.

Hazardous decomposition products

None known.

11. Toxicological Information

Toxicity Data for Iron (III) Oxide

Acute Oral Toxicity

LD50: > 5,000 mg/kg (Rat)

Acute dermal toxicity

LD50: 5,500 mg/kg (Rat)

Skin Irritation

rabbit, Acute Dermal Irritation, Exposure Time: 24 hrs, Non-irritating

Eye Irritation

rabbit, Acute Eye Irritation Study, Non-irritating

Toxicity Data for Amorphous Silica

Acute Oral Toxicity

LD50: > 5,000 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: > 2.2 mg/l, 1 hrs (Rat)

LC0: >2080 mg/m³, 4 h (Rat, Male/Female)

Acute dermal toxicity

LD50: > 5,000 mg/kg (rabbit)

LD50: > 2,000 mg/kg (rabbit)

Skin Irritation

rabbit, Non-irritating

Eye Irritation

rabbit, Non-irritating

Sensitization

dermal: non-sensitizer (Guinea pig, Magnusson/Kligmann (Maximization Test))

Repeated Dose Toxicity

90 Days, inhalation: NOAEL: < 0.001 mg/l, (Rat)

oral: NOAEL: 8,980 mg/kg, (Rat)
inhalation: NOAEL: 5 mg/m³, (Rat, Male/Female, 6 hrs/day 5 days/week)
13 weeks, inhalation: NOAEL: 1.3 mg/m³, (Rat,)

Mutagenicity

Genetic Toxicity in Vitro:
Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)
Chromosome aberration test: negative (other bacteria, Metabolic Activation: with/without)
Chromosome aberration test: negative (other mammalian cell line, Metabolic Activation: with/without)
Genetic Toxicity in Vivo:
Cytogenetic assay: negative (Rat)

Carcinogenicity

Rat, Male/Female, oral, 2 Years, daily
negative

Toxicity to Reproduction/Fertility

Other method, oral, daily, (Rat)
No effects on Reproductive parameters observed at doses tested.

12. Ecological Information

Ecological Data for Iron (III) Oxide

Acute and Prolonged Toxicity to Fish

LC0: > 1,000 mg/l (Golden orfe (Leuciscus idus), 48 hrs)

Toxicity to Microorganisms

EC0: > 5,000 mg/l, (Pseudomonas fluorescens, 24 hrs)

Toxicity Other Non-Mammal Terrestrial Species

No Harmful effects

Ecological Data for Amorphous Silica

Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulation

Not expected to bio-accumulate.

Acute and Prolonged Toxicity to Fish

LC50: 5,000 mg/l (Zebra fish (Brachydanio rerio), 96 hrs)

Calculated value

LC50: > 10,000 mg/l (Zebra barbel (Danio rerio), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC0: 10,000 mg/l (Water flea (Daphnia magna), 24 hrs)

EC50: 7,600 mg/l (Ceriodaphnia sp, 48 hrs)

Calculated value

Toxicity to Aquatic Plants

EC50: 440 mg/l, End Point: growth (Green algae (Selastrum capricornutum), 72 hrs)

Toxicity to Microorganisms

EC50: 8,700 mg/l, (Photobacterium phosphoreum, 15 min)

13. Disposal considerations

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state, provincial, and/or local environmental control laws.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations.

14. Transport information

Land transport (TDG)

Non-Regulated

Sea transport (IMDG)

Non-Regulated

Air transport (ICAO/IATA)

Non-Regulated

15. Regulatory Information

CEPA Status: All components of this product are on the Canadian DSL list.

WHMIS Classification:
D2B



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

United States Federal Regulations

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

NFPA 704M Rating

Health	1
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Flammability	0
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	1*
Flammability	0
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

* = Chronic Health Hazard

LANXESS, Inc.'s method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS, Inc. as a customer service.

16. Other Information

MSDS Preparer: Product Safety Department
 Telephone: (800) LANXESS
 MSDS Number: R304530
 Date of Preparation: 07/31/2009
 Report Version: 4.2

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