

## SAFETY DATA SHEET

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## Safety Data Sheet

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

#### 1.1. Product identifier

Product name Raphael Art Pigments Gold Gelb

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

Intended use Dispersible pigment in aqueous solution, oils and resins

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

Name Deffner & Johann GmbH Mühläckerstr. 13, 97520 Rötthlein  
Full address District and Country Germany  
tel. 004909723 9350-0

e-mail address info@deffner-johann.de

#### 1.4. Emergency telephone number

tel.004909723 9350-0 (Hours: 8.00-12.00 / 14.00 –15.00)

### SECTION 2. Hazards identification

#### 2.1. Classification of the substance or mixture.

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements).

Hazard classification and indication: Not classified.

#### 2.2. Label elements

Hazard pictograms: --

Signal words: --

Hazard statements:

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Precautionary statements:

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#### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0.1%.

## SECTION 3. Composition/information on ingredients

### 3.1. Substances

Information not relevant

### 3.2. Mixtures

Contains:

Identification	x = Cone. %	Classification 1272/2008 (CLP)
CALCIUM CARBONATE		
CAS 471-34-1	$75 \leq x < 80$	Substance with a community workplace exposure limit
EC 207-439-9		
INDEX -		
Talc		
CAS 14807-96-6	$9 \leq x < 13$	Substance with a community workplace exposure limit
EC 238-877-9		
INDEX -		
TITANIUM DIOXIDE		
CAS 13463-67-7	$5 \leq x < 6,5$	Substance with a community workplace exposure limit
EC 236-675-5		
INDEX -		
Reg. no. 01-2119489379-17-0004		
C.I. Pigment Brown 24		
CAS 68186-90-3	$3 \leq x < 4$	Substance with a community workplace exposure limit
EC 269-052-1		
INDEX -		

## SECTION 4. First aid measures

### 4.1. Description of first aid measures

Not specifically necessary. Observance of good industrial hygiene is recommended.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Follow doctor's orders.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

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

#### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

### 5.3. Advice for firefighters

#### GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal firefighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

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

If there are no contraindications, spray powder with water to prevent the formation of dust.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues.

Make sure the leakage site is well aired. Evaluate the compatibility of the container to be used, by checking section 10. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use.

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

Keep the product in clearly labelled containers. Keep containers away from any incompatible materials, see section 10 for details.

### 7.3. Specific end use(s)

See section 1.2.

### SECTION 8. Exposure controls/personal protection

#### 8.1. Control parameters

##### Regulatory References:

GBR	United Kingdom	EH40/2005 Workplace exposure limits
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
	TLV-ACGIH	ACGIH 2017

#### CALCIUM CARBONATE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		10				INHAL
TLV-ACGIH		3				RESP

#### Talc

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
WEL	GBR	1				
VLEP	ITA	2				
TLV-ACGIH		2				

#### TITANIUM DIOXIDE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
WEL	GBR	4				
VLEP	ITA	10				
TLV-ACGIH		10				INHAL
TLV-ACGIH		5				RESP

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,127	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	1000	mg/l
Normal value for marine water sediment	100	mg/l
Normal value for water, intermittent release	0,61	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	100	mg/l

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Chronic local	Acute local	Acute systemic	Chronic systemic
Oral			VND	700 mg/m3 bw/d				
Inhalation							10 mg/m3	VND

### C.I. Pigment Brown 24

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,1	mg/l
Normal value in marine water	0,01	mg/l
Normal value for water, intermittent release	1	mg/l
Normal value of STP microorganisms	1000	mg/l

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Chronic local	Acute local	Acute systemic	Chronic systemic
Inhalation			3 mg/m3				4 mg/m3	

#### Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

During the risk assessment process, it is essential to take into consideration the ACGIH occupational exposure levels for inert particulate not otherwise classified (PNOC respirable fraction: 3 mg/m<sup>3</sup>; PNOC inhalable fraction: 10 mg/m<sup>3</sup>). For values above these limits, use a P type filter, whose class (1, 2 or 3) must be chosen according to the outcome of risk assessment.

### 8.2. Exposure controls

Comply with the safety measures usually applied when handling chemical substances.

#### HAND PROTECTION

None required.

#### SKIN PROTECTION

None required.

#### EYE PROTECTION

None required.

#### RESPIRATORY PROTECTION

Use a type P filtering facemask, whose class (1, 2 or 3) and effective need, must be defined according to the outcome of risk assessment (see standard EN 149).

#### ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance	powder
Colour	yellow
Odour	No odour
Odour threshold	Not available
PH	Not applicable
Melting point / freezing point	Not applicable
Initial boiling point	Not applicable
Boiling range	Not applicable
Flash point	Not inflammable.

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Evaporation Rate	Not applicable
Flammability of solids and gases	Not infiammable.
Lower inflammability limit	Not infiammable.
Upper inflammability limit	Not infiammable.
Lower explosive limit	Not explosive.
Upper explosive limit	Not explosive.
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	Not available
Solubility	Insoluble in water
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not self-igniting
Decomposition temperature	Not available
Viscosity	Not applicable
Explosive properties	Not explosive
Oxidising properties	Not available

## 9.2. Other information

No other information.

**SECTION 10. Stability and reactivity****10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

CALCIUM CARBONATE: Stable under normal conditions. Decomposes above 825 ° with CO<sub>2</sub> development and CaO formation.

**10.3. Possibility of hazardous reactions**

Unusual reactions are not expected under normal use and storage conditions.

CALCIUM CARBONATE: Reacts with acids, releasing CO<sub>2</sub>.

**10.4. Conditions to avoid**

Avoid environmental dust build-up.

**10.5. Incompatible materials**

Avoid contact with acids, strong alkalis.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

CALCIUM CARBONATE: Reacts with acids, releasing CO<sub>2</sub>.

## SECTION 11. Toxicological information

According to currently available data, this product has not yet produced health damages. Anyway, it must be handled according to good industrial practices.

### 11.1. Information on toxicological effects

#### TITANIUM DIOXIDE

Titanium dioxide showed no adverse effect in a multiple dose oral toxicity study in rats with a NOAEL (No Observed Adverse Effects Level) of 3500 mg/kg body weight/day.

Oral (chronic rats): NOAEL: 3500 mg/kg body weight/day.

Titanium dioxide showed fibrogenic effects in a chronic inhaled repeated dose toxicity study in rats with a NOAEC of 10 mg / m<sup>3</sup>.

Inhalation (chronic rats): NOAEC (No Observed Adverse Effects Concentration): 10 mg/m<sup>3</sup>, target organ - lungs

LD50 (Oral) > 5000 mg/kg

#### Metabolism, toxicokinetics, mechanism of action and other information

No data available.

#### Information on likely routes of exposure

No data available.

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

No data available.

#### Interactive effects

No data available.

#### ACUTE TOXICITY

LC50 (Inhalation) of the mixture: Not classified (no significant component)

LD50 (Oral) of the mixture: Not classified (no significant component)

LD50 (Dermal) of the mixture: Not classified (no significant component)

#### CALCIUM CARBONATE

LD50 (Oral) > 6450 mg/kg Rat

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LD50 (Oral) > 10000 mg/kg Rat

#### SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

#### SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

#### RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class



GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

## SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

### 12.1. Toxicity

#### TITANIUM DIOXIDE

LC50 Fish (sea water) = 10000 mg TiO<sub>2</sub>/L

EC50/LC50 invertebrates (sea water) = 10000 mg TiO<sub>2</sub>/L

EC50/LC50 Algae (sea water) (Skeletonema costatum): 10000 mg TiO<sub>2</sub>/L

EC10/LC10 or NOEC Algae (sea water): 5600 mg TiO<sub>2</sub>/L

EC50/LC50 Aquatic microorganisms = 1000 mg TiO<sub>2</sub>/L

EC10/L10 or NOEC Aquatic microorganisms = 1000 mg TiO<sub>2</sub>/L.

EC50/LC50 Sediments of fresh water (Hyalella azteca): 100000 mg/kg sediment daily weight

EC50/LC50 Sediments of sea water (Corophium volutator): 14989 mg/kg sediment daily weight

EC10/LC10 or NOEC Sediments of fresh water: 100000 mg/kg sediment daily weight.

#### Terrestrial compartment

EC10/LC10 or NOEC Long term for terrestrial arthropods: 1000 mg/kg soil daily weight.

EC10/LC10 or NOEC Long term for land plants: 100000 mg/kg soil daily weight.

EC10/LC10 or NOEC Long term for soil microorganisms: 10000 mg/kg soil daily weight.

#### TITANIUM DIOXIDE

LC50 - for Fish	1000 mg/l/96h
EC50 - for Crustacea	1000 mg/l/48h
EC50 - for Algae / Aquatic Plants	61 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Algae / Aquatic Plants	12,7 mg/l

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LC50 - for Fish	> 10000 mg/l/96h Leuciscus Idus
EC50 - for Crustacea	> 100 mg/l/48h Daphnia Magna
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h Desmodesmus Subspicatus

### 12.2. Persistence and degradability

No data available.

### 12.3. Potenziale di bioaccumulo

No data available.

### 12.4. Mobility in soil.

No data available.

### 12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

### 12.6. Other adverse effects.

No data available.

## SECTION 13. Disposal considerations

### 13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Solid residues may be suitable for disposal in an authorised landfill site.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

### 14.1. UN number

Not applicable

### 14.2. UN proper shipping name

Not applicable

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Not applicable

### 14.6. Special precautions for user

Not applicable

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

## SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

None

Substances in Candidate List /Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation /Annex XIV REACH!

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

## SECTION 16. Other information

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%

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- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

### GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - IFA GESTIS website
  - ECHA website
  - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanita) - Italy

### Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on howto use chemical products.