

# Safety Data Sheet

## K05NB - Micron gold plating make-up



Safety Data Sheet dated 13/1/2016, version 1

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

#### 1.1. Product identifier

Mixture identification:

Trade name: K05NB - Micron gold plating make-up

Trade code: K05NB

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

Recommended use:

For electroplating industry

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

Company:

LEGOR GROUP S.p.A.

Via del Lavoro, 1

36050 Bressanvido (VI)

Italy

LEGOR GROUP S.p.A.

tel. +39 0444 467911 fax +39 0444 660677

Competent person responsible for the safety data sheet:

info@legor.com

#### 1.4. Emergency telephone number

Centro Antiveleni

Ospedale di Niguarda "Ca Grande"

Piazza Ospedale Maggiore 3

20162 Milano

Telephone: +39 (0) 2/66 10 10 29

Telefax: +39 (0) 2/64 44 27 68

Italiano (French, English)

(24-hour-service)

### SECTION 2: Hazards identification

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

EC regulation criteria 1272/2008 (CLP)

⚠ Danger, Resp. Sens. 1A, May cause allergy or asthma symptoms or breathing difficulties if inhaled.

⚠ Warning, Skin Sens. 1B, May cause an allergic skin reaction.

⚠ Warning, Muta. 2, Suspected of causing genetic defects.

⚠ Danger, Carc. 1A, May cause cancer.

⚠ Danger, Repr. 1B, May damage fertility or the unborn child.

⚠ Warning, STOT RE 2, May cause damage to organs through prolonged or repeated exposure.

⚠ 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

Symbols:



Danger

Hazard statements:

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

## Safety Data Sheet

### K05NB - Micron gold plating make-up

H317 May cause an allergic skin reaction.  
 H341 Suspected of causing genetic defects.  
 H350 May cause cancer.  
 H360 May damage fertility or the unborn child.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 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.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...

#### Special Provisions:

None

#### Contents:

Nickel Sulfate Hexahydrate

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

None

#### 2.3. Other hazards

vPvB Substances: None - PBT Substances: None

#### Other Hazards:

No other hazards

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

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

Qty	Name	Ident. Number	Classification
>= 5% - < 7%	Nickel Sulfate Hexahydrate	Index number: CAS: EC: 028-009-00-5 10101-97-0 232-104-9	⚠ 3.1/4/Oral Acute Tox. 4 H302 ⚠ 3.4.1/1A Resp. Sens. 1A H334 ⚠ 3.4.1/1B Resp. Sens. 1B H334 ⚠ 3.4.2/1B Skin Sens. 1B H317 ⚠ 3.5/2 Muta. 2 H341 ⚠ 3.6/1A Carc. 1A H350 ⚠ 3.7/1B Repr. 1B H360 ⚠ 3.9/1 STOT RE 1 H372 ⚠ 4.1/A1 Aquatic Acute 1 H400 ⚠ 4.1/C1 Aquatic Chronic 1 H410
>= 5% - < 7%	Acido Citrico	CAS: EC: 77-92-9 201-069-1	⚠ 3.3/2 Eye Irrit. 2 H319

## 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

## Safety Data Sheet

### K05NB - Micron gold plating make-up

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.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

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

None

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).

Treatment:

None

---

#### SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

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.

---

#### SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Remove persons to safety.

See protective measures under point 7 and 8.

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

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

---

#### 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

## Safety Data Sheet

### K05NB - Micron gold plating make-up

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

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

#### 7.3. Specific end use(s)

None in particular

---

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

K05NB - Micron gold plating make-up

ACGIH - LTE(8h): 0.1 mg/m<sup>3</sup> - Notes: As Ni

#### DNEL Exposure Limit Values

K05NB - Micron gold plating make-up

Worker Professional: 1.25 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term (acute) - Notes: Nickel sulfate hexahydrate

Worker Professional: 43 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, systemic effects - Notes: Nickel sulfate hexahydrate

Worker Professional: 0.22 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Local chronic - Notes: Nickel sulfate hexahydrate

Worker Professional: 0.22 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Chronic Systemic - Notes: Nickel sulfate hexahydrate

Worker Professional: 0.002 mg/cm<sup>2</sup> - Exposure: Human Dermal - Frequency: Local chronic

#### PNEC Exposure Limit Values

K05NB - Micron gold plating make-up

Target: Fresh Water - Value: 0.44 mg/l - Type of hazard: Environmentally not effective limit - Notes:: Citric Acid

Target: Marine water - Value: 0.044 mg/l - Type of hazard: Environmentally not effective limit - Notes:: Citric Acid

Target: Freshwater sediments - Value: 3.46 mg/kg/d - Type of hazard: Environmentally not effective limit - Notes:: Citric Acid

Target: Marine water sediments - Value: 34.6 mg/kg/d - Type of hazard: Environmentally not effective limit - Notes:: Citric Acid

Target: Terrestrial compartment - Value: 33.1 mg/kg/d - Type of hazard: Environmentally not effective limit - Notes:: Citric Acid

### 8.2. Exposure controls

#### Eye protection:

Basket eye glasses.

#### Protection for skin:

Chemical protection clothing.

#### Protection for hands:

PVA (Polyvinyl alcohol).

Butyl caoutchouc (butyl rubber).

FKM (fluoro rubber).

#### Respiratory protection:

Mask with filter "B", grey colour

Combination filtering device (DIN EN 141).

Container device with compressed air (DIN EN 137).

# Safety Data Sheet

## K05NB - Micron gold plating make-up

Fresh-air tube device (DIN EN 138).

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

---

### SECTION 9: Physical and chemical properties

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

Properties	Value	Method:	Notes:
Appearance and colour:	Green Liquid	--	--
Odour:	Typical	--	--
Odour threshold:	N.A.	--	--
pH:	3,5 - 4,2	--	--
Melting point / freezing point:	N.A.	--	--
Initial boiling point and boiling range:	N.A.	--	--
Flash point:	N.A.	--	--
Evaporation rate:	N.A.	--	--
Solid/gas flammability:	N.A.	--	--
Upper/lower flammability or explosive limits:	N.A.	--	--
Vapour pressure:	N.A.	--	--
Vapour density:	N.A.	--	--
Relative density:	N.A.	--	--
Solubility in water:		--	--
Solubility in oil:		--	--
Partition coefficient (n-octanol/water):	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
Viscosity:	N.A.	--	--
Explosive properties:	N.A.	--	--

# Safety Data Sheet

## K05NB - Micron gold plating make-up

Oxidizing properties:	N.A.	--	--
-----------------------	------	----	----

### 9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	N.A.	--	--
Fat Solubility:	N.A.	--	--
Conductivity:	N.A.	--	--
Substance Groups relevant properties	N.A.	--	--

---

## SECTION 10: Stability and reactivity

- 10.1. Reactivity  
Stable under normal conditions
- 10.2. Chemical stability  
Stable under normal conditions
- 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.

---

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Toxicological information of the mixture:  
N.A.

Toxicological information of the main substances found in the mixture:

K05NB - Micron gold plating make-up -

Nickel sulfate hexahydrate: LD50 (Oral) = 361 mg/Kg Rat; LC50 (inhalation) = 2,48 mg/l Rat.  
Acido Citrico: LD50 (Oral) = 3000 mg/kg Rat.

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

---

## SECTION 12: Ecological information

### 12.1. Toxicity

K05NB/1

Page n. 6 of 9

# Safety Data Sheet

## K05NB - Micron gold plating make-up

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

N.A.

### 12.2. Persistence and degradability

None

N.A.

### 12.3. Bioaccumulative potential

N.A.

### 12.4. Mobility in soil

N.A.

### 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

### 12.6. Other adverse effects

None

---

## 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.

---

## SECTION 14: Transport information



### 14.1. UN number

ADR-UN Number: 3082

IATA-UN Number: 3082

IMDG-UN Number: 3082

### 14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nickel Sulfate Hexahydrate)

IATA-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nickel Sulfate Hexahydrate)

IMDG-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nickel Sulfate Hexahydrate)

### 14.3. Transport hazard class(es)

ADR-Class: 9

Rail (RID): 9

IATA-Class: 9

IMDG-Class: 9

ADR-Class: 9

ADR-Label: 9

ADR - Hazard identification number: 90

IATA-Class: 9

IATA-Label: 9

IMDG-Class: 9

IMDG-Label: 9

### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

### 14.5. Environmental hazards

ADR-Environmental Pollutant: Yes

IMDG-Marine pollutant: Marine Pollutant

Most important toxic component: Nickel Sulfate Hexahydrate

## Safety Data Sheet

### K05NB - Micron gold plating make-up

- 14.6. Special precautions for user
- |                              |             |
|------------------------------|-------------|
| ADR-Subsidiary risks:        | -           |
| ADR-S.P.:                    | 274 335 601 |
| ADR-Tunnel Restriction Code: | (E)         |
| IATA-Passenger Aircraft:     | 964         |
| IATA-Subsidiary risks:       | -           |
| IATA-Cargo Aircraft:         | 964         |
| IATA-S.P.:                   | A97 A158    |
| IATA-ERG:                    | 9L          |
| IMDG-EmS:                    | F-A , S-F   |
| IMDG-Subsidiary risks:       | -           |
| IMDG-Storage category:       | Category A  |
| IMDG-Storage notes:          | -           |
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code  
N.A.

---

#### 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) 2015/830
  - 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)
- Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:  
None
- Where applicable, refer to the following regulatory provisions :
- Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
  - Regulation (EC) nr 648/2004 (detergents).
  - 1999/13/EC (VOC directive)
- Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):  
N.A.
- 15.2. Chemical safety assessment  
Yes

---

#### SECTION 16: Other information

- Text of phrases referred to under heading 3:
- H302 Harmful if swallowed.
  - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  - H317 May cause an allergic skin reaction.
  - H341 Suspected of causing genetic defects.
  - H350 May cause cancer.
  - H360 May damage fertility or the unborn child.
  - H372 Causes damage to organs through prolonged or repeated exposure.
  - H400 Very toxic to aquatic life.
  - H410 Very toxic to aquatic life with long lasting effects.
  - H319 Causes serious eye irritation.



## Safety Data Sheet

### K05NB - Micron gold plating make-up

This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU. 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 Reinhold

Insert here further consulted bibliography

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.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
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.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
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).
WGK:	German Water Hazard Class.