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

1.1 Product identifier

GEH® 101, GEH® 102, GEH® 103, GEH® 104, GEH® 105, GEH®-FK
\( \mu \)-GEH®

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

1.2.1 Relevant uses

Chemical raw material / Water treatment

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company
GEH Wasserchemie GmbH & Co. KG
Adolf-Köhne-Straße 4
49090 Osnabrück / GERMANY
Phone +49 (0) 541-122009
Fax +49 (0) 541-1811990
Homepage www.geh-wasserchemie.de
E-mail info@geh-wasserchemie.de

Address enquiries to
Technical information info@geh-wasserchemie.de
Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Company +49 (0) 541-122009 Mo-Fr 9:00 - 17:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

No classification.

2.2 Label elements

The product does not require a hazard warning label in accordance with regulation CLP.

Hazard pictograms
none

Hazard statements
none

2.3 Other hazards

Human health dangers
Contains no ingredients with endocrine-disrupting properties.

Environmental hazards
Does not contain any PBT or vPvB substances.

Other hazards
none

SECTION 3: Composition / Information on ingredients

3.1 Substances

not applicable
3.2 Mixtures

The product is a mixture.

<table>
<thead>
<tr>
<th>Range [%]</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 - 60</td>
<td>Iron hydroxide oxide yellow</td>
</tr>
</tbody>
</table>

CAS: 51274-00-1, EINECS/ELINCS: 257-098-5, Reg-No.: 01-2119457554-33-XXXX

Comment on component parts

No dangerous components.
Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Take off contaminated clothing and wash before reuse.

Inhalation
Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact
When in contact with the skin, clean with soap and water.

Eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion
Rinse out mouth and give plenty of water to drink.
In the event of symptoms seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.

Extinguishing media that must not be used
Full water jet

5.2 Special hazards arising from the substance or mixture

None

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No special measures necessary.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically. Avoid production of dust.
Dispose of absorbed material in accordance within the regulations.
6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

The normal safety precautions for handling chemicals must be observed.

Wash hands before breaks and after work.
Use barrier skin cream.
Do not eat, drink, smoke or take drugs at work.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Do not store together with oxidizing agents.
Do not store together with acids.
Do not store together with food and animal food/diet.
Recommended storage temperature: room temperature.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

not applicable

DNEL

<table>
<thead>
<tr>
<th>Substance</th>
<th>Iron hydroxide oxide yellow, CAS: 51274-00-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
</tr>
</tbody>
</table>

There are no DNEL values established for the substance.

There are no PNEC values established for the substance.
8.2 Exposure controls

Additional advice on system design
Ensure adequate ventilation on workstation.
Pay attention to dust limit value (ACGIH-2011: 10 mg/m³ particle inhalable; 3 mg/m³ particle respirable).
Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.

Eye protection
Safety glasses. (EN 166:2001)

Hand protection
Leather (EN 388).
The details concerned are recommendations. Please contact the glove supplier for further information.

Skin protection
Protective clothing (EN 340)

Other
Avoid contact with eyes and skin.

Respiratory protection
Not required under normal conditions.

Thermal hazards
none

Delimitation and monitoring of the environmental exposition
Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state
granules

Color
black

Odor
odourless

Odour threshold
not applicable

pH-value
not applicable

pH-value [1%]
5.5 - 7.5

Boiling point [°C]
not applicable

Flash point [°C]
not applicable

Flammability (solid, gas) [°C]
not applicable

Lower explosion limit
not applicable

Upper explosion limit
not applicable

Oxidising properties
no

Vapour pressure/gas pressure [kPa]
not applicable

Density [g/cm³]
1.15

Relative density
not determined

Bulk density [kg/m³]
1115

Solubility in water
insoluble
< 0.1 g/l

Solubility other solvents
not required

Partition coefficient [n-octanol/water]
not applicable

Kinematic viscosity
not applicable

Relative vapour density
not applicable

Evaporation speed
not applicable

Melting point [°C]
> 1000

Auto-ignition temperature
not applicable

Decomposition temperature [°C]
not applicable

Particle characteristics
not applicable

9.2 Other information

none
SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with acids.
Reactions with strong oxidizing agents.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

Strong oxidizing agent.
Acids

10.6 Hazardous decomposition products

No hazardous decomposition products known.
### SECTION 11: Toxicological information

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

**Acute oral toxicity**

<table>
<thead>
<tr>
<th>Product</th>
<th>LD50, oral, Rat, &gt; 10000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE-mix, oral, &gt; 5000 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**Substance**

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
</tbody>
</table>

**Acute dermal toxicity**

<table>
<thead>
<tr>
<th>Product</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE-mix, dermal, &gt; 5000 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**Acute inhalational toxicity**

<table>
<thead>
<tr>
<th>Product</th>
<th>LC50, inhalativ (dust), Rat, &gt; 5,05 mg/L 4h</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE-mix, inhalativ (dust), &gt; 5 mg/l 4h</td>
<td></td>
</tr>
</tbody>
</table>

**Substance**

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
</tbody>
</table>

**Serious eye damage/irritation**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
</tbody>
</table>

**Respiratory or skin sensitisation**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
</tbody>
</table>

**Specific target organ toxicity — single exposure**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
</tbody>
</table>

**Specific target organ toxicity — repeated exposure**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
</tbody>
</table>
NOAEC, inhalative, Rat, 4.7 mg/m³ (subchronic). The effects observed are not sufficient for classification.

**Mutagenicity**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
<tr>
<td>in vitro, negativ</td>
<td></td>
</tr>
</tbody>
</table>

**Reproduction toxicity**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

**Carcinogenicity**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled. Toxicological data of complete product are not available.

**Aspiration hazard**

Does not contain a relevant substance that meets the classification criteria. Based on the available information, the classification criteria are not fulfilled.

**General remarks**

none

**11.2 Information on other hazards**

**Endocrine disrupting properties**

Contains no ingredients with endocrine-disrupting properties.

**Other information**

### SECTION 12: Ecological information

#### 12.1 Toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron hydroxide oxide yellow, CAS: 51274-00-1</td>
<td></td>
</tr>
<tr>
<td>EC50, (48h), Daphnia magna, &gt;100 mg/l (Lit.)</td>
<td></td>
</tr>
<tr>
<td>LC50, (96h), fish, &gt;100 000 mg/l (Lit.)</td>
<td></td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradability

- **Behaviour in environment compartments**
  - not determined
- **Behaviour in sewage plant**
  - Iron hydroxide oxide to adsorb nutrient, specially phosphate.
- **Biological degradability**
  - not applicable

#### 12.3 Bioaccumulative potential

- not applicable

#### 12.4 Mobility in soil

- No information available.

#### 12.5 Results of PBT and vPvB assessment

- not applicable

#### 12.6 Endocrine disrupting properties

- Contains no ingredients with endocrine-disrupting properties.

#### 12.7 Other adverse effects

- None known.
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

For recycling, consult manufacturer.

Waste no. (recommended)
190206
190205*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

Waste no. (recommended)
150102
150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID number

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with IMDG not applicable

Air transport in accordance with IATA not applicable
14.4 Packing group
Transport by land according to ADR/RID: not applicable
Inland navigation (ADN): not applicable
Marine transport in accordance with IMDG: not applicable
Air transport in accordance with IATA: not applicable

14.5 Environmental hazards
Transport by land according to ADR/RID: no
Inland navigation (ADN): no
Marine transport in accordance with IMDG: no
Air transport in accordance with IATA: no

14.6 Special precautions for user
Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments
not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
TRANSPORT-REGULATIONS: ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2021)
NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK REACH; GB CLP.
- Observe employment restrictions for people: none
- VOC (2010/75/CE): 0%

15.2 Chemical safety assessment
For the following substances of this preparation a chemical safety assessment has been carried out: FeOOH
SECTION 16: Other information

16.1 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
EL50 = Median effective loading
ELINCS = European List of Notified Chemical Substances
EmS = Emergency Schedules
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
IVIS = In vitro irritation score
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
LL50 = Median lethal loading
LQ = Limited Quantities
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.2 Other information

<table>
<thead>
<tr>
<th>Customs Tariff</th>
<th>28 21 10 00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification procedure</td>
<td></td>
</tr>
<tr>
<td>Modified position</td>
<td>SECTION 11 been added: Contains no ingredients with endocrine-disrupting properties.</td>
</tr>
</tbody>
</table>

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