

According to Regulation (EC) No 1907/2006

# Ammonium citrate



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

### 1.1. Product identifier

**Trade name**

Ammonium citrate

**CAS number**

3458-72-8

**EC number**

222-394-5

**Synonyms**

1,2,3-Propanetricarboxylic acid, 2-hydroxy-, ammonium salt (1:3); Triammonium citrate; triammonium 2-hydroxypropane-1,2,3-tricarboxylate

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

**Relevant identified uses**

Research and development.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

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

**Supplier**

Molekula Group

Street address

Molekula Ltd, Lingfield Way, Darlington,  
DL1 4XX Darlington  
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

**Contact person**

Kevin Banks

**Email address**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Eye irritation, hazard category 2

Skin irritation, hazard category 2

Specific Target Organ Toxicity — Single exposure, hazard category 3

#### Hazard statements

H315, H319, H335

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Warning

#### Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

#### Precautionary statements

P261 Avoid breathing dust.

P280 Wear protective gloves/protective clothing/eye protection/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.

P314 Get medical advice/attention if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/attention.

### 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
Ammonium citrate	3458-72-8 222-394-5 - -	100%	-	- - -	-

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation

Move to fresh air if inhaled.

Get medical attention if any discomfort continues.

#### Skin contact

Rinse skin with water.

If skin irritation or rash occurs: Get medical advice/attention.

#### Eye contact

Remove contact lenses if present. Rinse eyes with water.

If eye irritation persists: Get medical advice/attention.

#### Ingestion

Rinse mouth.

Get medical advice/attention if you feel unwell.

#### Information for doctors

No data available.

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

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

#### Inhalation

May cause respiratory irritation.

#### Skin contact

Prolonged contact may cause dryness of the skin.

#### Eye contact

May be slightly irritating to the eyes.

#### Ingestion

May cause discomfort if swallowed.

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

Treat symptomatically. No special treatment requirement.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### Unsuitable extinguishing media

No specific fire fighting procedure given.

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

Specific hazards:

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

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

Nitrous gases (NO<sub>x</sub>).

Combustible.

## 5.3. Advice for firefighters

### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

## SECTION 6: Accidental release measures

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

Avoid inhalation of dust and contact with skin and eyes. For personal protection, see section 8.

### 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

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

Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

### 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

For precautions see section 2.2.

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

Store at ambient temperature. Store in a dry place. Store in a closed container.

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits

No occupational exposure limit assigned.

### 8.2. Exposure controls

#### Eye / face protection

Wear eye protection.

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## **Hand protection**

Wear protective gloves.

Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 480 minutes

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Wash contaminated skin thoroughly after handling.

## **Other skin protection**

Wash skin thoroughly after handling.

## **Respiratory protection**

Provide adequate ventilation.

## **Environmental exposure controls**

Avoid discharge into drains.

## SECTION 9: Physical and chemical properties

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

#### **Physical state**

Solid

#### **Colour**

Colourless.

#### **Odour**

No data available

#### **Melting point / freezing point**

185 °C - dec.

#### **Boiling point or initial boiling point and boiling range**

100 °C - lit.

#### **Flammability**

No data available

#### **Lower and upper explosion limit**

No data available

#### **Flash point**

No data available

#### **Auto-ignition temperature**

No data available

#### **Decomposition temperature**

No data available

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## pH

No data available

## Kinematic viscosity

No data available

## Solubility

No data available

## Partition coefficient n-octanol/water

log Pow: -1.43

## Vapour pressure

No data available

## Density and/or relative density

1 g/cm<sup>3</sup> at 25 °C - lit.

## Relative vapour density

No data available

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

No data available

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Strong oxidising agents.

### 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

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Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals
Ammonium citrate 3458-72-8 / 222-394-5	LD50	4250 mg/kg	Oral	Rat

**Skin corrosion/irritation**

Product / Substance name CAS / EC no.	Result	Species
Ammonium citrate 3458-72-8 / 222-394-5	Negative.	skin - reconstructed human epidermis (RhE)

**Serious eye damage/irritation**

Product / Substance name CAS / EC no.	Result	Species
Ammonium citrate 3458-72-8 / 222-394-5	Negative.	Rabbit

**Respiratory or skin sensitisation**

Product / Substance name CAS / EC no.	Result	Test type	Method / Guideline
Ammonium citrate 3458-72-8 / 222-394-5	Negative.	-	Direct Peptide Reactivity Assay (DPRA)
Ammonium citrate 3458-72-8 / 222-394-5	Positive.	Human cell line Activation test	In vitro study
Ammonium citrate 3458-72-8 / 222-394-5	Negative.	KeratinoSens assay	In vitro study

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**11.2. Information on other hazards**

No data available

**SECTION 12: Ecological information****12.1. Toxicity****Acute crustacean toxicity**

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Ammonium citrate 3458-72-8 / 222-394-5	EC50	100 mg/l	48 hours	Daphnia magna

## 12.2. Persistence and degradability

No data available

## 12.3. Bioaccumulative potential

No data available

## 12.4. Mobility in soil

No data available

## 12.5. Results of PBT and vPvB assessment

No data available

## 12.6. Endocrine disrupting properties

No data available

## 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local regulations.

## SECTION 14: Transport information

### 14.1. UN number

Not applicable

### 14.2. UN proper shipping name

Not applicable

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Not applicable

### 14.6. Special precautions for user

Not applicable



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

Not applicable

## SECTION 15: Regulatory information

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

#### EU regulations

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

#### National regulations

No data available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

#### Phrase meaning

Eye Irrit. 2 - Eye irritation, hazard category 2

Skin Irrit. 2 - Skin irritation, hazard category 2

STOT SE 3 - Specific Target Organ Toxicity — Single exposure, hazard category 3

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.