LANXESS
Energizing Chemistry

Iron Oxide (Fe_3O_4)

This document provides a brief description of Iron Oxide, its uses, and the potential hazards associated with short and long term exposure. Environmental impact information for accidental releases is included. This information is general in nature and is not intended as a replacement for the safety data sheet (SDS), product label and other safe handling literature. For additional information consult the LANXESS safety data sheet.

Identification

Product Name:	Iron Oxide
Chemical Name:	Iron Oxide
Synonym(s):	Black Iron Oxide Ferrosoferric Oxide Iron Ferroso Ferric Magnetite
CAS Number:	1317-61-9

Description

Overview:	Iron Oxide is an odorless black powder at ambient temperatures.	
Uses:	Iron Oxide is used as a pigment or color additive in a wide range of products including plastics, rubbers, paints and coatings, printing inks and toners, papers, asphalt roofing and concrete products.	
Properties:	**Melting Point:**	>1,832°F (1,000°C)
	Solubility in Water:	Insoluble

Potential Human Health Effects

Occupational Exposure

Potential for inhalation, skin or eye contact exists during maintenance and mixing operations and at transloading, storage and staging areas. A much lower potential for exposure exists in facilities using Iron Oxide in closed manufacturing processes by trained personnel.

Employee Training

Workers handling Iron Oxide are trained to implement proper handling procedures. A NIOSH approved air-purifying particulate respirator with N-95 filters is recommended for transloading, unloading and other operations not contained within a closed system. In addition, LANXESS recommends that safety glasses be worn when handling Iron Oxide.

Consumer Exposure

LANXESS does not sell this product to the general public. Iron Oxide occurs naturally in the environment. Consumers handling products manufactured with Iron Oxide as a pigment or color additive may be exposed to trace amounts of the inorganic chemical.

Short-Term Health Effects

Airborne Iron Oxide dust may cause eye and/or respiratory tract irritation from mechanical abrasion.

Long-Term Health Effects

Repeated or prolonged inhalation of Iron Oxide dust may cause lung damage.

Physical Hazards

Iron Oxide is stable under normal storage conditions. Temperatures greater than 176°F (80°C) may cause the product to become unstable and to slowly auto-oxidize into Iron (III) oxide, which generates additional heat. Avoid storing Iron Oxide near furnaces, kilns, boilers and other possible heat sources. Avoid strong oxidizing agents. Do not store Iron Oxide near combustible materials.

Potential Environmental Impact

Iron Oxide is chemically inert and is not classified as a hazardous substance by the U.S. Occupational Safety and Health Administration (OSHA) or the U.S. Environmental Protection Agency (EPA). The product is non-volatile, insoluble in water and naturally occurring. An accidental release (spill) would not be expected to pose a danger to the environment.

Conclusion

Under normal conditions of anticipated use as described in this Product Safety Assessment and if the recommended safe use and handling procedures are followed, Iron Oxide is not expected to pose a significant risk to human health or the environment.

References

Safety Data Sheet (SDS), BAYFERROX 318M, LANXESS Corporation

MedlinePlus Medical Encyclopedia, U.S. National Library of Medicine and the National Institutes of Health

Contact Information

LANXESS Corporation, Product Safety & Regulatory Affairs, 111 RIDC Park West Drive, Pittsburgh, PA 15275-1112, USA, Phone 1-800-526-9377 [1-800-LANXESS]

Notices

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