SECTION 1. IDENTIFICATION

Product name : BAYFERROX 303T
Material number : 00245992
Chemical family : inorganic
Recommended use : Colorants (pigments and dyestuffs), inorganic

Manufacturer or supplier’s details
Supplier : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh PA 15275-1112
USA
Telephone : +1800LANXESS
+14128091000 (international)
Emergency telephone : CHEMTREC (800) 424 9300
International (703) 527 3887
Lanxess Emergency Phone (800) 410-3063

SECTION 2. HAZARDS IDENTIFICATION

Specific target organ systemic toxicity - repeated exposure (Inhalation) : Category 2 (Central nervous system)

GHS label elements
Hazard pictograms : 

Signal Word : Warning
Hazard Statements : May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
Precautionary Statements : Prevention:
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Response:
Get medical advice/ attention if you feel unwell.
Disposal:
Dispose of contents/container to an approved waste disposal plant.

Hazard Not Otherwise Classified (HNOC)
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance</td>
<td>Not Assigned</td>
<td></td>
</tr>
<tr>
<td>Manganese Ferrite Spinel</td>
<td>68186-94-7</td>
<td>&gt;= 90 - &lt;= 100</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

If inhaled: Move to fresh air. Get medical attention if symptoms occur.

In case of skin contact: Wash off with plenty of water. Continue to rinse for at least 10 minutes. Wash contaminated clothing before re-use.
Flush skin with large amounts of water. If irritation develops and persists, get medical attention. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Wash clothing before reuse.

In case of eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. If easy to do, remove contact lens, if worn. Continue to rinse for at least 10 minutes. Get medical attention if symptoms appear.

If swallowed: Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

Symptoms: Skin: May cause irritation with symptoms of reddening and itching.
Eye: May cause irritation with symptoms of reddening, tearing and stinging.

Effects: May cause mechanical irritation (abrasion).
May cause damage to organs through prolonged or repeated
exposure if inhaled.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO₂.

Unsuitable extinguishing media : None known.

Specific hazards during fire fighting : No information available.

Hazardous combustion products : The product itself does not burn.

Further information : Standard procedure for chemical fires. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Avoid breathing dust. Use personal protective equipment. Avoid dust formation.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods and materials for containment and cleaning up : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of wastes in an approved waste disposal facility.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.

Workers should wash hands and face before eating, drinking and smoking.

Conditions for safe storage:
- Store in accordance with local regulations.
- Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability:
- No decomposition if stored and applied as directed.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese Ferrite Spinel</td>
<td>68186-94-7</td>
<td>C</td>
<td>$5 \text{ mg/m}^3$ (Manganese)</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable fraction)</td>
<td>$0.1 \text{ mg/m}^3$ (Manganese)</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>$0.02 \text{ mg/m}^3$ (Manganese)</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

#### Engineering measures
- Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Personal protective equipment

- **Respiratory protection**: Dust-protection mask if there is a risk of dust formation.
- **Hand protection**: Gloves
- **Eye protection**: Safety glasses with side-shields
- **Skin and body protection**: Wear suitable protective clothing.
- **Hygiene measures**: General industrial hygiene practice. When using do not eat, drink or smoke. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reusing.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : solid
Appearance : powder
Color : black
Odor : odorless
Odor Threshold : No data available
pH : 4 - 8
Concentration: 5 %
Melting point/range : > 1,832 °F (> 1,000 °C)
Boiling point/boiling range : No data available
Flash point : No data available
Evaporation rate : No data available
Flammability (solid, gas) : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit : No data available
Vapor pressure : No data available
Relative vapor density : No data available
Relative density : No data available
Density : 4.8 g/cm³ (68 °F (20 °C))
Bulk density : 300 - 1,000 kg/m³
Solubility(ies)
Water solubility : insoluble
Partition coefficient: n-octanol/water : No data available
Ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : No data available
Explosive properties : No data available
Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No specific test data related to reactivity available for this product or its ingredients.
Chemical stability : The product is chemically stable.
Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.
Conditions to avoid : No specific data.
Incompatible materials : No specific data.
Hazardous decomposition products : No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

The most important known symptoms and effects are described in Section 2 and/or Section 4.

Information on likely routes of exposure
Inhalation
Eye contact
Skin contact

Acute toxicity
Not classified based on available information.

Components:

Manganese Ferrite Spinel:
Acute oral toxicity : LD50 (Rat, male): > 10,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Components:

Manganese Ferrite Spinel:
Result: No skin irritation

Serious eye damage/eye irritation
Not classified based on available information.
Components:

Manganese Ferrite Spinel:
Result: No eye irritation

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Components:

Manganese Ferrite Spinel:
Result: Not a skin sensitizer.

Germ cell mutagenicity
Not classified based on available information.

Components:

Manganese Ferrite Spinel:
Genotoxicity in vitro
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
Remarks: Test results on an analogous product

Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes
Remarks: Test results on an analogous product

Carcinogenicity
Not classified based on available information.

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.
NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

Components:
Manganese Ferrite Spinel:
Routes of exposure: Inhalation
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:
Manganese Ferrite Spinel:
Species: Rat, male
NOAEL: 10.1 mg/m³
Application Route: Inhalation
Test atmosphere: dust/mist
Exposure time: 6 h 28 d
Number of exposures: daily
Method: OECD Test Guideline 412
GLP: yes
Remarks: Subacute toxicity

Species: Rat, male and female
NOAEL: 4.7 mg/m³
Application Route: Inhalation
Test atmosphere: dust/mist
Exposure time: 6 h 91 d
Number of exposures: daily
Method: OECD Test Guideline 413
GLP: yes
Remarks: Subchronic toxicity

Aspiration toxicity
Not classified based on available information.
SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Manganese Ferrite Spinel:

Toxicity to fish: LC50 (Danio rerio (zebra fish)): >= 100,000 mg/l
Exposure time: 96 h
GLP: no
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): >= 10,000 mg/l
Exposure time: 48 h
GLP: no
Remarks: Fresh water

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (microalgae)): > 100 mg/l
Exposure time: 72 h
Remarks: Fresh water

Toxicity to microorganisms: EC50 (activated sludge): >= 10,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Fresh water

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:

Additional ecological information: Ecotoxicological data are not available.
No known significant effects or critical hazards.

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA - Resource Conservation and Recovery Authorization Act:
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)
Disposal methods: The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Empty containers retain product residue; observe all precautions for product. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

SECTION 14. TRANSPORT INFORMATION

Domestic regulation

DOT
Not regulated as a dangerous good

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

SECTION 15. REGULATORY INFORMATION

CERCLA
None

Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards: Specific target organ toxicity (single or repeated exposure)

SARA 313
The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
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<th>CAS-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese Ferrite Spinel</td>
<td>68186-94-7</td>
<td>90 - 100 %</td>
</tr>
</tbody>
</table>
US State Regulations

Massachusetts Right To Know
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know
Manganese Ferrite Spinel 68186-94-7 > 99

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive defects.
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive defects.
Potential exposure to some or all of the California Proposition 65 chemicals in this product have been determined to be below the No Significant Risk Level (NSRL).

TSCA inventory
TSCA : On TSCA Inventory

TSCA list
No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA: Flammability Health Instability

HMIS® IV:

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH</td>
<td>/ 0</td>
</tr>
<tr>
<td>FLAMMABILITY</td>
<td>0</td>
</tr>
<tr>
<td>PHYSICAL HAZARD</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "∗" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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

Revision Date : 05/31/2019
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