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

1.1. Product Identifier

Product Name: IRIODIN® 320 BRIGHT GOLD PEARL, Pale Gold
Article No.: 50200

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

Identified uses: Coloring agent
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.de
EMail: info@kremer-pigmente.de
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)
This product does not require classification and labelling as hazardous according to CLP/GHS.

Classification according to Directive No. 67/548/EC or No. 1999/45/EC
The material is not subject to classification according to EC lists.

Safety Phrases:
Possible Environmental Effects:

2.2. Label Elements

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)
This product does not require classification and labelling as hazardous according to CLP/GHS.

Hazard designation:
Signal word:
Hazard designation:
Safety designation:
P260a Do not breathe dust.

Hazardous components for labelling:

Other Hazards
2.3. No special hazards known.

3. Composition/Information on Ingredients
3.1. Substance
3.2. Mixture
   Chemical Characterization: Mica laminated with titanium dioxide and iron oxide.
   Information on Components / Hazardous Ingredients:
   Additional information:

4. First Aid Measures
4.1. Description of the First Aid Measures
   General information: Take affected persons out into the fresh air.
   After inhalation: Supply fresh air. Consult physician if symptoms persist.
   After skin contact: Wash with soap and rinse with plenty of water.
   After eye contact: Rinse open eyes with plenty of water. In case of discomfort seek medical help.
   After ingestion: Drink plenty of water. Get medical help in case of discomfort.

4.2. Most important Symptoms and Effects, both Acute and Delayed
   Symptoms: No further information available.
   Effects: No further information available.

4.3. Indication of any Immediate Medical Attention and special Treatment needed
   Treatment: No information available.

5. Fire-Fighting Measures
5.1. Extinguishing Media
   Suitable extinguishing media: Use extinguishing media for surrounding fire.
   Unsuitable extinguishing media: None known.

5.2. Special Hazards arising from the Substance or Mixture
   Special hazards: Product is not flammable.
   In case of fire: hazardous vapors may be released.
5.3. Advice for Firefighters

Protection equipment:

Wear self-contained respiratory protective device.

Further information:
Collect contaminated extinguishing water and debris separately; avoid contamination of sewage system.

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:

Do not inhale dust. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2. Environmental Precautions

Environmental precautions:

No special measures required.

6.3. Methods and Material for Containment and Cleaning Up

Methods and material:

Take up mechanically and collect in suitable container for disposal. Rinse spill area. Avoid dust formation.

6.4. Reference to other Sections

Dispose of contaminated material according to Section 13.

7. Handling and Storage

7.1. Precautions for Safe Handling

Instructions on safe handling:

Avoid formation of dust. Do not inhale dust.

Hygienic measures:

No special measures required.

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:

No special measures necessary.

Information on fire and explosion protection:

No special measures necessary.

Storage class (VCI):

10-13

Further Information:

7.3. Specific End Use(s)

Further information:

See Section 1.2.; no other uses provided
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)
Peak limit Category: 2 (II)
Titanium oxide(IV) oxide, anatase (CAS 1317-70-0): AGW: 1.25 mg/m³, 10 mg/m³ (2)
Category II: substances with a resorptive effect.

Parameters to be controlled:

Derived No-Effect Level (DNEL):

Predicted No-Effect Concentration (PNEC):

Additional Information:

8.2. Exposure Controls

Technical protective measures:

Technical protective measures have priority to personal protective measures.

Personal Protection

General protective measures:

Wash hands before breaks and after work.

Respiratory protection:

Dust mask recommended when very dusty (with particle filter P1).

Hand protection:

Not required

Protective glove material:

Eye protection:

Recommended (EN 166).

Body protection:

Environmental precautions:

No special measures required.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Form:

powder

Color:

bright yellow

Odor:

odorless

Odor threshold:

No information available.

pH-Value:

8 - 11 (100 g/l H₂O, 20°C)
Melting temperature: not available

Boiling temperature: not available

Flash point: not applicable

Evaporation rate: No information available.

Flammability (solid, gas): not available

Upper explosion limit: no information available

Lower explosion limit: no information available

Vapor pressure: not applicable

Vapor density: No information available.

Density: 2.9 - 3.1 g/cm³ (20°C)

Solubility in water: insoluble (20°C)

Coefficient of variation (n-Octanol/Water): no information available

Auto-ignition temperature: No information available.

Decomposition temperature: No data available.

Viscosity, dynamic: not available

Explosive properties: Product does not present an explosion hazard.

Oxidizing properties: No information available.

Bulk density: 340 - 380 kg/m³

9.2. Further Information

Solubility in solvents:

Viscosity, kinematic

Burning class:

Solvent content:

Solid content:
10. Stability and Reactivity

10.1. Reactivity

Stable if used according to specifications.

10.2. Chemical Stability

Stable at room temperature.

10.3. Possibility of Hazardous Reactions

No information available.

10.4. Conditions to Avoid

Conditions to avoid:

No further information available.

Thermal decomposition:

No data available.

10.5. Incompatible Materials

No information available.

10.6. Hazardous Decomposition Products

None known.

10.7. Further Information

11. Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

LD50, oral:

Not testable. All test animals (rat) survived 15 000 mg/kg.

LD50, dermal:

No information available.

LC50, inhalation:

4.6 - 14.9 mg/l air (male animals; Rat); >14.9 mg/l air (female animals)

Primary effects

Irritant effect on skin:

Non irritating (rabbit)

Irritant effect on eyes:

Non-irritating to eyes (rabbit)

Inhalation:

No information available.

Ingestion:

No information available

Sensitization:

No sensitizing effect (guinea pig).

Mutagenicity:
Reproductive toxicity: No relevant data found.

Carcinogenicity: No relevant data found.

Teratogenicity: No information available.

Specific target organ toxicity (STOT): Single exposure: no information available.
Repeated exposure: no information available.

Additional toxicological information: The animals studies carried out with pigments similar to this product did not show any significant negative results. Avoid inhalation of dust. Even inert dusts can impair the function of the respiratory system. Chronic toxicity: no toxicological or cancerogenic effects observed in a food study over a period of 2.5 years by the addition of 5% of the product (rat). The product did not show any genetic-toxicological effects in the micronucleus test (2000 mg/kg rat; limit test).

12. Ecological Information
12.1. Aquatic Toxicity
Fish toxicity: No information available.
Daphnia toxicity: No information available.
Bacteria toxicity: No information available.
Algae toxicity: No information available.

12.2. Persistence 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
PBT/vPvB assessment not available as chemical safety assessment is not required / not conducted.

12.6. Other Adverse Effects
Water hazard class: Not hazardous.
Behaviour in sewage systems: Further ecological effects: When used properly, no ecological problems expected.

AOX Value:
13. Disposal Considerations

13.1. Waste Treatment Methods

*Product:* Dispose of according to official national and local regulations. Do not mix with other waste.

*European Waste Code (EWC):*

*Uncleaned packaging:* Packaging may be disposed of in the same manner as the product.

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

*Not classified as a dangerous good under transport regulations.*
14.7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code
   not applicable

14.8. Further Information

15. Regulatory Information

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

   Water hazard class: 0, not hazardous (German Regulation)

   Local regulations on chemical accidents:
   Seveso III Directive: not applicable under Directive 2012/18/EC.

   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:

15.2. Chemical Safety Assessment

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

15.3. Further Information

   Regulation (EC) 1005/2009 - Substances that Deplete the Ozone Layer: not regulated / not applicable
   Regulation (EC) 649/2012 concerning the export and import of dangerous chemicals: Not applicable
   EC. REACH, Annex XIV, Candidate List of Substances of very High Concern (SVHC): not regulated / not applicable

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 be therefore not be construed as guaranteeing specific properties.