

## Safety Data Sheet



### GT4A - READY TO USE THICK PLATING BATH 4G/L PURE GOLD COLOR

Safety Data Sheet dated 5/20/2022 version 4

Compliant with regulation (CE) n. 1907/2006 REACH, Annex II, and subsequent amendments introduced by Commission Regulation (EU) no. 2015/830

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

### 1.1. Product identifier

Mixture identification:

Trade name: GT4A - READY TO USE THICK PLATING BATH 4G/L PURE GOLD COLOR

Trade code: GT4A

Product type and use: SL

Registration Number N/A

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

Recommended use: For electroplating industry

Uses advised against: N.A.

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

Company: LEGOR GROUP S.p.A.

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Competent person responsible for the safety data sheet: info@legor.com

### 1.4. Emergency telephone number

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## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

Acute Tox. 4 Harmful if swallowed.  
Carc. 1B May cause cancer.  
Repr. 1B May damage fertility or the unborn child.  
Aquatic Chronic 2 Toxic to aquatic life with long lasting effects.  
Adverse physicochemical, human health and environmental effects:  
No other hazards

### 2.2. Label elements

#### Regulation (EC) No 1272/2008 (CLP):

#### Hazard pictograms and Signal Word



Danger

#### Hazard statements

H302 Harmful if swallowed.  
H350 May cause cancer.  
H360 May damage fertility or the unborn child.  
H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P391 Collect spillage.

#### Contains

Cobalt sulphate heptahydrate  
Potassium dicyanoaurate (I)  
Potassium dicyanoaurate (I) May produce an allergic reaction.

Cobalt sulphate heptahydrate

May produce an allergic reaction.

**Special provisions according to Annex XVII of REACH and subsequent amendments:**

None.

**2.3. Other hazards**

No PBT Ingredients are present

Other Hazards: No other hazards

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**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

N.A.

**3.2. Mixtures**

Mixture identification: GT4A - READY TO USE THICK PLATING BATH 4G/L PURE GOLD COLOR

**Hazardous components within the meaning of the CLP regulation and related classification:**

Qty	Name	Ident. Numb.	Classification	Registration Number	Material Properties
< 5%	Potassium dicyanoaurate (I)	CAS:13967-50-5 EC:237-748-4	Met. Corr. 1, H290; Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 2, H300; Skin Sens. 1, H317; Acute Tox. 2, H330, M:1, M-Acute:1, EUH032	01-2120130777-52-0005	
< 5%	Cobalt sulphate heptahydrate	CAS:10026-24-1 EC:600-050-9 Index:027-005-00-0	Carc. 1B, H350; Muta. 2, H341; Repr. 1B, H360; Resp. Sens. 1, H334; Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302, M:10		SVHC

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**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

Give nothing to eat or drink.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

N.A.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

None in particular.

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

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

**5.3. Advice for firefighters**

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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## SECTION 6: Accidental release measures

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

Wear personal protection equipment.  
Remove persons to safety.  
See protective measures under point 7 and 8.

#### For emergency responders:

Wear personal protection equipment.

### 6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand

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

Suitable material for taking up: absorbing material, organic, sand  
Wash with plenty of water.

### 6.4. Reference to other sections

See also section 8 and 13

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.  
Exercise the greatest care when handling or opening the container.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.

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

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

### 7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

OEL Type	Occupational Exposure Limit
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Cobalt sulphate heptahydrate ACGIH	Long Term: 0.02 mg/m <sup>3</sup>
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CAS: 10026-24-1

#### Predicted No Effect Concentration (PNEC) values

Potassium dicyanoaurate Exposure Route: Fresh Water; PNEC Limit: 0.0002 mg/l  
(I)  
CAS: 13967-50-5

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.002 mg/l

Exposure Route: Marine water; PNEC Limit: 0.00002 mg/l

Exposure Route: STP; PNEC Limit: 6 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 0.33 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0.033 mg/kg

#### Derived No Effect Level (DNEL) values

Potassium dicyanoaurate (I) Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
CAS: 13967-50-5 Worker Professional: 0.071 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 100 µg/kg bw/day

## 8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

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## SECTION 9: Physical and chemical properties

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

**Physical State:** Liquid

**Appearance and colour:** Red liquid

**Odour:** Typical

**Odour threshold:** N.A.

**pH:** 3,50

**Melting point / freezing point:** N.A.

**Initial boiling point and boiling range:** N.A.

**Flash point:** N.A.

**Evaporation rate:** N.A.

**Upper/lower flammability or explosive limits:** N.A.

**Vapour density:** n/a

**Vapour pressure:** N.A.

**Relative density:** N.A.

**Solubility in water:** Total

**Solubility in oil:** N.A.

**Partition coefficient (n-octanol/water):** N.A.

**Auto-ignition temperature:** N.A.

**Decomposition temperature:** N.A.

**Viscosity:** N.A.

**Explosive properties:** n/a

**Oxidizing properties:** n/a

**Solid/gas flammability:** n/a

### 9.2. Other information

**VOC** N.A.

**Substance Groups relevant properties** N.A.

**Miscibility:** N.A.

**Conductivity:** N.A.

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Stable under normal conditions.

## 10.5. Incompatible materials

None in particular.

## 10.6. Hazardous decomposition products

None.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicological Information of the Preparation

a) acute toxicity	The product is classified: Acute Tox. 4(H302)
b) skin corrosion/irritation	Not classified
	Based on available data, the classification criteria are not met
c) serious eye damage/irritation	Not classified
	Based on available data, the classification criteria are not met
d) respiratory or skin sensitisation	Not classified
	Based on available data, the classification criteria are not met
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	The product is classified: Carc. 1B(H350)
g) reproductive toxicity	The product is classified: Repr. 1B(H360)
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

#### Toxicological information on main components of the mixture:

Potassium dicyanoaurate (I)	a) acute toxicity	LD50 Oral Rat = 29.2
		LD50 Skin Rat > 2000
Cobalt sulphate heptahydrate	a) acute toxicity	LD50 Oral Rat = 424 mg/kg

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## SECTION 12: Ecological information

### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

#### List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

#### List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Potassium dicyanoaurate (I)	CAS: 13967-50-5 - EINECS: 237-748-4	a) Aquatic acute toxicity : LC50 Fish = 5.7 mg/l 96h a) Aquatic acute toxicity : EC50 Shellfish Daphnia Magna > 0.2 mg/l 48h a) Aquatic acute toxicity : EC50 Algae = 30 mg/l 72h a) Aquatic acute toxicity : EC10 Algae = 6.4 mg/l 72h
Cobalt sulphate heptahydrate	CAS: 10026-24-1 - EINECS: 600-050-9 - INDEX: 027-005-00-0	a) Aquatic acute toxicity : LC50 Fish = 52.5 mg/l 96 - Terapon jaruba (Tigerfish)

a) Aquatic acute toxicity : EC50 Daphnia magna = 0.027 mg/l 48 - (Crustacei)

a) Aquatic acute toxicity : EC50 Algae = 10.2 mg/l 72 - Pheodactylum tricornutum (Diatom)

## 12.2. Persistence and degradability

Component	Persistence/Degradability:	Value	Notes:
Potassium dicyanoaurate (I)	Solubility in water	143000. mg/l 000	
Cobalt sulphate heptahydrate	Solubility in water	> 10000 mg/l	

## 12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value
Cobalt sulphate heptahydrate	Bioaccumulative	BCF - Bioconcentration factor	400

## 12.4. Mobility in soil

N.A.

## 12.5. Results of PBT and vPvB assessment

No PBT Ingredients are present

## 12.6. Other adverse effects

N.A.

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

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## SECTION 14: Transport information



### 14.1. UN number

3082

### 14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cobalt sulphate heptahydrate)

IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cobalt sulphate heptahydrate)

IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cobalt sulphate heptahydrate)

### 14.3. Transport hazard class(es)

ADR-Class: 9

IATA-Class: 9

IMDG-Class: 9

### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

### 14.5. Environmental hazards

Yes

Environmental Pollutant: Yes

### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 9

ADR - Hazard identification number: 90

ADR-Special Provisions: 274 335 375 601

ADR-Transport category (Tunnel restriction code): 3 (-)

**Air (IATA):**

IATA-Passenger Aircraft: 964  
IATA-Cargo Aircraft: 964  
IATA-Label: 9  
IATA-Subsidiary hazards: -  
IATA-Erg: 9L  
IATA-Special Provisions: A97 A158 A197

**Sea (IMDG):**

IMDG-Stowage Code: Category A  
IMDG-Stowage Note: -  
IMDG-Subsidiary hazards: -  
IMDG-Special Provisions: 274 335 969  
IMDG-EMS: F-A, S-F

**14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code**  
N.A.

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**SECTION 15: Regulatory information**

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) 2015/830

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

**Regulation (EU) No 649/2012 (PIC regulation)**

No substances listed

German Water Hazard Class.

Class 3: extremely hazardous.

SVHC Substances:

**Substances in candidate list (Art. 59 Reg. 1907/2006, REACH):**

<b>Component</b>	<b>Ident. Numb.</b>	<b>Quantity</b>	<b>Material Properties</b>
Cobalt sulphate heptahydrate	CAS: 10026-24-1 EINECS: 600-050-9 Index: 027-005-00-0	< 5%	SVHC Carc. Cat. 3.6/1B; Repr. Cat. 3.7/1B;

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out for the mixture.

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**SECTION 16: Other information**



<b>Code</b>	<b>Description</b>
EUH032	Contact with acids liberates very toxic gas.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

<b>Code</b>	<b>Hazard class and hazard category</b>	<b>Description</b>
2.16/1	Met. Corr. 1	Substance or mixture corrosive to metals, Category 1
3.1/2/Inhal	Acute Tox. 2	Acute toxicity (inhalation), Category 2
3.1/2/Oral	Acute Tox. 2	Acute toxicity (oral), Category 2
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.4.1/1	Resp. Sens. 1	Respiratory Sensitisation, Category 1
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.5/2	Muta. 2	Germ cell mutagenicity, Category 2
3.6/1B	Carc. 1B	Carcinogenicity, Category 1B
3.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

**Classification according to Regulation (EC) Nr. 1272/2008      Classification procedure**

3.1/4/Oral	Calculation method
3.6/1B	Calculation method
3.7/1B	Calculation method
4.1/C2	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand  
CAS: Chemical Abstracts Service (division of the American Chemical Society).  
CAV: Poison Center  
CE: European Community  
CLP: Classification, Labeling, Packaging.  
CMR: Carcinogenic, Mutagenic and Reprotoxic  
COD: Chemical Oxygen Demand  
COV: Volatile Organic Compound  
CSA: Chemical Safety Assessment  
CSR: Chemical Safety Report  
DMEL: Derived Minimal Effect Level  
DNEL: Derived No Effect Level.  
DPD: Dangerous Preparations Directive  
DSD: Dangerous Substances Directive  
EC50: Half Maximal Effective Concentration  
ECHA: European Chemicals Agency  
EINECS: European Inventory of Existing Commercial Chemical Substances.  
ES: Exposure Scenario  
GefStoffVO: Ordinance on Hazardous Substances, Germany.  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association.  
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
IC50: half maximal inhibitory concentration  
ICAO: International Civil Aviation Organization.  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).  
IMDG: International Maritime Code for Dangerous Goods.  
INCI: International Nomenclature of Cosmetic Ingredients.  
IRCCS: Scientific Institute for Research, Hospitalization and Health Care  
KAFH: KAFH  
KSt: Explosion coefficient.  
LC50: Lethal concentration, for 50 percent of test population.  
LD50: Lethal dose, for 50 percent of test population.  
LDLo: Leathal Dose Low  
N.A.: Not Applicable  
N/A: Not Applicable  
N/D: Not defined/ Not available  
NA: Not available  
NIOSH: National Institute for Occupational Safety and Health  
NOAEL: No Observed Adverse Effect Level  
OSHA: Occupational Safety and Health Administration.  
PBT: Persistent, Bioaccumulative and Toxic  
PGK: Packaging Instruction  
PNEC: Predicted No Effect Concentration.  
PSG: Passengers  
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.  
STEL: Short Term Exposure limit.  
STOT: Specific Target Organ Toxicity.  
TLV: Threshold Limiting Value.  
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).  
vPvB: Very Persistent, Very Bioaccumulative.  
WGK: German Water Hazard Class.

**Paragraphs modified from the previous revision:**

- Safety Data Sheet
- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 4. FIRST AID MEASURES
- 6. ACCIDENTAL RELEASE MEASURES
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES

- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION