according to Regulation (EC) No. 1907/2006 and all subsequent amendments



BAYFERROX 105 M

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : BAYFERROX 105 M

Product code : 00000000000672009

Note : This substance/ mixture contains nanoforms (according to

REACH Regulation)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub: Colorants (pigments and dyestuffs), inorganic

stance/Mixture

1.3 Details of the supplier of the safety data sheet

Company : LANXESS Deutschland GmbH

Production, Technology, Safety & Environment 51369 Leverkusen, Germany

Responsible Department : +49 221 8885 2288

infosds@lanxess.com

1.4 Emergency telephone number

Emergency telephone number : For 24/7 multilingual emergency please call

CHEMTREC EMEA: +44 20 3885 0382 and mention CCN

1001748.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

according to Regulation (EC) No. 1907/2006 and all subsequent amendments



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2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical nature : Fe2O3

Components

Remarks : No hazardous ingredients that meet the criteria for health or

environmental hazards according to the regulatory framework

for this safety data sheet.

This substance/ mixture contains nanoforms (according to REACH Regulation)

Components:

diiron trioxide:

Particle characteristics

Particle Size Distribution : $D10 = 35 \text{ nm} \pm 15 \text{ nm}$

 $D50 = 85 \text{ nm} \pm 15 \text{ nm}$ $D90 = 160 \text{ nm} \pm 40 \text{ nm}$

Type of distribution: number distribution

Specific surface area : $14 \text{ m2/cm3} \pm 6 \text{ m2/cm3}$

Measurement technique: Brunauer, Emmett and Teller (BET)

method using Nitrogen

Assessment : This substance/ mixture contains nanoforms (according to

REACH Regulation)

based on: Measurement data

Shape : spheres

Surface treatment : Surface treatment: No

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/Coatings

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Consult a physician.

Do not leave the victim unattended. Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

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

suitable training.

If inhaled : Remove victim to fresh air and keep at rest in a position com-

fortable for breathing.

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained per-

sonnel.

If unconscious, place in recovery position and get medical

attention immediately. Maintain open airway.

Loosen tight clothing such as a collar, tie, belt or waistband.

If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and water.

Get medical attention if symptoms occur.

In case of eye contact : Immediately flush eye(s) with plenty of water.

Remove contact lenses.

Get medical attention if symptoms appear.

If swallowed : Rinse mouth with water.

Do NOT induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : See Section 11 for more detailed information on health effects

and symptoms.

Risks : See Section 11 for more detailed information on health effects

and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

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

 CO_2 .

Unsuitable extinguishing

media

None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod: :

ucts

Metal oxides Sulphur oxides

5.3 Advice for firefighters

Special protective equipment:

for firefighters

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Fire-fighters should wear appropriate protective equipment

and self-contained breathing apparatus (SCBA) with a full

face-piece operated in positive pressure mode.

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.

No action shall be taken involving any personal risk or without

suitable training.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without Personal precautions

suitable training.

Keep unnecessary and unprotected personnel from entering.

Do not touch or walk through spilt material.

Avoid breathing dust.

Provide adequate ventilation.

Avoid dust formation.

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In case of inadequate ventilation wear respiratory protection.

Use personal protective equipment.

according to Regulation (EC) No. 1907/2006 and all subsequent amendments



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6.2 Environmental precautions

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with

soil, waterways, drains and sewers.

If the product contaminates rivers and lakes or drains inform

respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Pick up and arrange disposal without creating dust.

Sweep up and shovel.

Keep in suitable, closed containers for disposal.

Move containers from spill area. Stop leak if safe to do so.

Dispose of wastes in an approved waste disposal facility.

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.

Avoid contact with skin and eyes.

Provide sufficient air exchange and/or exhaust in work rooms. In case of insufficient ventilation, wear suitable respiratory

equipment.

Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in

use.

Dispose of rinse water in accordance with local and national

regulations.

Advice on protection against

fire and explosion

Provide appropriate exhaust ventilation at places where dust

is formed.

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. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

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. Containers that have been opened must be carefully resealed and kept upright to prevent

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leakage. Electrical installations / working materials must com-

ply with the technological safety standards.

Advice on common storage : No materials to be especially mentioned.

Storage class (TRGS 510) : 13, Non Combustible Solids

Further information on stor-

age stability

Keep in a dry place.

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Occupational Exposure Limits

Dust 10 mg/m3

Peak-limit: excursion factor (category): 2; II

Value type (Form of exposure): AGW (Inhalable fraction)

Basis: DE TRGS 900

Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn

child

1,25 mg/m3

Peak-limit: excursion factor (category): 2; II

Value type (Form of exposure): AGW (Alveolate fraction)

Basis: DE TRGS 900

Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn

child

8.2 Exposure controls

Engineering measures

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166

Hand protection

Material : Leather gloves

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Wearing time : < 60 min

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations

Skin and body protection : Impervious clothing

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the spe-

cific work-place.

Additional body garments should be used (e.g. sleevelets, apron, disposable suit etc.), based on the task being per-

formed.

Respiratory protection : Dust-protection mask if there is a risk of dust formation.

Filter type : P1 filter

Environmental exposure controls

Water : The product should not be allowed to enter drains, water

courses or the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : powder

Physical state : solid

Colour : red

Odour : odourless

Odour Threshold : No data available

Melting point/ range : > 1.000 °C

Boiling point/boiling range : No data available

Flammability : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

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Flash point : Not applicable

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Ignition temperature : No data available

Decomposition temperature : No data available

pH : 5-8

Concentration: 5 %

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : insoluble

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Vapour pressure : Not applicable

Relative density : No data available

Density : 5 g/cm3 (20 °C)

Relative vapour density : No data available

Particle characteristics

Assessment : This substance/ mixture contains nanoforms (according to

REACH Regulation)

Particle size : Further particle properties for nanomaterials see section 3

9.2 Other information

Explosives : No data available

Oxidizing properties : No data available

Flammable solids

Burning number : No data available

Self-ignition : No data available

Evaporation rate : No data available

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Miscibility with water : immiscible

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

Dust can form an explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : No specific data.

10.5 Incompatible materials

Materials to avoid : No specific data.

10.6 Hazardous decomposition products

Hazardous decomposition

products

: No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of : Inhalation

exposure Eye contact

Skin contact

Acute toxicity

Not classified due to lack of data.

Product:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Remarks: Test results on an analogous substance/product.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

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Product:

Result : No skin irritation

Remarks : Test results on an analogous substance/product.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Result : No eye irritation

Remarks : Test results on an analogous substance/product.

Respiratory or skin sensitisation

Skin sensitisation

Not classified due to lack of data.

Respiratory sensitisation

Not classified due to lack of data.

Germ cell mutagenicity

Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

Reproductive toxicity

Not classified due to lack of data.

STOT - single exposure

Not classified due to lack of data.

STOT - repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Product:

Remarks : Long-term exposure to high concentrations of dust containing

iron oxide can cause a benign condition termed "pulmonary siderosis". This condition is not associated with any physical

impairment of lung function.

Aspiration toxicity

Not classified due to lack of data.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

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Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

Further information

Product:

Remarks : According to our experience and information the product has

no harmful effects on health if properly handled.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 1.000 mg/l

Exposure time: 48 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

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12.7 Other adverse effects

Product:

Additional ecological infor-

mation

Ecotoxicological data are not available.

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The generation of waste should be avoided or minimised

wherever possible.

Where possible recycling is preferred to disposal or incinera-

tion.

Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled ac-

cording to relevant national and local regulations.

When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be

caused by residues.

Wastedisposal should be in accordance with existing federal

state, provincial and or local environmental controls

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

The product should not be allowed to enter drains, water

courses or the soil.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.2 UN proper shipping name

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good

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IMDG : Not regulated as a dangerous goodIATA : Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.4 Packing group

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA (Cargo) : Not regulated as a dangerous good
IATA (Passenger) : Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Hazard and Handling Notes. : Not dangerous cargo.

Keep separated from foodstuffs.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on

the market and use of certain dangerous substances,

mixtures and articles (Annex XVII)

: Not applicable

International Chemical Weapons Convention (CWC)

Schedules of Toxic Chemicals and Precursors

: Not applicable

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

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This product does not contain substances of very high concern (Regu-

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lation (EC) No 1907/2006 (REACH),

Article 57).

Regulation (EC) on substances that deplete the ozone

layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollu-

tants (recast)

Not applicable

Council Regulation (EC) No 111/2005 laying down rules : for the monitoring of trade between the Community and

third countries in drug precursors.

Neither banned nor restricted

Council Regulation (EC) No 273/2004 on drug precur-

sors

: Not applicable

Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import

of dangerous chemicals

Not applicable

REACH - List of substances subject to authorisation

(Annex XIV)

: Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

Water hazard class (Germa- : nwg

nwg not water endangering

ny) Code Number: 800

Classification according to AwSV, Annex 1 (5)

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of other abbreviations

DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.

DE TRGS 900 / AGW : Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by

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Road: AIIC - Australian Inventory of Industrial Chemicals: ASTM - American Society for the Testing of Materials; bw - Body weight: CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance: PICCS - Philippines Inventory of Chemicals and Chemical Substances: (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered to be a guidance for processing and does not contain any warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Relevant changes from the previous version are marked on the left side of the Safety Data Sheet with a black double bar in appropriate places.