

**Safety Data Sheet**  
 acc. to OSHA HCS

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Printing date 06/03/2017  
 Reviewed on 05/29/2017  
 Version number: 2

## 1 Identification

- **Product identifier**
- **Trade name:** nitrilotriacetic acid
- **Article number:** 142346
- **CAS Number:**  
139-13-9
- **EC number:**  
205-355-7
- **Application of the substance / the mixture** Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
 Acute Tox. 4 H302 Harmful if swallowed.  
 Eye Irrit. 2A H319 Causes serious eye irritation.  
 Carc. 2 H351 Suspected of causing cancer.

- **Label elements**
- **GHS label elements**  
 The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning
- **Hazard statements**  
 H302 Harmful if swallowed.  
 H319 Causes serious eye irritation.  
 H351 Suspected of causing cancer.
- **Precautionary statements**  
 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.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1  
 Fire = 1  
 Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = *1
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
139-13-9 nitrilotriacetic acid
- **Identification number(s)**
- **EC number:** 205-355-7

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air or oxygen; call for doctor.
- **After skin contact:** Wash with water and acidic soap.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Seek medical treatment.
- **After swallowing:**  
make victim drink water (maximum of 2 drinking glasses)  
Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Fire-extinguishing powder  
Foam
- **For safety reasons unsuitable extinguishing agents:** Carbon dioxide
- **Special hazards arising from the substance or mixture**  
Combustible.  
In case of fire, the following can be released:  
Nitrogen oxides (NOx)  
CO, CO2
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Avoid formation of dust.  
Do not inhale dust.  
Avoid substance contact.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Avoid generation of dusts.  
Dispose contaminated material as waste according to item 13.  
Clean up affected area.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
  - **PAC-1:** 4.4 mg/m<sup>3</sup>
  - **PAC-2:** 49 mg/m<sup>3</sup>
  - **PAC-3:** 290 mg/m<sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Any deposit of dust which cannot be avoided must be regularly removed.
- **Information about protection against explosions and fires:** The product is not flammable.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Provide acid-resistant floor.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** +15 - +25 °C
- **Storage class:** 10 - 13
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Vacuum clean contaminated clothing. Do not blow or brush off contamination.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Filter P2

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• **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

• **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

• **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$  min

• **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$  min

• **Eye protection:**



Tightly sealed goggles

• **Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

## 9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form: Powder

Color: White

• **Odor:** Odorless

• **Odor threshold:** Not determined.

• **pH-value:** 1.7-2.7

• **Change in condition**

Melting point/Melting range: 242 °C (468 °F)

Boiling point/Boiling range: Undetermined.

• **Flash point:**  $>100$  °C ( $>212$  °F)

• **Flammability (solid, gaseous):** Product is not flammable.

• **Ignition temperature:**

Decomposition temperature: Not determined.

• **Auto igniting:** Not determined.

• **Danger of explosion:** Product does not present an explosion hazard.

• **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

• **Vapor pressure:** Not applicable.

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- **Density:** Not determined.
- **Bulk density at 20 °C (68 °F):** 700-900 kg/m<sup>3</sup>
- **Relative density** Not determined.
- **Vapor density** Not applicable.
- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with Water at 22 °C (72 °F):** 1.28 g/l
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not applicable.
  - Kinematic:** Not applicable.
- **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No dangerous reactions known.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Stable up to melting point.
- **Possibility of hazardous reactions**
  - Reacts with strong oxidizing agents.
  - Reacts with alkali (lyes).
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
  - strong oxidants
  - strong bases
- **Hazardous decomposition products:** In the event of fire: See chapter 5

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
  - Quantitative data on the toxicological effect of this product are not available.

Components		Type	Value	Species
Oral	LD50	>5000 mg/kg (rat)		
Dermal	LD50	>5000 mg/kg (rabbit)		
Inhalative	LC50/4 h	>5 mg/l (rat)		

- **Primary irritant effect:**
- **on the eye:** Irritating effect.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer) 2B**
- **NTP (National Toxicology Program) R**
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

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Type of test	Effective concentration	Method	Assessment
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EC50/72 h	>100 mg/l (Aquatic plants)		
EC50/48 h	>1000 mg/l (micro-organisms)		
EC50/96 h	>100 mg/l (daphnia magna)		
LC50/96 h	>100 mg/l (fish)		

• **Persistence and degradability** Easily biodegradable

• **Behavior in environmental systems:**

• **Bioaccumulative potential** No further relevant information available.

• **Mobility in soil** No further relevant information available.

• **Additional ecological information:**

• **General notes:**

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 2 (Assessment by list): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

• **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

• **Waste treatment methods**

• **Recommendation:**

Chemicals must be disposed of in compliance with the respective national regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

• **Uncleaned packagings:**

• **Recommendation:**

Disposal must be made according to official regulations.

Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

### 14 Transport information

• **UN-Number**

• **DOT, ADR, ADN, IMDG, IATA** Void

• **UN proper shipping name**

• **DOT, ADR, ADN, IMDG, IATA** Void

• **Transport hazard class(es)**

• **DOT, ADR, ADN, IMDG, IATA**

• **Class** Void

• **Packing group**

• **DOT, ADR, IMDG, IATA** Void

• **Environmental hazards:**

• **Marine pollutant:** No

• **Special precautions for user** Not applicable.

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- |  |                 |
|--|-----------------|
| • <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| • <b>UN "Model Regulation":</b>  | Void            |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Cancerogenity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning
- **Hazard statements**  
H302 Harmful if swallowed.  
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- **Precautionary statements**  
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.  
P308+P313 IF exposed or concerned: Get medical advice/attention.
- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Contact:** Mr. Th. Stöckle
- **Date of preparation / last revision** 06/03/2017 / 1
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association

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ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Acute Tox. 4: Acute toxicity – Category 4  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Carc. 2: Carcinogenicity – Category 2

• **\* Data compared to the previous version altered.**

US