

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
CAS No : 21908-53-2
Product code : 04581

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (dermal), H310
Category 1
Acute toxicity (inhal.), H330
Category 2
Acute toxicity (oral), H300
Category 1
Hazardous to the aquatic environment — Acute Hazard, Category 1 H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1 H410

Full text of classification categories and H statements : see section 16

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Classification according to Directive 67/548/EEC or 1999/45/EC

T+; R26/27/28

N; R50/53

R33

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS06



GHS09



GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H300+H310+H330 - Fatal if swallowed, in contact with skin or if inhaled
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash ... thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P284 - [In case of inadequate ventilation] wear respiratory protection
P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : MERCURIC OXIDE YELLOW EXTRA PURE

CAS No : 21908-53-2

Full text of R- and H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.

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| | |
|---------------------------------------|---|
| First-aid measures after skin contact | : Immediately call a POISON CENTER or doctor/physician. Specific measures (see ... on this label). Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. |
| First-aid measures after eye contact | : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth. Immediately call a POISON CENTER or doctor/physician. Specific treatment (see ... on this label). |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|---|
| Symptoms/injuries | : There are potential chronic health effects to consider. |
| Symptoms/injuries after skin contact | : Fatal in contact with skin. |
| Symptoms/injuries after ingestion | : Fatal if swallowed. |

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|---|
| Suitable extinguishing media | : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.
Emergency procedures : Stop release.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean up immediately by sweeping or vacuum.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not get in eyes, on skin, or on clothing.
Hygiene measures : Wash ... thoroughly after handling. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed. Store in a dry place.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

| | |
|--------------------------|--------------------------------------|
| Hand protection | : protective gloves |
| Eye protection | : Chemical goggles or safety glasses |
| Skin and body protection | : Wear suitable protective clothing |
| Respiratory protection | : Wear respiratory protection |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---------------------------|
| Physical state | : Solid |
| Molecular mass | : 216.59 g/mol |
| Colour | : Orange red to yellow. |
| Odour | : odourless. |
| Odour threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : 0.6 |
| Melting point | : 500 °C |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : No data available |
| Density | : 11.14 g/cm ³ |
| Solubility | : Water: Insoluble |
| Log Pow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |

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| | |
|----------------------|---------------------|
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Overheating. Air contact. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|--|---|
| Acute toxicity | : Dermal: Fatal in contact with skin. Inhalation: Fatal if inhaled. Oral: Fatal if swallowed. |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Additional information | : There are potential chronic health effects to consider |
| Aspiration hazard | : Not classified |

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Potential adverse human health effects and symptoms : Fatal if swallowed. Fatal in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

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| | |
|-------------------------------|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |
|-------------------------------|---|

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to ...
Ecology - waste materials : Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 1641
UN-No. (IMDG) : 1641
UN-No.(IATA) : 1641
UN-No.(ADN) : 1641
UN-No. (RID) : 1641

14.2. UN proper shipping name

Proper Shipping Name (ADR) : MERCURY OXIDE
Proper Shipping Name (IMDG) : MERCURY OXIDE
Proper Shipping Name (IATA) : MERCURY OXIDE
Proper Shipping Name (ADN) : MERCURY OXIDE
Proper Shipping Name (RID) : MERCURY OXIDE
Transport document description (ADR) : UN 1641 MERCURY OXIDE, 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS

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| | |
|---------------------------------------|--|
| Transport document description (IMDG) | : UN 1641 MERCURY OXIDE, 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IATA) | : UN 1641 MERCURY OXIDE, 6.1, II, ENVIRONMENTALLY HAZARDOUS |
| Transport document description (ADN) | : UN 1641 MERCURY OXIDE, 6.1, II, ENVIRONMENTALLY HAZARDOUS |
| Transport document description (RID) | : UN 1641 MERCURY OXIDE, 6.1, II, ENVIRONMENTALLY HAZARDOUS |

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 6.1
Danger labels (ADR) : 6.1



IMDG

Transport hazard class(es) (IMDG) : 6.1
Danger labels (IMDG) : 6.1



IATA

Transport hazard class(es) (IATA) : 6.1
Hazard labels (IATA) : 6.1



ADN

Transport hazard class(es) (ADN) : 6.1
Danger labels (ADN) : 6.1



RID

Transport hazard class(es) (RID) : 6.1
Danger labels (RID) : 6.1



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14.4. Packing group

| | |
|----------------------|------|
| Packing group (ADR) | : II |
| Packing group (IMDG) | : II |
| Packing group (IATA) | : II |
| Packing group (ADN) | : II |
| Packing group (RID) | : II |

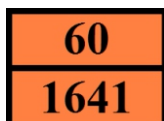
14.5. Environmental hazards

| | |
|-------------------------------|--|
| Dangerous for the environment | : Yes |
| Marine pollutant | : Yes |
| Other information | : No supplementary information available |

14.6. Special precautions for user

- Overland transport

| | |
|---|---------------|
| Classification code (ADR) | : T5 |
| Limited quantities (ADR) | : 500g |
| Excepted quantities (ADR) | : E4 |
| Packing instructions (ADR) | : P002, IBC08 |
| Special packing provisions (ADR) | : B4 |
| Mixed packing provisions (ADR) | : MP10 |
| Portable tank and bulk container instructions (ADR) | : T3 |
| Portable tank and bulk container special provisions (ADR) | : TP33 |
| Tank code (ADR) | : SGAH |
| Tank special provisions (ADR) | : TU15, TE19 |
| Vehicle for tank carriage | : AT |
| Transport category (ADR) | : 2 |
| Special provisions for carriage - Packages (ADR) | : V11 |
| Special provisions for carriage - Loading, unloading and handling (ADR) | : CV13, CV28 |
| Special provisions for carriage - Operation (ADR) | : S9, S19 |
| Hazard identification number (Kemler No.) | : 60 |
| Orange plates | : |



| | |
|-------------------------------|-------|
| Tunnel restriction code (ADR) | : D/E |
| EAC code | : 2X |

- Transport by sea

| | |
|---------------------------------|----------|
| Limited quantities (IMDG) | : 500 g |
| Excepted quantities (IMDG) | : E4 |
| Packing instructions (IMDG) | : P002 |
| IBC packing instructions (IMDG) | : IBC08 |
| IBC special provisions (IMDG) | : B2, B4 |
| Tank instructions (IMDG) | : T3 |
| Tank special provisions (IMDG) | : TP33 |
| EmS-No. (Fire) | : F-A |
| EmS-No. (Spillage) | : S-A |
| Stowage category (IMDG) | : A |
| MFAG-No | : 151 |

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- Air transport

| | |
|--|---------|
| PCA Excepted quantities (IATA) | : E4 |
| PCA Limited quantities (IATA) | : Y644 |
| PCA limited quantity max net quantity (IATA) | : 1kg |
| PCA packing instructions (IATA) | : 669 |
| PCA max net quantity (IATA) | : 25kg |
| CAO packing instructions (IATA) | : 676 |
| CAO max net quantity (IATA) | : 100kg |
| ERG code (IATA) | : 6L |

- Inland waterway transport

| | |
|-----------------------------------|----------|
| Classification code (ADN) | : T5 |
| Special provisions (ADN) | : 802 |
| Limited quantities (ADN) | : 500 g |
| Excepted quantities (ADN) | : E4 |
| Equipment required (ADN) | : PP, EP |
| Number of blue cones/lights (ADN) | : 2 |

- Rail transport

| | |
|---|--------------------|
| Classification code (RID) | : T5 |
| Limited quantities (RID) | : 500g |
| Excepted quantities (RID) | : E4 |
| Packing instructions (RID) | : P002, IBC08 |
| Special packing provisions (RID) | : B4 |
| Mixed packing provisions (RID) | : MP10 |
| Portable tank and bulk container instructions (RID) | : T3 |
| Portable tank and bulk container special provisions (RID) | : TP33 |
| Tank codes for RID tanks (RID) | : SGAH |
| Special provisions for RID tanks (RID) | : TU15 |
| Transport category (RID) | : 2 |
| Special provisions for carriage – Packages (RID) | : W11 |
| Special provisions for carriage – Loading and unloading (RID) | : CW13, CW28, CW31 |
| Colis express (express parcels) (RID) | : CE9 |
| Hazard identification number (RID) | : 60 |

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

MERCURIC OXIDE YELLOW EXTRA PURE is not on the REACH Candidate List

MERCURIC OXIDE YELLOW EXTRA PURE is not on the REACH Annex XIV List

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15.1.2. National regulations

Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 3, strongly hazardous to water (Classification according to VwVwS, Annex 2; WGK No 408)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

| | |
|---------------------------|---|
| Acute Tox. 1 (Dermal) | Acute toxicity (dermal), Category 1 |
| Acute Tox. 1 (Oral) | Acute toxicity (oral), Category 1 |
| Acute Tox. 2 (Inhalation) | Acute toxicity (inhal.), Category 2 |
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| H300 | Fatal if swallowed |
| H310 | Fatal in contact with skin |
| H330 | Fatal if inhaled |
| H400 | Very toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| R26/27/28 | Very toxic by inhalation, in contact with skin and if swallowed |
| R33 | Danger of cumulative effects |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| N | Dangerous for the environment |
| T+ | Very toxic |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product