

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2020/878)



## IRON (III) NITRATE 9-HYDRATE

Version 1

Date of compilation: 11/10/2023

Version 3 (replaces version 2)

Revision date: 18/10/2023

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### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING.

#### 1.1 Product identifier.

Product Name: IRON (III) NITRATE 9-HYDRATE  
Chemical Name: iron trinitrate  
CAS No: 10421-48-4  
EC No: 233-899-5

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

Different industrial uses  
Laboratory use

#### Uses advised against:

All uses not specified in this section or in section 7.3

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

Company: **ALQUERA CIENCIA SL**  
Address: C/ Vilar de Donas 9  
City: 28050 - Madrid  
Province: Madrid  
Telephone: +34 620 88 75 97  
E-mail: info@alquera.com  
Web: https://www.alquera.com

**1.4 Emergency telephone number:** +34 620 88 75 97 (Only available during office hours; Monday-Friday; 08:00-17:00)

### SECTION 2: HAZARDS IDENTIFICATION.

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

In accordance with Regulation (EC) No 1272/2008:

Eye Dam. 1 : Causes serious eye damage.  
Ox. Sol. 3 : May intensify fire; oxidiser.  
Skin Corr. 1B : Causes severe skin burns and eye damage.

#### 2.2 Label elements.

##### Labelling in accordance with Regulation (EC) No 1272/2008:

Pictograms:



Signal Word:

**Danger**

Hazard statements:

H272 May intensify fire; oxidiser.  
H314 Causes severe skin burns and eye damage.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P103 Read carefully and follow all instructions.

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P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
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/...
P501	Eliminate the product and package according the regulation local / regional / national / international

### 2.3 Other hazards.

The substance is not PBT

The substance is not vPvB

Substance does not have endocrine disrupting properties.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

### 3.1 Substances.

#### Mono-constituent.

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	Specifics concentration limits and Acute toxicity estimate
CAS No: 10421-48-4 EC No: 233-899-5	iron trinitrate		Eye Irrit. 2, H319 - Skin Irrit. 2, H315	-

#### Impurities or additives that affect the classification:

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	Specifics concentration limits and Acute toxicity estimate
CAS No: 7782-61-8	Ferric nitrate nonahydrate	30 - 100 %	Eye Dam. 1, H318 - Ox. Sol. 3, H272 - Skin Corr. 1B, H314	-

(\*) The complete text of the H phrases is given in section 16 of this Safety Data Sheet.

### 3.2 Mixtures.

Not applicable.

## SECTION 4: FIRST AID MEASURES.

### 4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

#### Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration.

#### Eye contact.

Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance. Dont let the person to rub the affected eye.

#### Skin contact.

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Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners. The use of personal protective equipment is recommended for people providing first aid (see section 8).

### **Ingestion.**

If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

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

Corrosive Product, contact with eyes or skin can cause burns; ingestion or inhalation can cause internal damage, if this occurs immediate medical assistance is required.

Contact with eyes may cause irreversible damage.

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

Request immediate medical attention. Never administer anything orally to persons who are unconscious. Do not induce vomiting. If the person vomits, clear the respiratory tract. Cover the affected area with a dry sterile bandage. Protect the affected area from pressure or friction.

## SECTION 5: FIREFIGHTING MEASURES.

### **5.1 Extinguishing media.**

#### **Suitable extinguishing media:**

Extinguisher powder or CO<sub>2</sub>. In case of more serious fires, also alcohol-resistant foam and water spray.

#### **Unsuitable extinguishing media:**

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

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

#### **Special risks.**

Exposure to combustion or decomposition products can be harmful to your health. El producto puede provocar o facilitar la combustión de otros materiales.

### **5.3 Advice for firefighters.**

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

#### **Fire protection equipment.**

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots.

## SECTION 6: ACCIDENTAL RELEASE MEASURES.

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

For exposure control and individual protection measures, see section 8.

### **6.2 Environmental precautions.**

Product not classified as hazardous for the environment, avoid spillage as much as possible.

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

Contain and collect spillage with inert absorbent material (earth, sand, vermiculite, Kieselguhr...) and clean the area immediately with a suitable decontaminant.

Deposit waste in closed and suitable containers for disposal, in compliance with local and national regulations (see section 13).

### **6.4 Reference to other sections.**

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

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### SECTION 7: HANDLING AND STORAGE.

#### 7.1 Precautions for safe handling.

For personal protection, see section 8.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Never use pressure to empty the containers. They are not pressure-resistant containers. Keep the product in containers made of a material identical to the original.

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

Store according to local legislation. Observe indications on the label. Store the containers between 5 and 25 ° C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorized persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

The product is not affected by Directive 2012/18/EU (SEVESO III).

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

Not available.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.



#### 8.1 Control parameters.

The product does NOT contain substances with Professional Exposure Environmental Limit Values. The product does NOT contain substances with Biological Limit Values.

#### 8.2 Exposure controls.

##### Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

<b>Concentration:</b>	<b>100 %</b>				
<b>Uses:</b>	<b>Different industrial uses</b> <b>Laboratory use</b>				
<b>Breathing protection:</b>					
PPE:	Particle filter mask				
Characteristics:	«CE» marking, category III. Made of filtering material, it covers nose, mouth and chin.				
CEN standards:	EN 149				
Maintenance:	Check for any tears, defects, etc. before use. Since it is disposable individual protection equipment, it should be replaced after use.				
Observations:	Does not protect worker unless properly adjusted. Follow the manufacturer's instructions regarding suitable use of the equipment.				
Filter Type needed:	P2				
<b>Hand protection:</b>					
PPE:	Non-disposable protective gloves against chemicals.				
Characteristics:	«CE» marking, category III. Check the list of chemicals for which the glove has been tested.				
CEN standards:	EN 374-1, En 374-2, EN 374-3, EN 420				
Maintenance:	A schedule for the periodical replacement of gloves should be established in order to guarantee their replacement before pollutants permeate them. The use of contaminated gloves could be more dangerous than not using gloves, since the pollutant can gradually accumulate in the glove's material.				
Observations:	They are to be replaced whenever tears, cracks or deformations are observed or when exterior dirt could reduce their strength.				
Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480	Material thickness (mm):	0,35
<b>Eye protection:</b>					

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PPE:	Protective goggles against particle impacts.	
Characteristics:	«CE» marking, category II. Eye protector against dust and smoke.	
CEN standards:	EN 165, EN 166, EN 167, EN 168	
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions.	
Observations:	Some signs of wear and tear include: yellow colouring of the lenses, superficial scratching of the lenses, scraping etc.	
<b>Skin protection:</b>		
PPE:	Chemical protective clothing	
Characteristics:	«CE» marking, category III. Clothing should fit properly. The level of protection must be set according to a test parameter called BT (Breakthrough Time), which indicates how long it takes for the chemical to pass through the material.	
CEN standards:	EN 464, EN 340, EN 943-1, EN 943-2, EN ISO 6529, EN ISO 6530, EN 13034	
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.	
Observations:	The protective clothing's design should facilitate correct positioning, staying in place without moving for the period of use expected, bearing in mind environmental factors as well as any movement or position the user might adopt while carrying out the activity.	
PPE:	Anti-static safety footwear against chemicals.	
Characteristics:	«CE» marking, category III. Check the list of chemicals against which the footwear is resistant.	
CEN standards:	EN ISO 13287, EN 13832-1, EN 13832-2, EN 13832-3, EN ISO 20344, EN ISO 20345	
Maintenance:	For correct maintenance of this kind of safety footwear, it is necessary to observe the instructions specified by the manufacturer. The footwear should be replaced as soon as any sign of damage is observed.	
Observations:	The footwear should be cleaned regularly and dried when damp, although it should not be placed too close to a source of heat in order to avoid any sharp changes in temperature.	

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

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

Physical state: Solid

Colour: Morado

Odour: Odorless

Odour threshold: Not applicable

Melting point: 47,2 °C

Freezing point: Not applicable

Boiling point or initial boiling point and boiling range: Not available (Not available because there is not available test).

Flammability: Danger in contact with combustible materials

Lower explosion limit: Not available (Not available because there is not available test).

Upper explosion limit: Not available (Not available because there is not available test).

Flash point: Not available (Not available because there is not available test).

Auto-ignition temperature: Not available (Not available because there is not available test).

Decomposition temperature: Not available (Not available because there is not available test).

pH: 1,5 (1%)

Kinematic viscosity: Not applicable

Solubility: Soluble in water

Hydrosolubility: 835 kg/m<sup>3</sup>

Liposolubility: Not available (Not available because there is not available test).

Partition coefficient n-octanol/water (log value): Not available (Not available because there is not available test).

Vapour pressure: Not applicable (Not available because there is not available test).

Absolute density: Not available (Not available because there is not available test).

Relative density: Not available (Not available because there is not available test).

Relative vapour density: Not applicable (Not available because there is not available test).

Particle characteristics: Not available (Not available because there is not available test).

#### 9.2 Other information

##### Other safety characteristics

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### Mechanical sensitivity:

Exothermic decomposition energy: Not available (Not available because there is not available test).

Sensitivity to impact: Not available (Not available because there is not available test).

Sensitivity to friction: Not available (Not available because there is not available test).

Self-accelerating polymerisation temperature: Not available (Not available because there is not available test).

### Formation of explosible dust/air mixtures:

Lower explosion limit / minimum explosible concentration: Not available (Not available because there is not available test).

Minimum ignition energy: Not available (Not available because there is not available test).

Deflagration index (Kst): Not available (Not available because there is not available test).

Maximum explosion pressure: Not available (Not available because there is not available test).

Acid/alkaline reserve: Not available (Not available because there is not available test).

Evaporation rate: Not available (Not available because there is not available test).

Miscibility: Not available (Not available because there is not available test).

Conductivity: Not available (Not available because there is not available test).

Corrosiveness: Not available (Not available because there is not available test).

Gas group: Not available (Not available because there is not available test).

Redox potential: Not available (Not available because there is not available test).

Radical formation potential: Not available (Not available because there is not available test).

Photocatalytic properties: Not available (Not available because there is not available test).

Viscosity: Not applicable

Dropping point: Not available (Not available because there is not available test).

Blink: Not applicable

## SECTION 10: STABILITY AND REACTIVITY.

### 10.1 Reactivity.

The product does not present hazards by their reactivity.

### 10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

### 10.3 Possibility of hazardous reactions.

May intensify fire; oxidiser.

### 10.4 Conditions to avoid.

Avoid any improper handling.

### 10.5 Incompatible materials.

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

### 10.6 Hazardous decomposition products.

No decomposition if used for the intended uses.

## SECTION 11: TOXICOLOGICAL INFORMATION.

### 11.1 Information on hazard classes as defined in Regulation (EC) N° 1272/2008.

There are no tested data available on the product.

Splatters in the eyes can cause irritation and reversible damage.

a) acute toxicity;

Not conclusive data for classification.

b) skin corrosion/irritation;

Product classified:

Skin Corrosive, Category 1B: Causes severe skin burns and eye damage.

c) serious eye damage/irritation;

Product classified:

Serious eye damage, Category 1: Causes serious eye damage.

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d) respiratory or skin sensitisation;  
Not conclusive data for classification.

e) germ cell mutagenicity;  
Not conclusive data for classification.

f) carcinogenicity;  
Not conclusive data for classification.

g) reproductive toxicity;  
Not conclusive data for classification.

h) STOT-single exposure;  
Not conclusive data for classification.

i) STOT-repeated exposure;  
Not conclusive data for classification.

j) aspiration hazard;  
Not conclusive data for classification.

### 11.2 Information on other hazards.

#### Endocrine disrupting properties

This product does not contain components with endocrine-disrupting properties with effects on human health.

#### Other information

There is no information available on other adverse health effects.

## SECTION 12: ECOLOGICAL INFORMATION.

### 12.1 Toxicity.

No information is available regarding the ecotoxicity.

### 12.2 Persistence and degradability.

No information is available regarding the biodegradability

No information is available on the degradability

No information is available about persistence and degradability of the product.

### 12.3 Bioaccumulative potential.

No information is available regarding the bioaccumulation.

### 12.4 Mobility in soil.

No information is available about the mobility in soil.

The product must not be allowed to go into sewers or waterways.

Prevent penetration into the ground.

### 12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

### 12.6 Endocrine disrupting properties.

This product doesn't contain components with environmental endocrine disrupting properties.

### 12.7 Other adverse effects.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

No information is available about other adverse effects for the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS.

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### 13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

## SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

**Land:** Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

**Sea:** Transport by ship: IMDG.

Transport documentation: Bill of lading

**Air:** Transport by plane: ICAO/IATA.

Transport document: Airway bill.

### 14.1 UN number or ID number.

UN No: UN1466

### 14.2 UN proper shipping name.

Description:

ADR/RID: UN 1466, FERRIC NITRATE, 5.1, PG III, (E)

IMDG: UN 1466, FERRIC NITRATE, 5.1, PG III

ICAO/IATA: UN 1466, FERRIC NITRATE, 5.1, PG III

### 14.3 Transport hazard class(es).

Class(es): 5.1

### 14.4 Packing group.

Packing group: III

### 14.5 Environmental hazards.

Marine pollutant: No

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-A,S-Q

### 14.6 Special precautions for user.

Labels: 5.1



Hazard number: 50

Provisions concerning carriage in bulk ADR:

VC1 Carriage in bulk in sheeted vehicles, sheeted containers or sheeted bulk containers is permitted.

VC2 Carriage in bulk in closed vehicles, closed containers or closed bulk containers is permitted.

AP6 If the vehicle or container is made of wood or other combustible material, an impermeable surfacing resistant to combustion or a coating of sodium silicate or similar substance shall be provided. Sheeting shall also be impermeable and non-combustible.

AP7 Carriage in bulk shall only be as a full load.

Proceed in accordance with point 6.

ADR LQ: 5 kg

IMDG LQ: 5 kg

ICAO LQ: 10 kg

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

The product is not transported in bulk.

## SECTION 15: REGULATORY INFORMATION.

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

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

### 15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## SECTION 16: OTHER INFORMATION.

Complete text of the H phrases that appear in section 3:

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Classification codes:

Eye Dam. 1 : Serious eye damage, Category 1  
Eye Irrit. 2 : Eye irritation, Category 2  
Ox. Sol. 3 : Oxidising solid, Category 3  
Skin Corr. 1B : Skin Corrosive, Category 1B  
Skin Irrit. 2 : Skin irritant, Category 2

Changes regarding to the previous version:

- Modification in the values of the physical and chemical properties (SECTION 9).

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

Physical hazards	On basis of test data
Health hazards	Calculation method
Environmental hazards	Calculation method

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Abbreviations and acronyms used:

ADR/RID: Agreement concerning the International Carriage of Dangerous Goods by Road.  
CEN: European Committee for Standardization.  
PPE: Personal protection equipment.  
IATA: International Air Transport Association.  
ICAO: International Civil Aviation Organization.  
IMDG: International Maritime Code for Dangerous Goods.  
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

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Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2020/878.

Regulation (EC) No 1907/2006.

Regulation (EC) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemical substances and mixtures (REACH).

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.