

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)

Tel.: +49 (0)6151 93570
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msds@appliChem.com

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/m³
 - **PAC-2:** 49 mg/m³
 - **PAC-3:** 290 mg/m³

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: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min
- **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 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/m³
- **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
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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- | | |
|---|-----------------|
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | 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.
- **Cancerogeny 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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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.
- **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.**

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