1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product Identifier

Product Name: Manganese Gray
Article No.: 47510

1.2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:
Used in surface refinement for ceramic products

Uses advised against:

1.3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

Company: Kremer Pigmente GmbH & Co. KG
Address: Hauptstr. 41-47, 88317 Aichstetten, Germany
Tel./Fax.: Tel +49 7565 914480, Fax +49 7565 1606
Internet: www.kremer-pigmente.com
EMail: info@kremer-pigmente.com
Importer: --

1.4. Emergency No.

Emergency No.: +49 7565 914480 (Mon-Fri 8:00 - 17:00)

2. Hazards Identification

2.1. Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Acute toxicity (oral), hazard category 4
Acute toxicity (inhalation), hazard category 4
Specific target organ toxicity (repeated exposure), hazard category 2

H302 Harmful if swallowed.
Cat.: 4
H332 Harmful if inhaled.
Cat.: 4
H373 May cause damage to organs through prolonged or repeated exposure.
Cat.: 2

2.2. Label Elements

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Hazard designation:

GHS07-1
47510  Manganese Gray

Signal word:
Warning

Hazard designation:
H302  Harmful if swallowed.
H332  Harmful if inhaled.
H373  May cause damage to organs through prolonged or repeated exposure.

Safety designation:
P260  Do not breathe dust/fume/gas/mist/vapours/spray.
P264  Wash thoroughly after handling.
P270  Do not eat, drink or smoke when using this product.
P271  Use only outdoors or in a well-ventilated area.
P284  Wear respiratory protection.
P301+P312 If swallowed: Call a poison center or physician if you feel unwell.
P304+P340 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312  Call a poison center or physician if you feel unwell.
P330  Rinse mouth.
P501  Dispose of contents/container according to regional, national and international regulations.

Hazardous components for labelling:

2. 3.  Other Hazards

3.  Composition/Information on Ingredients
3.1.  Substance
3.2.  Mixture

Chemical Characterization:  Manganese dioxide (MnO2) Pyrolusite. Pigment Black 14, C.I. 77728

Information on Components / Hazardous Ingredients:
Manganese(IV) oxide (H302-332-373); REACH Reg. No. 01-2119452801-43  90-95 %
CAS-Nr: 1313-13-9
EINECS-Nr: 215-202-6
EC-Nr: 025-001-00-3

Additional information:

4.  First Aid Measures
4.1.  Description of the First Aid Measures

General information:  Remove contaminated clothes immediately.

After inhalation:  Supply fresh air.

After skin contact:  Wash with soap and rinse with plenty of water.
After eye contact:
Rinse open eyes with plenty of water for at least 15 minutes.

After ingestion:
Rinse mouth with water and drink plenty of water.
If symptoms persist consult physician.

4.2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:
Inhalation: irritates the respiratory system, cough, nausea.

Effects:

4.3. Indication of any Immediate Medical Attention and special Treatment needed

Treatment:
No further information available.

5. Fire-Fighting Measures

5.1. Extinguishing Media

Suitable extinguishing media:
Product itself does not burn.
Use extinguishing media for surrounding fire.

Unsuitable extinguishing media:
Water with full jet.

5.2. Special Hazards arising from the Substance or Mixture

Special hazards:
No special hazards.

5.3. Advice for Firefighters

Protective equipment:
Wear suitable protective clothing.

Further information:
Avoid contamination of sewage system, open water ways and ground water.

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:
Avoid formation of dust, wear protective clothing.
Ensure adequate ventilation.

6.2. Environmental Precautions

Environmental precautions:
Prevent contamination of soils, drains and surface water.

6.3. Methods and Material for Containment and Cleaning Up

Methods and material:
Take up mechanically and collect in suitable containers for disposal. Avoid dust formation.

6.4. Reference to other Sections
7. Handling and Storage

7.1. Precautions for Safe Handling

Instructions on safe handling:

Provide adequate ventilation.
Avoid formation and deposition of dust. Provide adequate ventilation.

Hygienic measures:

Do not eat or drink during work. Do not smoke.
Do not inhale dust. Wash hands before breaks and at the end of work.

7.2. Conditions for Safe Storage, including any Incompatibilities

Storage conditions:

Store in tightly sealed containers in a dry room.

Requirements for storage areas and containers:

Information on fire and explosion protection:

Do not store together with: strong acids, oxidizing agents, reducing agents, combustible products.

Storage class:

13; Non combustible solids (TRGS 510)

Further Information:

7.3. Specific End Use(s)

Further information:

No further information available.

8. Exposure Controls/Personal Protection

8.1. Parameters to be Controlled

Parameters to be controlled (DE):

TRGS 900
TLV: 1.25 mg/m³ airborne fraction (general dust limit)
TLV: 10 mg/m³ inhalable fraction (general dust limit)
Manganese and its inorganic compounds: TLV: Average value: 0.2 mg/m³ (inhalable fraction), 0.02 mg/m³ (airborne fraction); Short term value: 1.6 mg/m³ (inhalable fraction), 0.16 mg/m³ (airborne fraction); 1(II), Y
Y: No teratogenic risk when the exposure limit values (ELV) and biological limit values (BLV) are adhered to.

Parameters to be controlled:

Manganese and its inorganic compounds: IOELV (EC): Average value: 0.05 mg/m³ (airborne fraction)

Derived No-Effect Level (DNEL):

0.2 mg/m³ (worker, inhalation, short-term exposition - systemic)
47510  Manganese Gray

According to regulation (EC) No. 1907/2006 (REACH)

Predicted No-Effect Concentration (PNEC):

- Fresh water: 0.14 µg/l
- Sea water: 0.014 µg/l
- Fresh water sediment: 37 µg/kg
- Sea water sediment: 3.7 µg/kg
- Sewage treatment system (STP): 100 mg/l
- Soil: 28 µg/kg

Additional Information:

- Biological limit value:
  Manganese, inorganic compounds (DE BAT): 15 µg/l

8.2. Exposure Controls

Technical protective measures:
Use appropriate local exhaust ventilation to control airborne levels.

Personal Protection

General protective measures:
Do not inhale dust. Do not eat, drink or smoke while working.
Wash hands before breaks and at the end of work.

Respiratory protection:
Dust mask recommended when very dusty (with particle filter P1/P2/P3; EN 143).

Hand protection:
Protective gloves (EN 374)

Protective glove material:
Nitrile rubber (480 min, 0.4 mm)

Eye protection:
Safety glasses with protective shields (EN 166).

Body protection:

Environmental precautions:
Prevent from getting into the soil, surface water and sewage system.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

- Form: powder
- Color: black
- Odor: odorless
- Odor threshold: No information available.
- pH-Value:
### Melting temperature:
- ca. 535°C (1013 hPa)

### Boiling temperature:
- not available

### Flash point:
- not applicable

### Evaporation rate:
- No information available.

### Flammability (solid, gas):
- not applicable

### Upper explosion limit:
- no information available

### Lower explosion limit:
- no information available

### Vapor pressure:
- no information available

### Vapor density:
- not applicable

### Density:
- 4 - 5.1 g/cm³

### Solubility in water:
- insoluble

### Coefficient of variation (n-Octanol/Water):
- not applicable

### Auto-ignition temperature:
- No information available.

### Decomposition temperature:
- not applicable

### Viscosity, dynamic:
- not applicable

### Explosive properties:
- not applicable

### Oxidizing properties:
- Can intensify a fire; oxidant

### Bulk density:

### 9.2. Further Information

### Solubility in solvents:

### Viscosity, kinematic

### Burning class:

### Solvent content:

### Solid content:

### Particle size:
10. Stability and Reactivity

10.1. Reactivity
No decomposition if used according to specifications.

10.2. Chemical Stability
The product is stable.

10.3. Possibility of Hazardous Reactions
None if used according to specifications.

10.4. Conditions to Avoid
Conditions to avoid:

Thermal decomposition:
No information available.

10.5. Incompatible Materials
Acids

10.6. Hazardous Decomposition Products
None

10.7. Further Information

11. Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

LD50, oral: 543.5 mg/kg
LD50, dermal: No information available.
LC50, inhalation: 1.63 mg/l (4h)

Primary effects
Irritant effect on skin: Non irritating
Irritant effect on eyes: Non-irritating to eyes

Inhalation: No information available.

Ingestion: No information available

Sensitization: Non sensitizing.

Mutagenicity: Not mutagenic.

Reproductive toxicity: No reproductive toxicity expected.

Carcinogenicity:
47510  Manganese Gray

Not cancerogenic.

Teratogenicity:

No information available.

Specific target organ toxicity (STOT):

Single exposure: no organospecific toxicity expected.
Repeated exposure (inhalation): can damage the organs after repeated or prolonged exposure.

Additional toxicological information:

Aspiration hazard: not applicable

12. Ecological Information

12. 1. Aquatic Toxicity

Fish toxicity:

No toxicity expected.

Daphnia toxicity:

Bacteria toxicity:

Algae toxicity:

12. 2. Persistency and Degradability

No information available.

12. 3. Bioaccumulation

No information available.

12. 4. Mobility

No information available.

12. 5. Results of PBT- und vPvP Assessment

No data available.

12. 6. Other Adverse Effects

Water hazard class:

1, slightly hazardous

Behaviour in sewage systems:

Further ecological effects:

No special effects or hazards known.

AOX Value:

13. Disposal Considerations

13. 1. Waste Treatment Methods

Product:

Reuse, when possible.

European Waste Code (EWC):

Uncleaned packaging:

Dispose of according to official local regulations.

Waste Code No.:
14. **Transport Information**

14.1. **UN Number**

ADR, IMDG, IATA

14.2. **UN Proper Shipping Name**

ADR/RID: No hazardous goods according to ADR (land transportation).

IMDG/IATA: No hazardous goods according to IMDG.

14.3. **Transport Hazard Classes**

ADR Class: not applicable

Hazard no.:

Classification code:

Tunnel restriction code:

IMDG Class (sea):

Hazard no.:

EmS No.:

IATA Class: not applicable

Hazard no.:

14.4. **Packaging Group**

ADR/RID: not applicable

IMDG:

IATA:

14.5. **Environmental Hazards**

None

14.6. **Special Precautions for User**

14.7. **Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code**

not applicable

14.8. **Further Information**

Not classified as a dangerous good under transport regulations.

15. **Regulatory Information**

15.1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class: 1, slightly hazardous for water (according to the German Regulation AwSV)

Local regulations on chemical accidents:

Employment restrictions:
Restriction and prohibition of application:

EC. REACH, Section XVII, Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: not applicable

Technical instructions on air quality:

5.2.1. Total dust, including fine dust.
5.2.2.: Inorganic dust (class. III): > 25 wt-% (m >= 5 g/h, conc. 1 mg/m3)

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out for this product.

15.3. Further Information

Listed in the following inventories:

REACH (EC), TSCA (US)

EC. REACH, Annex XIV, Candidate List of Substances of very High Concern (SVHC): not regulated / not applicable

VOC Content (w/w): 0 %

16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should therefore not be construed as guaranteeing specific properties.