

**Safety Data Sheet dated 6/2/2023, version 8**

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

### **1.1. Product identifier**

Mixture identification:

Trade name: GN25 Solution

Trade code: Z002

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

Recommended use:

Galvanic, base and lab chemistry

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

Company:

CABRO SPA - AREZZO

Road Setteponti 141

52100 - Italy

CABRO SPA

Phone n. +39 0575 984442

Office hours: 9-13 / 14.30-17.30

Competent person responsible for the safety data sheet:

info@cabro.it

### **1.4. Emergency telephone number**

CABRO SPA

Phone n. +39 0575 984442

Office hours: 9-13 / 14.30-17.30

Poison Information Center - 24/24h Careggi Hospital (Florence) - Phone +39 055 7947819

Poison Information Center - 24/24h Foggia Hospital - Phone +39 0881-732326

Poison Information Center - 24/24h Bergamo Hospital - Phone +39 800 883300

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## **SECTION 2: Hazards identification**

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

EC regulation criteria 1272/2008 (CLP)

⚠ Warning, Acute Tox. 4, Harmful if swallowed.

⚠ Danger, Skin Corr. 1B, Causes severe skin burns and eye damage.

⚠ Danger, Eye Dam. 1, Causes serious eye damage.

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

⚠ Warning, Skin Sens. 1, 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.

⚠ Danger, STOT RE 1, Causes damage to organs through prolonged or repeated exposure.

⚠ Warning, Aquatic Chronic 1, Very toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

### **2.2. Label elements**

Hazard pictograms:



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### Danger

#### Hazard statements:

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- 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.
- H410 Very 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.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/clothing and eye/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P310 Immediately call a POISON CENTER/doctor.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER.
- P391 Collect spillage.

#### Special Provisions:

None

#### Contains

Nickel sulphate  
ammonia

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

None

### 2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration  $\geq 0.1\%$

#### 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
$\geq 30\%$ - $< 40\%$	Nickel sulphate	Index number: 028-009-00-5 CAS: 10101-97-0 EC: 232-104-9 REACH No.: 01-	3.1/4/Oral Acute Tox. 4 H302 3.1/4/Inhal Acute Tox. 4 H332 3.2/2 Skin Irrit. 2 H315 3.4.1/1 Resp. Sens. 1 H334

		2119439361-44	<p>  3.4.2/1 Skin Sens. 1 H317   3.5/2 Muta. 2 H341   3.6/1A Carc. 1A H350i   3.7/1B Repr. 1B H360   3.9/1 STOT RE 1 H372   4.1/C1 Aquatic Chronic 1 H410         </p>
>= 20% - < 25%	ammonia	<p>Index number: 007-001-01-2</p> <p>CAS: 1336-21-6</p> <p>EC: 215-647-6</p> <p>REACH No.: 01-2119488876-14</p>	<p>  3.2/1B Skin Corr. 1B H314   4.1/A1 Aquatic Acute 1 H400         </p>

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.  
OBTAIN IMMEDIATE MEDICAL ATTENTION.  
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:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.  
Give nothing to eat or drink.  
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 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**

For non emergency personnel:  
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**

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.  
See also section 8 for recommended protective equipment.  
Advice on general occupational hygiene:  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.

### **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

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## **SECTION 8: Exposure controls/personal protection**

### **8.1. Control parameters**

Nickel sulphate - CAS: 10101-97-0

TLV - TWA: 0.1 mg/m<sup>3</sup>

DNEL Exposure Limit Values

Nickel sulphate - CAS: 10101-97-0

Consumer: 9.6 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Consumer: 0.022 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

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Worker Industry: 16 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Industry: 0.7 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects

Worker Industry: 0.05 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

### PNEC Exposure Limit Values

Nickel sulphate - CAS: 10101-97-0

Target: Fresh Water - Value: 15.9 µg/l

Target: Marine water - Value: 38.5 µg/l

Target: Soil (agricultural) - Value: 134 mg/kg

### 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:

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
Physical state:	Liquid	--	--
Colour:	Colourless	--	--
Odour:	Characteristic	--	--
Melting point/freezing point:	N.A.	--	--
Boiling point or initial boiling point and boiling range:	N.A.	--	--
Flammability:	Non-flammable	--	--
Lower and upper explosion limit:	N.A.	--	--
Flash point:	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--

Decomposition temperature:	N.A.	--	--
pH:	>10	--	--
Kinematic viscosity:	N.A.	--	--
Solubility in water:	Soluble	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	N.A.	--	--
Relative vapour density:	N.A.	--	--
Particle characteristics:			
Particle size:	N.A.	--	--

#### 9.2. Other information

Properties	Value	Method:	Notes
Miscibility:	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

It may generate flammable gases on contact with halogenated organic substances, and elementary metals.

### 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 hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological information of the product:

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a) acute toxicity

The product is classified: Acute Tox. 4 H302

ATEmix - Oral 1666,67 mg/kg bw

- b) skin corrosion/irritation  
The product is classified: Skin Corr. 1B H314
- c) serious eye damage/irritation  
The product is classified: Eye Dam. 1 H318
- d) respiratory or skin sensitisation  
The product is classified: Resp. Sens. 1 H334; Skin Sens. 1 H317
- e) germ cell mutagenicity  
The product is classified: Muta. 2 H341
- f) carcinogenicity  
The product is classified: Carc. 1A 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  
The product is classified: STOT RE 1 H372
- j) aspiration hazard  
Not classified  
Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:

Nickel sulphate - CAS: 10101-97-0

- a) acute toxicity:
  - Test: LC50 - Route: Inhalation - Species: Rat = 2.48 mg/l - Duration: 4h
  - Test: LD50 - Route: Oral - Species: Rat = 300 mg/kg
  - Test: LD50 - Route: Skin - Species: Rat = 500 mg/kg

#### 11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration  $\geq 0.1\%$

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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.

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The product is classified: Aquatic Chronic 1 - H410

Nickel sulphate - CAS: 10101-97-0

#### a) Aquatic acute toxicity:

- Endpoint: LC50 - Species: Daphnia = 266.3  $\mu\text{g/l}$  - Duration h: 48
- Endpoint: EC50 - Species: Bacteria = 33 mg/l - Duration h: 0.30
- Endpoint: EC10 - Species: Algae = 122.7  $\mu\text{g/l}$  - Duration h: 72
- Endpoint: LC50 - Species: Fish = 15.3 mg/l - Duration h: 96

### 12.2. Persistence and degradability

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. Endocrine disrupting properties

No endocrine disruptor substances present in concentration  $\geq 0.1\%$

### 12.7. 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.

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## SECTION 14: Transport information



### 14.1. UN number or ID number

ADR-UN Number: 3266  
IATA-UN Number: 3266  
IMDG-UN Number: 3266

### 14.2. UN proper shipping name

ADR-Shipping Name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ammonia)  
IATA-Shipping Name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ammonia)  
IMDG-Shipping Name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (ammonia)

### 14.3. Transport hazard class(es)

ADR-Class: 8  
ADR - Hazard identification number: 80  
IATA-Class: 8  
IATA-Label: 8  
IMDG-Class: 8

### 14.4. Packing group

ADR-Packing Group: II  
IATA-Packing group: II  
IMDG-Packing group: II

### 14.5. Environmental hazards

ADR-Environmental Pollutant: Yes  
IMDG-Marine pollutant: Marine Pollutant  
Most important toxic component: Nickel sulphate  
IMDG-EmS: F-A,  
S-B

### 14.6. Special precautions for user

ADR-Subsidiary hazards: -  
ADR-S.P.: 274  
ADR-Transport category (Tunnel restriction code): 2 (E)  
IATA-Passenger Aircraft: 851  
IATA-Subsidiary hazards: -  
IATA-Cargo Aircraft: 855  
IATA-S.P.: A3 A803  
IATA-ERG: 8L  
IMDG-Subsidiary hazards: -  
IMDG-Stowage and handling: Category B SW2  
IMDG-Segregation: SG35 SGG18

### 14.7. Maritime transport in bulk according to IMO instruments

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. 2020/878  
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) n. 2021/849 (ATP 17 CLP)

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:

Restriction 3

Restrictions related to the substances contained:

Restriction 65

Restriction 75

Where applicable, refer to the following regulatory provisions :

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents).

Dir. 2004/42/EC (VOC directive)

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

Seveso III category according to Annex 1, part 1

Product belongs to category: E1

#### **15.2. Chemical safety assessment**

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

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## **SECTION 16: Other information**

Full text of phrases referred to in Section 3:

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H315 Causes skin irritation.

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.

H350i May cause cancer by inhalation.

H360 May damage fertility or the unborn child if inhaled and in contact with skin.

H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

H410 Very toxic to aquatic life with long lasting effects.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

<b>Hazard class and hazard category</b>	<b>Code</b>	<b>Description</b>
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Resp. Sens. 1	3.4.1/1	Respiratory Sensitisation, Category 1
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
Muta. 2	3.5/2	Germ cell mutagenicity, Category 2
Carc. 1A	3.6/1A	Carcinogenicity, Category 1A
Repr. 1B	3.7/1B	Reproductive toxicity, Category 1B
STOT RE 1	3.9/1	Specific target organ toxicity - repeated exposure, Category 1
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1

This safety data sheet has been completely updated in compliance to Regulation 2020/878. Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

<b>Classification according to Regulation (EC) Nr. 1272/2008</b>	<b>Classification procedure</b>
Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Resp. Sens. 1, H334	Calculation method
Skin Sens. 1, H317	Calculation method
Muta. 2, H341	Calculation method
Carc. 1A, H350	Calculation method
Repr. 1B, H360	Calculation method
STOT RE 1, H372	Calculation method

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Aquatic Chronic 1, H410	Calculation method
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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

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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.