

## Material Safety Data Sheet

Version 4.2

Revision Date 04/10/2012

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## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Nitrilotriacetic acid

Product Number : N9877

Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

## 2. HAZARDS IDENTIFICATION

## Emergency Overview

## OSHA Hazards

Carcinogen, Target Organ Effect, Harmful by ingestion., Irritant

## Target Organs

Kidney, Bladder

## GHS Classification

Acute toxicity, Oral (Category 4)

Skin corrosion (Category 1)

Serious eye damage (Category 1)

Carcinogenicity (Category 2)

## GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

H351

Suspected of causing cancer.

Precautionary statement(s)

P281

Use personal protective equipment as required.

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 or doctor/ physician.

## HMIS Classification

Health hazard:

2

Chronic Health Hazard:

\*

Flammability:

1

Physical hazards: 0

NFPA Rating

Health hazard: 2

Fire: 1

Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin** Harmful if absorbed through skin. Causes skin irritation.

**Eyes** Causes eye irritation.

**Ingestion** Harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Tris(carboxymethyl)amine  
N,N-Bis(carboxymethyl)glycine  
NTA

Formula :  $C_6H_9NO_6$

Molecular Weight : 191.14 g/mol

| Component                    |           | Concentration |
|------------------------------|-----------|---------------|
| <b>Nitrilotriacetic acid</b> |           |               |
| CAS-No.                      | 139-13-9  | -             |
| EC-No.                       | 205-355-7 |               |

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Immersion protection**

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

**Splash protection**

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 30 min

Material tested: Dermatrill® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|        |        |
|--------|--------|
| Form   | powder |
| Colour | white  |

### Safety data

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| pH                                     | 1.7 - 2.7 at 10 g/l at 23 °C (73 °F)        |
| Melting point/freezing point           | Melting point/range: 245 °C (473 °F) - dec. |
| Boiling point                          | no data available                           |
| Flash point                            | 100 °C (212 °F) - closed cup                |
| Ignition temperature                   | no data available                           |
| Autoignition temperature               | no data available                           |
| Lower explosion limit                  | no data available                           |
| Upper explosion limit                  | no data available                           |
| Vapour pressure                        | no data available                           |
| Density                                | no data available                           |
| Water solubility                       | no data available                           |
| Partition coefficient: n-octanol/water | no data available                           |
| Relative vapour density                | no data available                           |
| Odour                                  | odourless                                   |
| Odour Threshold                        | no data available                           |
| Evaporation rate                       | no data available                           |

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents, Strong bases

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - 1,100 mg/kg

#### Inhalation LC50

no data available

#### Dermal LD50

no data available

**Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

Skin - rabbit - No skin irritation

**Serious eye damage/eye irritation**

Eyes - rabbit - Eye irritation

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Nitrilotriacetic acid)

2B - Group 2B: Possibly carcinogenic to humans (Nitrilotriacetic acid)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: Reasonably anticipated to be a human carcinogen (Nitrilotriacetic acid)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

**Inhalation**

May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion**

Harmful if swallowed.

**Skin**  
**Eyes**

Harmful if absorbed through skin. Causes skin irritation.  
Causes eye irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**

no data available

**Additional Information**

RTECS: AJ0175000

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**12. ECOLOGICAL INFORMATION**

**Toxicity**

|                                                     |                                                                                                                                                |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | LC50 - Leuciscus idus melanotus - 475 mg/l - 48 h<br>LC0 - Leuciscus idus melanotus - 460 mg/l - 48 h<br>LC50 - other fish - > 100 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h                                                                                          |
| Toxicity to algae                                   | Growth inhibition LOEC - Desmodesmus subspicatus (green algae) - 5 mg/l - 72 h                                                                 |

**Persistence and degradability**

Biodegradability      Result: > 90 % - Readily biodegradable.

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

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**13. DISPOSAL CONSIDERATIONS**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION**

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION**

**OSHA Hazards**

Carcinogen, Target Organ Effect, Harmful by ingestion., Irritant

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

|                       | CAS-No.  | Revision Date |
|-----------------------|----------|---------------|
| Nitrilotriacetic acid | 139-13-9 | 2007-07-01    |

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

|                       | CAS-No.  | Revision Date |
|-----------------------|----------|---------------|
| Nitrilotriacetic acid | 139-13-9 | 2007-07-01    |

**Pennsylvania Right To Know Components**

|                       | CAS-No.  | Revision Date |
|-----------------------|----------|---------------|
| Nitrilotriacetic acid | 139-13-9 | 2007-07-01    |

**New Jersey Right To Know Components**

|                       | CAS-No.  | Revision Date |
|-----------------------|----------|---------------|
| Nitrilotriacetic acid | 139-13-9 | 2007-07-01    |

**California Prop. 65 Components**

|                                                                                             | CAS-No.  | Revision Date |
|---------------------------------------------------------------------------------------------|----------|---------------|
| WARNING! This product contains a chemical known to the State of California to cause cancer. | 139-13-9 | 2007-09-28    |
| Nitrilotriacetic acid                                                                       |          |               |

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**16. OTHER INFORMATION****Further information**

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