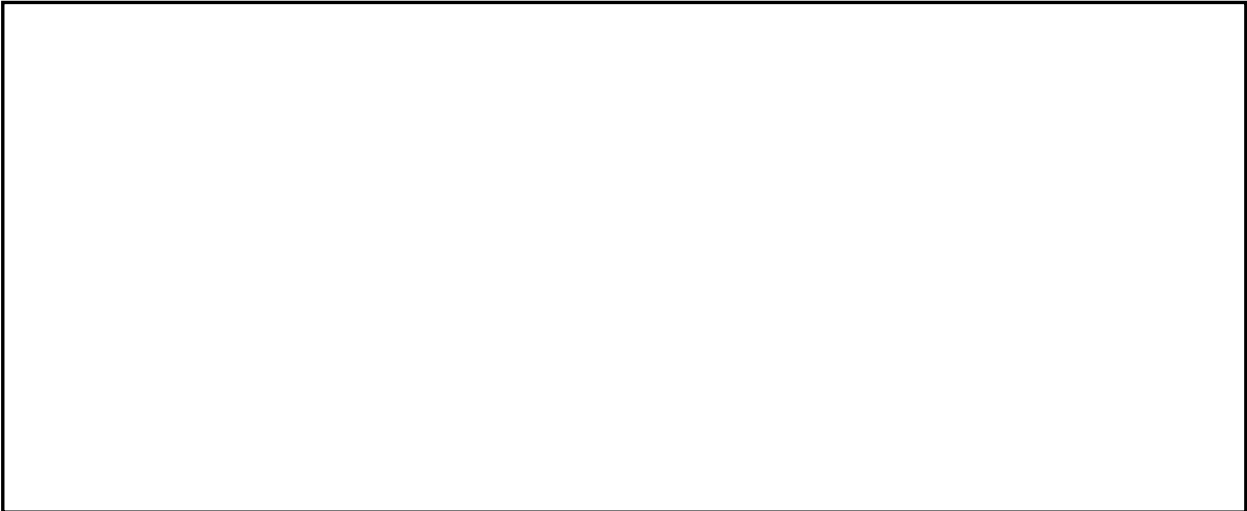




MATERIAL SAFETY DATA SHEET



Use: Colorants for industrial use

Section 2. Hazards Identification

2.1 Classification of the substance or mixture:

- **Hazard description:** *Not Applicable*
- **Information concerning particular hazards for human and environment:**

The product is not classified as dangerous according to Directive

67/548/EEC, 1999/45/EC and Regulation (EC) No. 1272/2008 Classification system:

The classification is according to the latest edition of the Directive

67/548/EEC, 1999/45/EC and Regulation (EC) No. 1272/2008, and extended by company and literature data.

2.2 Label elements:

- **GHS label elements:** *Void*

2.3 Other hazards: *Not available*

Potential health effects

Primary routes of exposure:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Irritation / corrosion:

Inhalation of dust may cause respiratory tract irritation, coughing and breathing difficulties. Contact with the eyes or skin may cause mechanical irritation.

Chronic toxicity:

Potential environmental effects

Aquatic toxicity:

At the present state of knowledge, no negative ecological effects are expected. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. The product has not been tested. The statement has been derived from the properties of the individual components.

Section 3. Composition and Information on Ingredients

Chemical Name	%(w/w)	CAS No.	CI No.
Mica	48-56	12001-26-2	77019
Titanium Oxide(TiO ₂)	22-26	13463-67-7	77891
Iron(III) Oxide(Fe ₂ O ₃)	22-26	1309-37-1	77491

Section 4. First aid Measures

4.1 Description of first aid measures:

General advice:

Remove contaminated clothing.

If inhaled: *Move person to fresh air. Consult doctor in event of any complaints.*

If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.

If on skin: *Wash with soap and water. If irritation persists, seek medical attention.*

Wash thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes: *Immediately flush eyes with water for at least 15 minutes. If discomfort persists, seek medical attention.*

Wash affected eyes for at least 15 minutes under running water with eyelids held open. If irritation develops, seek medical attention.

If swallowed: *If large quantities are ingested, seek medical advice. Not a hazard under normal use conditions.*

Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Seek medical attention if necessary.

Information for doctor:

The following symptoms may occur: Not available

Hazards: *Not available*

Treatment: *Not available*

4.2 Most important symptoms and effects, both acute and delayed: *Not available*

4.3 Indication of any immediate medical attention and special treatment needed: *Not available*

Section 5. Fire Fighting Measures

5.1 Extinguishing media: *Not available*

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture: *Not available*

Protective equipment: *No special measures required.*

5.3 Advice for firefighters: *Not available*

Section 6. Accidental Release Measures

6.1 Personal Precautions, protective equipment and emergency procedures:

Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

6.2 Environmental precautions: *Do not allow to enter sewers/surface or ground water.*

6.3 Methods and material for containment and cleaning up:

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Pick up with suitable appliance and dispose of.

Spills should be contained and placed in suitable containers for disposal.

6.4 Reference to other sections: *Not available.*

Section 7. Handling and Storage

General advice:

Breathing must be protected when large quantities are decanted without local exhaust ventilation. Avoid contact with the skin, eyes and clothing.

Keep in a cool place. Keep container dry.

7.1 Precautions for safe handling: *Avoid dust formation. Closed containers should only be opened in well-ventilated areas.*

Information about fire-and explosion protection: *No special measures required.*

7.2 Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles: *No special requirements*

Information about storage in one common storage facility: *Not required.*

Further information about storage conditions: *None.*

Incompatibilities: *Not available*

7.3 Specific end use(s): *Not available*

Section 8. Exposure Controls Personal Protection

8.1 Exposure controls:

Personal protective equipment:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye protection:

Safety glasses with side-shields.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/the substance/the preparation.

Due to missing tests no recommendation to the glove material can be give for the product/the preparation/the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to be manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Due to the colouring properties of the product closed work clothes should be used, to avoid stains during manipulation. Hands and/or face should be washed before breaks and at the end of the shift. Wash soiled clothing immediately.

Primary irritant effect

On the skin: *No irritant effect*

On the eye: *No irritating effect*

Sensitization: *No sensitizing effects known*

Additional toxicological information:

The products is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

Toxicokinetics, metabolism and distribution: *Not available*

Acute effects(acute toxicity, irritation and corrosivity) :

Quantitative data on the toxicity of this product is not available. Product does not contain any deleterious matter.

Repeated does toxicity: Prolonged or repeated exposure to dust may cause pulmonary problems.

CMR effects (carcinogenity, mutagenity and toxicity for reproduction):

The results of animal experiments using pearl luster pigment of this type indicate no toxicological relevant properties.

Since the substance is poorly absorbed, no systemic effects are to be anticipated.

Inhalation of dusts should be avoided as even inert dusts may impair respiratory organ functions. No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects.

Section 9. Physical and Chemical Properties

9.1 Information on basic physical and chemical Properties:

Form Powder

Odor odorless

Color A free flowing off gold powder with a bland luster.

Particle size: 5-25 μm

Explosion limits

Lower Not available

Upper Not available

Oxidizing properties Not available

Viscosity

Dynamic Not available

pH-value 7.0-11.0(10% aqueous suspension)

Boiling /Condensation Not available

Point

Melting /Freezing Point Not available

Specific Gravity Approx. 2.8~3.4 g / cm³ (water=1)

Ignition temperature Not available

Self-igniting Products is not self-igniting

Danger of explosion Product does not present an explosion hazard

Solubility Insoluble in water

Electric conduction Non-conduction

Impurity <0.5%

Chemical stability Acid and alkali resistance under the normal temperatures.

Section 10. Stability and Reactivity

10.1 Reactivity: No decomposition if used according to specifications

10.2 Chemical stability: Acid and alkali resistance under the normal temperatures

10.3 Possibility of hazardous reactions: Not available

10.4 Conditions to avoid: Not available

10.5 Incompatible materials: Not available

Materials t be avoided: Not available

Dangerous reactions: No dangerous reactions known

10.6 Hazardous decomposition products: Not available

Hazardous reactions:

No hazardous reactions when stored and handled according to instructions.

The product is chemically stable.

Hazardous polymerization will not occur.
Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.
Thermal decomposition:
No data available.
Corrosion to metals:
No corrosive effect on metal.

Section 11. Toxicological Information

Information on toxicological effects:

Acute toxicity

Oral:

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion

Skin:

May cause mechanical irritation.

Eye:

May cause mechanical irritation.

Section 12. Ecological Information

12.1 Toxicity:

No ecological problems are to be expected when this product is handled and used with due care and attention.

12.2 Persistence and degradability: *Not available*

12.3 Bioaccumulative potential: *Not available*

12.4 Mobility in soil: *Not available*

12.5 Results of PBT and vPvB assessment: *Not available*

12.6 Other adverse effects: *Not available*

Additional ecological information:

General notes:

Water hazard class 1(German Regulation)(Self-assessment):slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Fish

Acute:

Fish/LC50 (96 h):

not determined

Chronic:

No data available.

Aquatic invertebrates

Acute:

daphnia/LC50 (48 h):

not determined

Chronic:

No data available.

Aquatic plants

Toxicity to aquatic plants:

algae/EC50 (72 h):

not determined

Microorganisms

Toxicity to microorganisms:

bacteria/EC50 (0.5 h):

not determined

Degradability / Persistence

Biological / Abiological Degradation

Evaluation:

Not readily biodegradable (by OECD criteria).

The colourant is insoluble in water and can thus be separated from water

mechanically in suitable effluent treatment plant

Section 13. Disposal and Considerations

13.1 Waste disposal of substance:

Must be disposed of or incinerated in accordance with local regulations.
Dispose of in a licensed facility. Do not discharge into drains/surface waters/groundwater. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

13.2 Container disposal:

Uncontaminated packaging can be re-used. Packs that cannot be cleaned should be disposed of in the same manner as the contents.

Section 14. Transport Information

14.1 Land transport ADR/RID (cross-border)

USDOT

Not classified as a dangerous good under transport regulations

Transport category:

14.2 Maritime transport IMDG

14.2.1 IMDG Class: Not classified as a dangerous good under transport regulations

Label: -

14.2.3 Packaging group: -

EMS Number: -

Marine pollutant: No

14.2.4 Proper shipping name: -

14.3 Air transport ICAO-TI and IATA-DGR

14.3.1 ICAO/IATA Class: Not classified as a dangerous good under transport regulations

14.3.2 UN/ID Number: -

Label:

14.3.3 Packaging group: -

14.3.4 Proper shipping name: -

UN (Model Regulation): -

14.4 Environmental hazards: Not available

14.5 Special precautions hazards: Not available

Section 15. Regulatory information

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

Sara

Section 335 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (specific toxic chemical listings):

None of the ingredients is listed.

Proposition 65

Chemical known to cause cancer:

None of the ingredients is listed.

Chemical known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemical known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity categories

EPA(Environmental Protection Agency)

None of the ingredients is listed.

NTP(National toxicology Program)

None of the ingredients is listed.

OSHA-Ca(Occupational Safety & Health Administration)

None of the ingredients is listed.

labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals.

The product has not been classified and marked in accordance with EU Directives/respective national laws.

The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials

The product has not been classified as dangerous according to Directive 67/548/EEC, 1999/45/EC and Regulation (EC) No.1272/2008.

National regulations

Candidate List of Substance of very high concern(SVHC) according ECHA (18/06/2010)

None of the ingredients is listed

REACH Regulation Annex XVII Restrictions List :None of the ingredients is listed

REACH Regulation Annex XVII Authorization Recommendation List: None of the ingredients is listed

Section 16. Other Information

The contents and format of this MSDS are in accordance with REGULATION (EC) No.1272/2008.(EC)No.1907/2006,EU Commission Directive 1999/45/EC, 67/548/EEC.

DISCLAIMER OF LIABILITY:

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or method of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in anyway connected with the handling, storage, use or disposal of the product. This MSDS/SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS/SDS information may not be applicable.

Relevant R-phrases

36/377/38 Irritating to eyes, respiratory system and skin.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route(European Agreement concerning the international Transport of Dangerous Goods by Rail).

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the : "International Air Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "international Civil Aviation Organization"(ICAO)

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

ACGIH: American Conference of Governmental Industrial Hygienists.

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

HMIS III rating

Health: 1 Flammability: 0 Physical hazard: 0

HMIS use a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates extreme danger. Although similar, the two rating systems are intended for different purposes, and use different criteria. The HMIS system was designed to communicate workplace hazard information to employees who handle hazardous chemicals.

END OF DATA SHEET