

## SAFETY DATA SHEET

1781 323 | 1000 g

1782 325 | 250 g

1782 323 | 100 ml

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according to Regulation (EC) No. 1907/2006

Version: 1.4

Art.Nr. : 1781323

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

### 1.1 Product identifier

Art.Nr. 1781323

Product name Iriodin® Royal Gold Satin

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

Identified uses Colouring agent

### 1.3 Details of the supplier of the safety data sheet

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0  
Responsible Department PM-OQR \* e-mail: PM\_SDS\_Supply@merckgroup.com  
Regional representation Merck Chemicals Ltd \* Boulevard Industrial Park \* Padge Road \*  
Beeston \* Nottingham \* NG9 2JR \* Tel. 01159 430840  
\*information@merckgroup.com.

### 1.4 Emergency telephone number

+49 (0) 6151 722440

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## 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)

Not a hazardous substance or mixture.

Precautionary statements : **Prevention:**  
P260 Do not breathe dust.

#### Additional Labelling

EUH210 Safety data sheet available on request.

### 2.3 Other hazards

None known.

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## SECTION 3: Composition/information on ingredients

Chemical nature : Mica coated with:  
: titanium dioxide, ferric oxide  
tin oxide

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### 3.1 Substance

Not applicable

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. Registration number	Classification	Concentration (% w/w)
<b>Substances with a workplace exposure limit</b>			
tin dioxide	Tin dioxide 01-2119946062-44- XXXX		>= 1 - < 10

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- If inhaled : fresh air.
- In case of skin contact : Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- In case of eye contact : rinse out with plenty of water.  
Remove contact lenses.
- If swallowed : make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

- Symptoms : We have no description of any toxic symptoms.

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

- Treatment : No information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : Not combustible.

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Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Suppress (knock down) gases/vapours/mists with a water spray jet.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Advice for non-emergency personnel:  
Avoid inhalation of dusts.  
Evacuate the danger area, observe emergency procedures, consult an expert.  
Advice for emergency responders:  
Protective equipment see section 8.

### 6.2 Environmental precautions

Environmental precautions : No special precautionary measures necessary.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Observe possible material restrictions (see sections 7 and 10).  
Take up dry. Dispose of properly. Clean up affected area.  
Avoid generation of dusts.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Observe label precautions.

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Tightly closed. Dry.

Risks from decomposition products: see section 10.3

Recommended storage temperature : Recommended storage temperature see product label.

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## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
mica (muscovite)	12001-26-2	TWA (Inhalable)	10 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected wh, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
	12001-26-2	TWA (Respirable)	0.8 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected wh, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
iron(III) oxide	1309-37-1	TWA (inhalable dust)	10 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected wh, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or, Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle afte, Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore av, Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
	1309-37-1	TWA (Respirable dust)	4 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected wh, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or, Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle afte, Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore av, Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
tin dioxide	18282-10-5	TWA	2 mg/m <sup>3</sup> (Tin)	91/322/EEC
Further information	Indicative, Existing scientific data on health effects appear to be particularly limited			
	18282-10-5	TWA	2 mg/m <sup>3</sup> (Tin)	GB EH40
	18282-10-5	STEL	4 mg/m <sup>3</sup>	GB EH40

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			(Tin)	
General threshold limit value for dust		TWA (Inhalable)	10 mg/m <sup>3</sup>	GB EH40
Further information	The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
		TWA (Respirable)	4 mg/m <sup>3</sup>	GB EH40
Further information	The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			

### 8.2 Exposure controls

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### Personal protective equipment

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye protection : Safety glasses

Hand protection : not required

Recommended Filter type: : Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

Respiratory protection : required when dusts are generated.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Environmental exposure controls

General advice : No special precautionary measures necessary.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form : powder  
Colour : yellow  
Odour : odourless

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Odour Threshold	Not applicable
pH	6 - 9 at 100 g/l 20 °C (slurry)
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	3.1 - 3.3 g/cm <sup>3</sup> at 20 °C
Solubility(ies)	No information available.
Water solubility	at 20 °C insoluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, kinematic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

### 9.2 Other data

Bulk density	310 - 350 kg/m <sup>3</sup>
Particle size	Particle size 5 - 25 µm

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Hazardous reactions : no information available

### 10.4 Conditions to avoid

Conditions to avoid : no information available

### 10.5 Incompatible materials

Materials to avoid : no information available

### 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

##### Components:

##### **tin dioxide:**

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg  
Remarks: (RTECS)

Acute inhalation toxicity : No data available

Acute dermal toxicity :

#### Skin corrosion/irritation

##### Product:

No data available

##### Components:

No data available



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### Serious eye damage/eye irritation

**Product:**

No data available

**Components:**

No data available

### Respiratory or skin sensitisation

**Product:**

No data available

**Components:**

No data available

### Germ cell mutagenicity

**Product:**

No data available

**Components:**

No data available

### Carcinogenicity

**Product:**

This information is not available.

**Components:**

This information is not available.

### STOT - single exposure

**Product:**

No data available

**Components:**

No data available

### STOT - repeated exposure

**Product:**

No data available

**Components:**

No data available

### Repeated dose toxicity

**Product:**

No data available

**Components:**

No data available

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### Aspiration toxicity

#### Product:

No data available

#### Components:

No data available

### Experience with human exposure

#### Product:

No data available

#### Components:

No data available

## 11.2 Other information

#### Product:

The results of animal experiments using pigments of this type indicate no toxicologically relevant properties. Since the substance is poorly absorbed, no systemic effects are to be anticipated. Inhalation of the dusts should be avoided as even inert dusts may impair respiratory organ functions. The individual test results were as follows: skin tolerance (rabbit): no irritant effect; eye irritation test (rabbit): no irritant effect; LD<sub>50</sub> (oral, rat): not determinable; all animals still alive after 5,000 mg/kg.

Subchronic toxicity (rat): no appreciable findings up to 20 000 ppm.

LC<sub>50</sub> (inhalational, rat): > 10.1 ml/l/4 h

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

No data available

#### Components:

##### **tin dioxide:**

Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Remarks: (above the solubility limit in the test medium)  
(own results)

EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Remarks: (above the solubility limit in the test medium)  
(own results)

### 12.2 Persistence and degradability

#### Product:

No data available

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### Components:

#### **tin dioxide:**

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

#### Product:

No data available

#### Components:

#### **tin dioxide:**

No data available

### 12.4 Mobility in soil

#### Product:

No data available

#### Components:

#### **tin dioxide:**

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..

#### Components:

#### **tin dioxide:**

No data available

### 12.6 Other adverse effects

#### Product:

Additional ecological information : No ecological problems are to be expected when the product is handled and used with due care and attention.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Notice Directive on waste 2008/98/EC.

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned

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containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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### SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

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### SECTION 15: Regulatory information

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

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (A) : 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

Storage class : 10 - 13

#### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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### SECTION 16: Other information

#### Training advice

Provide adequate information, instruction and training for operators.

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### Key or legend to abbreviations and acronyms used in the safety data sheet

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Disclaimer

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.