

# safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



**tri-Sodium citrate dihydrate ≥99%, p.a., ACS**

article number: **3580**  
Version: **1.0 en**

date of compilation: 2015-08-11

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

### 1.1 Product identifier

Identification of the substance	<b>tri-Sodium citrate dihydrate</b>
Article number	3580
Registration number (REACH)	01-2119457027-40-xxxx
EC number	200-675-3
CAS number	6132-04-3

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

**Identified uses:** laboratory chemical

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

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

**e-mail (competent person)** : [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

not required

**Signal word** not required

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## 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	tri-Sodium citrate dihydrate
Registration number (REACH)	01-2119457027-40-xxxx
EC number	200-675-3
CAS number	6132-04-3
Molecular formula	$C_6H_5Na_3O_7 \cdot 2H_2O$
Molar mass	294,1 $\frac{g}{mol}$

#### Remarks

For full text of abbreviations: see SECTION 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritant effects

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

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### **Unsuitable extinguishing media**

water jet

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

Combustible.

#### **Hazardous combustion products**

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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

#### **For non-emergency personnel**

Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

#### **Advices on how to contain a spill**

Covering of drains.

#### **Advices on how to clean up a spill**

Take up mechanically.

#### **Other information relating to spills and releases**

Place in appropriate containers for disposal.

#### **Reference to other sections**

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provide adequate ventilation. Avoid dust formation.

#### Advice on general occupational hygiene

Wash hands before breaks and after work.

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

Store in a dry place. Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

Not required.

#### • Ventilation requirements

Use local and general ventilation.

#### • Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C.

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Source
UK	dust		i	WEL	10		EH40/2005
UK	dust		r	WEL	4		EH40/2005

#### Notation

i Inhalable fraction

r Respirable fraction

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

#### Relevant DNELs/DMELs/PNECs and other threshold levels

#### • environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	0,44 mg/l	freshwater	short-term (single instance)
PNEC	0,044 mg/l	marine water	short-term (single instance)
PNEC	1.000 mg/l	sewage treatment plant (STP)	short-term (single instance)
PNEC	34,6 mg/kg	freshwater sediment	short-term (single instance)

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Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	3,46 mg/kg	marine sediment	short-term (single instance)
PNEC	33,1 mg/kg	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)



#### Eye/face protection

Use safety goggle with side protection.

#### Skin protection

- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm.

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### Respiratory protection

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

#### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	solid (powder)
Colour	white
Odour	odourless
Odour threshold	No data available

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### Other physical and chemical parameters

pH (value) 7,5 - 9 in 50 g/l water at 20 °C

Melting point/freezing point 150 °C (slow decomposition)

Initial boiling point and boiling range This information is not available.

Flash point not applicable

Evaporation rate no data available

Flammability (solid, gas) Non-flammable

#### Explosive limits

• lower explosion limit (LEL) this information is not available

• upper explosion limit (UEL) this information is not available

Explosion limits of dust clouds these information are not available

Vapour pressure This information is not available.

Density 1,76 g/cm<sup>3</sup>

Vapour density This information is not available.

Bulk density 600 - 900 kg/m<sup>3</sup>

Relative density Information on this property is not available.

#### Solubility(ies)

Water solubility 720 g/l at 25 °C

#### Partition coefficient

n-octanol/water (log KOW) This information is not available.

Auto-ignition temperature Information on this property is not available.

Decomposition temperature >150 °C

Viscosity not relevant (solid matter)

Explosive properties none

Oxidising properties none

### 9.2 Other information

There is no additional information.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Dust explosibility

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Exposure route	Endpoint	Value	Species	Source
oral	LD50	$>8000 \text{ mg/kg}$	rat	IUCLID

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

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

Shall not be classified as a specific target organ toxicant (single exposure).

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

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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## Symptoms related to the physical, chemical and toxicological characteristics

### • If swallowed

data are not available

### • If in eyes

causes slight to moderate irritation

### • If inhaled

Inhalation of dust may cause irritation of the respiratory system

### • If on skin

Frequently or prolonged contact with skin may cause dermal irritation

## Other information

None.

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	$>18.000 \text{ mg/l}$	Poecilia reticulata	IUCID	96 hours
EC50	$>5.600 \text{ mg/l}$	daphnia magna	IUCID	48 hours

### 12.2 Process of degradability

The substance is readily biodegradable.

Theoretical Oxygen Demand:  $0,4171 \text{ mg/mg}$

Theoretical Carbon Dioxide:  $0,8978 \text{ mg/mg}$

$3,6 \text{ g/g}$

Process	Degradation rate	Time
biotic/abiotic	98 %	3 d

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.



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## 12.6 Other adverse effects

Slightly hazardous to water.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

- |      |                                                                                       |                                                                              |
|------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 14.1 | UN number                                                                             | (not subject to transport regulations)                                       |
| 14.2 | UN proper shipping name                                                               | not relevant                                                                 |
| 14.3 | Transport hazard class(es)                                                            | not relevant                                                                 |
|      | Class                                                                                 | -                                                                            |
| 14.4 | Packing group                                                                         | not relevant                                                                 |
| 14.5 | Environmental hazards                                                                 | none (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | <b>Special precautions for user</b>                                                   |                                                                              |
|      | There is no additional information.                                                   |                                                                              |
| 14.7 | <b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>             |                                                                              |
|      | The cargo is not intended to be carried in bulk.                                      |                                                                              |
| 14.8 | <b>Information for each of the UN Model Regulations</b>                               |                                                                              |
|      | • <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b> |                                                                              |
|      | Not subject to ADR, RID and ADN.                                                      |                                                                              |
|      | • <b>International Maritime Dangerous Goods Code (IMDG)</b>                           |                                                                              |
|      | Not subject to IMDG.                                                                  |                                                                              |

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## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

- Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

Not listed.

- Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

Not listed.

- Regulation 850/2004/EC on persistent organic pollutants (POP)

Not listed.

- Restrictions according to REACH, Annex XVII

not listed

- List of substances subject to authorisation (REACH, Annex XIV)

not listed

**Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II**

not listed

**Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

not listed

**Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)**

not listed

#### National inventories

Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level

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Abbr.	Descriptions of used abbreviations
EH40/2005	EH40/2005 Workplace exposure limits, Table 1: List of approved workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
IMDG	International Maritime Dangerous Goods Code
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

## Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

## List of relevant phrases (code and full text as stated in chapter 2 and 3)

not relevant.

## Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.