

## **MATERIAL SAFETY DATA SHEET**

### **Ammonium Iron III Citrate**

#### **SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

##### **1.1 Product identifiers:**

Product name: Ammonium Iron III Citrate

Product number: 0001185575

Brand: Discovery

Reach No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require registration or the registration is envisaged for a later

Registration deadline.

Cas No.: 1185-57-5

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

Identified uses: laboratory chemicals, manufacture of substances

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

Company: Discovery Fine Chemicals Ltd  
Unit 4A, Old Forge Road, Ferndown Ind. Estate,  
Wimborne, Dorset, BH21 7RR.  
United Kingdom

Telephone: +44 (0)1202 874517

Fax: +44 (0)845 0944 385

E-mail: [discovery@discofinechem.com](mailto:discovery@discofinechem.com)

##### **1.4 Emergency telephone : +44 (0)7912 646956**

#### **SECTION 2. HAZARDS IDENTIFICATION**

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

###### **Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2) H315

STOT (Category 3) H335

Eye irritation (Category 2) H319

##### **2.2 Label elements**

###### **Labelling according Regulation (EC) No 1272/2008**

###### **Pictogram:**

**Signal word:** Warning

###### **Hazard statement(s)**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation

###### **Precautionary statement(s)**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

##### **2.3 Other hazards**

None

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Ammonium Iron III Citrate

Formula:  $C_6H_8O_7 \cdot x Fe^{3+} \cdot y NH_3$ , Molecular Weight:

Cas No: 1185-57-5

EC No: 214-686-6

No components need to be disclosed according to the applicable regulations.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Show this safety data sheet to the doctor in attendance.

**If inhaled** - If breathed in, move person into fresh air.

**In case of skin contact** – Wash off with soap and plenty of water.

**In case of eye contact** - Rinse eyes with plenty of water and remove contact lenses.

#### If swallowed

Drink water. Consult doctor if feeling unwell.

**4.2 Most important symptoms and effects, both acute and delayed** – the most important known symptoms and effects are described in the labelling (see section 2.2 and/or in section 11).

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

no data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media** – Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** – for this substance no limitations of extinguishing agents are given.

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

Carbon oxides. Nitrogen oxides. Iron oxides. Not combustible. Development of combustion gases or vapours possible in the event of fire.

**5.3 Advice for firefighters** – wearing self-contained breathing apparatus.

**5.4 Further information** - Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## 6. ACCIDENTAL RELEASE MEASURES

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

Avoid dust formation. Avoid breathing vapours or mist or gas.

**6.2 Environmental precautions** – Do not let product enter drain.

**6.3 Methods and materials for containment and cleaning up** – sweep up and shovel. Keep in closed containers.

**6.4 Reference to other sections** - For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

See section 2.2

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

Store at room temperature. Keep container tightly closed in a dry and well-ventilated place. Light sensitive.

Hygroscopic.

Storage class (TRGS 510): 11: combustible solids

**7.3 Specific end use(s)** - no data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

## Ingredients with workplace control parameters

Ammonium iron(III) citrate

Cas no: 1185-57-5

Value: TWA

Control parameter: 1 mg/m<sup>3</sup>

Basis: UK. EH40 WEL - Workplace Exposure Limits

Value: STEL

Control parameter: 2 mg/m<sup>3</sup>

Basis: UK. EH40 WEL - Workplace Exposure Limits

## 8.2 Exposure controls

**Appropriate engineering controls** - Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

**Eye/face protection** - Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection** - Handle with gloves. Gloves must be inspected prior to use.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril®

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril®

**Body Protection** – Choose appropriate body protection. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection** – respiratory protection is not required. Dust masks type P1 (EU EN 143) may be used for a higher level of protection. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance - Form: Powder, Colour: Brown
  - b) Odour - no data available
  - c) Odour Threshold - no data available
  - d) Melting point/freezing point – no data available
  - e) Initial boiling point and boiling range - no data available
  - f) Flammability (solid, gas) - no data available
  - g) Upper/lower flammability or explosive limits - no data available
  - h) Flash point – not applicable
  - i) Autoignition temperature - no data available
  - j) Decomposition temperature - no data available
  - k) pH - no data available
  - l) Viscosity – viscosity,kinematic: no data available  
- viscosity dynamic: no data available
  - m) Water solubility – no data available
  - n) Partition coefficient: no data available
  - o) Vapour pressure - no data available
  - p) Density - no data available  
Relative density – no data available
  - q) Relative vapour density - no data available
  - r) Particle characteristics - no data available
  - s) Explosive properties – no data available
  - t) Oxidizing properties - no data available
- 9.2 Other safety information - no data available

## 10. STABILITY AND REACTIVITY

### **10.1 Reactivity**

No data available

### **10.2 Chemical stability**

Chemically stable under standard ambient conditions (room temperature)

Decomposes on exposure to light.

### **10.3 Possibility of hazardous reactions**

No data available

### **10.4 Conditions to avoid**

no data available

### **10.5 Incompatible materials**

Strong oxidizing agents

### **10.6 Hazardous decomposition products**

In the event of fire see section 5

## **11. TOXICOLOGICAL INFORMATION**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral – rat - >2,000 mg/kg

(OECD Test Guideline 401)

Remarks: (ECHA)

Inhalation: No data available

LD50 Dermal – Rabbit - >8,000 mg/kg

Remarks: (In analogy to similar products) (ECHA)

#### **Skin corrosion/irritation**

Skin rabbit – no skin irritation 4h

#### **Serious eye damage/eye irritation**

Eyes rabbit – no eye irritation

#### **Respiratory or skin sensitization**

no data available.

#### **Germ cell mutagenicity**

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Remarks: (ECHA)

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster fibroblasts

Metabolic activation: without metabolic activation

Method: OECD

Test Guideline 473

Result: negative

Remarks: (ECHA)

#### **Carcinogenicity**

No data available

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

No data available

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

### **11.2 Additional Information**

**RTECS: GE7540000** Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After

apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can result in death due to hepatic coma., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity** – toxicity to fish - static test LC50 - Fish - > 100 mg/l - 96 h (OECD Test Guideline 203)

Remarks: The value is given in analogy to the following substances: Diammonium hydrogen citrate  
Toxicity to daphnia and other aquatic invertebrates - static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202) Remarks: The value is given in analogy to the following substances: Diammonium hydrogen citrate

**12.2 Persistence and degradability** - no data available

**12.3 Bio-accumulative potential** - no data available

**12.4 Mobility in soil** - no data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

No data available

## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

**Product**

Waste material may be offered to a licensed disposal company. contaminated packaging may be disposed of as unused product.

## 14. TRANSPORT INFORMATION

**14.1 UN number**

ADR/RID: - IMDG: - IATA: -

**14.2 UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: - IMDG: - IATA: -

**14.4 Packaging group**

ADR/RID: - IMDG: - IATA: -

**14.5 Environmental hazards**

ADR/RID: no IMDG Marine Pollutant: no IATA: no

**14.6 Special precautions for user**

**Further Information**

Not classified as dangerous in the meaning of transport regulations

## 15. REGULATORY INFORMATION

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## 16. OTHER INFORMATION

**Hazard statement(s)**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation

**Precautionary statement(s)**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### **Further information**

#### **WARRANTY**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product.

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#### **APPENDIX**

#### **ABBREVIATIONS FULL TEXT**

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road  
ALARP As low as is reasonably practicable  
CAS Chemical Abstracts Service  
CLP Classification, Labelling and Packaging Regulations  
COSHH Control of Substances Hazardous to Health EC Number European Community Number  
EC50 Effective Concentration 50%  
ECHA European Chemicals Agency  
ELINCS European List of Notified Chemical Substances  
EINECS European Inventory of Existing Commercial Chemical Substances GHS Globally Harmonised System HSE  
Health & Safety Executive UK  
IATA International Air Transport Association  
IM Intramuscular  
IMDG The International Maritime Dangerous Goods Code  
IP Intraperitoneal  
IV Intravascular  
LD50 Lethal Dose 50%  
LOEC Lowest Observable Effective Concentration  
LTEL Long Term Exposure Limit  
NOEC No Observable Effective Concentration  
OECD Organisation for Economic Cooperations and Development  
OSHA European Agency for Safety and Health at work  
PBT Persistent Bioaccumulative and Toxic substance  
PPE Personal Protective Equipment  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals  
RID Regulations Concerning the International Carriage of Dangerous Goods by Rail  
SC Subcutaneous  
SDS Safety Data Sheet  
SIEF Substance Information Exchange Forum  
STEL Short Term Exposure Limit  
STOT (RE) Specific Target Organ Toxicity – repeated exposure  
STOT (SE) Specific Target Organ Toxicity – single exposure  
SVHC Substance of Very High Concern  
VOC Volatile Organic Compounds  
vPvB Very Persistent and Very Bioaccumulative  
WEL Workplace Exposure Limits