

# Safety Data Sheet

## C104 - PT(II) DIAMMINEDINITRITE IN HNO3



Safety Data Sheet dated 20/9/2021, version 6

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

#### 1.1. Product identifier

Mixture identification:

Trade name: C104 - PT(II) DIAMMINEDINITRITE IN HNO3  
Trade code: C104  
CAS number: 14286-02-3  
EC number: 238-203-3

#### 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

### SECTION 2: Hazards identification

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

EC regulation criteria 1272/2008 (CLP)

- ⚠ Warning, Acute Tox. 4, Harmful if inhaled.
- ⚠ Danger, Skin Corr. 1A, Causes severe skin burns and eye damage.
- ⚠ Danger, Eye Dam. 1, Causes serious eye damage.
- ⚠ Warning, Skin Sens. 1A, May cause an allergic skin reaction.
- ⚠ Warning, Aquatic Acute 1, Very toxic to aquatic life.
- ⚠ Warning, Aquatic Chronic 1, Very toxic to aquatic life with long lasting effects.

There is a danger of the product exploding if it becomes dry. Keep in solution or in moist form.

Adverse physicochemical, human health and environmental effects:

No other hazards

#### 2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

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H332 Harmful if inhaled.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements:**

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].  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/doctor.  
 P391 Collect spillage.

**Special Provisions:**

None

**Contains**

Diammineplatinum(II) nitrite  
 nitric acid

**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
>= 30% - < 40%	Diammineplatinum(II) nitrite	CAS: 14286-02-3 EC: 238-203-3	⚠ 3.4.2/1A Skin Sens. 1A H317 ⚠ 3.3/1 Eye Dam. 1 H318 ⚠ 4.1/A1 Aquatic Acute 1 H400 ⚠ 4.1/C1 Aquatic Chronic 1 H410
>= 15% - < 20%	nitric acid	Index number: 007-004-00-1 CAS: 7697-37-2 EC: 231-714-2 REACH No.: 01-2119487297-23	⚠ 2.13/2 Ox. Liq. 2 H272 ⚠ 2.16/1 Met. Corr. 1 H290 ⚠ 3.1/3/Inhal Acute Tox. 3 H331 ⚠ 3.2/1A Skin Corr. 1A H314 Specific Concentration Limits: 5% <= C < 20%: Skin Corr. 1B H314 C >= 20%: Skin Corr. 1A H314 65% <= C < 99%: Ox. Liq. 3 H272 C >= 99%: Ox. Liq. 2 H272

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

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.  
In case of inhalation, consult a doctor immediately and show him packing or label.

### **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

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## **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.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

### **6.2. Environmental precautions**

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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.

Use localized ventilation system.

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

nitric acid - CAS: 7697-37-2

TLV - STEL: 2.6 mg/m<sup>3</sup>, 1 ppm

EU - STEL: 2.6 mg/m<sup>3</sup>, 1 ppm

ACGIH - TWA(8h): 2 ppm - STEL: 4 ppm - Notes: URT and eye irr, dental erosion

DNEL Exposure Limit Values

nitric acid - CAS: 7697-37-2

Worker Industry: 2.6 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects

Worker Industry: 2.6 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

PNEC Exposure Limit Values

N.A.

### 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:

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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:	Liquid,Amber	--	--
Odour:	Characteristic	--	--
Odour threshold:	N.A.	--	--
pH:	<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:	Soluble	--	--
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.	--	--

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Oxidizing properties:	N.A.	--	--
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### 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 product:

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#### a) acute toxicity

The product is classified: Acute Tox. 4 H332

ATEmix - Inhalation (Vapours) 14,7222 mg/l

#### b) skin corrosion/irritation

The product is classified: Skin Corr. 1A H314

#### c) serious eye damage/irritation

The product is classified: Eye Dam. 1 H318

#### d) respiratory or skin sensitisation

The product is classified: Skin Sens. 1A H317

#### e) germ cell mutagenicity

Not classified

Based on available data, the classification criteria are not met

#### f) carcinogenicity

Not classified

Based on available data, the classification criteria are not met

#### g) reproductive toxicity

Not classified

Based on available data, the classification criteria are not met

#### h) STOT-single exposure

Not classified

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- 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 of the main substances found in the product:  
nitric acid - CAS: 7697-37-2
- a) acute toxicity:  
Test: LC50 - Route: Inhalation Vapour - Species: Rat = 2.65 mg/l - Duration: 4h - Source: IUCLID 5

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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.  
C104 - PT(II) DIAMMINEDINITRITE IN HNO<sub>3</sub> - CAS: 14286-02-3  
The product is classified: Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410  
nitric acid - CAS: 7697-37-2
  - g) Acute toxicity seawater:  
Endpoint: LC50 - Species: Daphnia = 180 mg/l - Duration h: 48 - Notes: IUCLID 5
- 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. Other adverse effects  
None

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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
  - ADR-UN Number: 3264
  - IATA-UN Number: 3264
  - IMDG-UN Number: 3264
- 14.2. UN proper shipping name
  - ADR-Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(nitric acid )
  - IATA-Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(nitric acid )
  - IMDG-Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(nitric acid )

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- )
- 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: | Diammineplatinum(II) nitrite |
- 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-EmS:   | F-A,<br>S-B    |
| IMDG-Subsidiary hazards:                          | -              |
| IMDG-Stowage and handling:                        | Category B SW2 |
| IMDG-Segregation:                                 | SGG1 SG36 SG49 |
- 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)
- 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)

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:



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### Restriction 3

Restrictions related to the substances contained:

### 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.

## SECTION 16: Other information

Full text of phrases referred to in Section 3:

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H272 May intensify fire; oxidiser.

H290 May be corrosive to metals.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

Hazard class and hazard category	Code	Description
Ox. Liq. 2	2.13/2	Oxidising liquid, Category 2
Ox. Liq. 3	2.13/3	Oxidising liquid, Category 3
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
Acute Tox. 3	3.1/3/Inhal	Acute toxicity (inhalation), Category 3
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Skin Sens. 1A	3.4.2/1A	Skin Sensitisation, Category 1A
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1

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

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<b>Classification according to Regulation (EC) Nr. 1272/2008</b>	<b>Classification procedure</b>
Acute Tox. 4, H332	Calculation method
Skin Corr. 1A, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1A, H317	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	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.