1. Product and Company Identification

Company: BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

Synonyms: Glycine, N,N-Bis(Carboxymethyl)-Trisodium Salt, Aqueous Sol.

2. Hazards Identification

Emergency overview

WARNING:
CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
CONTAINS MATERIAL WHICH MAY CAUSE CANCER.
CONTAINS MATERIAL WHICH CAN CAUSE KIDNEY DAMAGE.
Ensure adequate ventilation.
Eye wash fountains and safety showers must be easily accessible.
Wear protective clothing.
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.
Wear NIOSH-certified chemical goggles.
Wear full face shield if splashing hazard exists.
Wear chemical resistant protective gloves.

State of matter: liquid
Colour: yellowish
Odour: product specific

Primary routes of exposure:
Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:
Of low toxicity after single ingestion.

Signs and symptoms of overexposure:
Eye irritation, gastrointestinal complaints, kidney damage
3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>58.0 %</td>
<td>Water</td>
</tr>
<tr>
<td>5064-31-3</td>
<td>40.0 %</td>
<td>trisodium nitrilotriacetate</td>
</tr>
<tr>
<td>1310-73-2</td>
<td>1.5 %</td>
<td>Sodium Hydroxide</td>
</tr>
<tr>
<td>50-00-0</td>
<td>0.01 %</td>
<td>Formaldehyde</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

General advice:
Remove contaminated clothing.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Seek medical attention.

If on skin:
Wash thoroughly with soap and water.
If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Flash point: > 100 °C  (DIN 51758)
Autoignition: > 200 °C  (DIN 51794)
Flammability: does not ignite

Suitable extinguishing media:
water spray, dry powder, foam

Hazards during fire-fighting:
harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus in confined areas or when exposed to combustion products.

6. Accidental release measures

Personal precautions:
Use personal protective clothing. Information regarding personal protective measures see, chapter 8.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.
Cleanup:
Spills should be contained, solidified, and placed in suitable containers for disposal.
For small amounts: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with regulations.
For large amounts: Pump off product.

7. Handling and Storage

Handling
General advice:
Keep container tightly closed. Protect from the effects of light.

Storage
General advice:
Keep in a cool place.

8. Exposure Controls and Personal Protection

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA</th>
<th>TWA value</th>
<th>STEL value</th>
<th>OSHA Action level</th>
<th>ACGIH</th>
<th>CLV</th>
<th>ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td></td>
<td>0.75 ppm</td>
<td>2 ppm</td>
<td>0.5 ppm</td>
<td>ACGIH</td>
<td>0.3</td>
<td>ppm</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>OSHA</td>
<td>PEL</td>
<td>2 mg/m³</td>
<td></td>
<td>ACGIH</td>
<td>2</td>
<td>mg/m³</td>
</tr>
</tbody>
</table>

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Breathing protection if breathable aerosols/dust are formed.

Hand protection:
Chemical resistant protective gloves

Eye protection:
Tightly fitting safety goggles (chemical goggles) and face shield.

General safety and hygiene measures:
Wear protective clothing as necessary to minimize contact. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>product specific</td>
</tr>
<tr>
<td>Colour</td>
<td>yellowish</td>
</tr>
<tr>
<td>pH value</td>
<td>10.5 - 12.0</td>
</tr>
<tr>
<td>Thickening point</td>
<td>approx. -30 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>approx. 100 °C</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>approx. 24 mbar</td>
</tr>
<tr>
<td>Density</td>
<td>1.29 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>not determined</td>
</tr>
</tbody>
</table>
10. Stability and Reactivity

Conditions to avoid:
See MSDS section 7 - Handling and storage.

Substances to avoid:
oxidizing agents
amphoteric metals, light metals

Hazardous reactions:
The product is chemically stable.
Reacts with aluminum, with evolution of hydrogen.

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
not determined

Corrosion to metals:
Corrosive effect on: aluminum

11. Toxicological information

Acute toxicity

Oral:
Type of value: LD50
Species: rat
Value:  3,900 mg/kg (BASF-Test)

Inhalation:

Information on: TRISODIUM NITRILOTRIACETATE
Type of value: LC50
Species: rat
Value:  > 5 mg/l
Exposure time: 4 h
An aerosol was tested.
No mortality was observed. Literature data.

Dermal:

Information on: TRISODIUM NITRILOTRIACETATE
Type of value: LD50
Species: rabbit (male/female)
Value:  > 10,000 mg/kg (other)
An aqueous solution was tested.
Irritation / corrosion

Skin:
Species: rabbit
Result: non-irritant
Method: BASF-Test

Eye:
Species: rabbit
Result: Irritant.
Method: BASF-Test

Sensitization:
Information on: TRISODIUM NITRILOTRIACETATE
Buehler test
Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

Repeated dose toxicity
Information on: TRISODIUM NITRILOTRIACETATE
Assessment of repeated dose toxicity:
The substance may cause damage to the kidney after repeated ingestion.

Genetic toxicity
Information on: TRISODIUM NITRILOTRIACETATE
Most of the results from the available studies show no evidence of a mutagenic effect.

Experimental/calculated data:
Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity
Information on: TRISODIUM NITRILOTRIACETATE
In long-term animal studies in which the substance was given in the drinking water in high doses, a carcinogenic effect was observed. In long-term animal studies in which the substance was given in high doses by feed, a carcinogenic effect was observed. A carcinogenic potential can essentially be excluded after a single or short-term exposure to the substance.

Reproductive toxicity
Information on: TRISODIUM NITRILOTRIACETATE
The results of animal studies gave no indication of a fertility impairing effect.

Development:
Information on: TRISODIUM NITRILOTRIACETATE
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological Information

Aquatic toxicity
Information on: TRISODIUM NITRILOTRIACETATE
Assessment of aquatic toxicity:

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Fish

Information on: TRISODIUM NITRILOTRIACETATE
Acute:
APHA 1971 Flow through.
Pimephales promelas/LC50 (96 h): > 100 mg/l
The statement of the toxic effect relates to the analytically determined concentration. Literature data.

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Aquatic invertebrates

Information on: TRISODIUM NITRILOTRIACETATE
Acute:
other Gammarus sp./EC50 (96 h): 98 mg/l
Literature data.

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Aquatic plants

Information on: TRISODIUM NITRILOTRIACETATE
Toxicity to aquatic plants:
Guideline 92/69/EEC, C.3 static
green algae/EC50 (72 h): > 91.5 mg/l
The statement of the toxic effect relates to the analytically determined concentration.

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Microorganisms

Information on: TRISODIUM NITRILOTRIACETATE
Toxicity to microorganisms:
static
bacterium/EC50 (8 h): 3,200 - 5,600 mg/l
The details of the toxic effect relate to the nominal concentration. Literature data.
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

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Degradability / Persistence
Biological / Abiological Degradation

Information on: TRISODIUM NITRILOTRIACETATE
Test method: OECD 301B; ISO 9439; 92/69/EEC, C.4-C
Method of analysis: BOD of the ThOD
Degree of elimination: 90 - 100 % (28 d)
Evaluation:

Hydrolysis

Information on: TRISODIUM NITRILOTRIACETATE

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Bioaccumulation

Information on: TRISODIUM NITRILOTRIACETATE
measured
zebra fish (96 h) Bioconcentration factor < 3
Does not significantly accumulate in organisms.

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Environmental mobility:

*Information on: TRISODIUM NITRILOTRIACETATE*

*Assessment transport between environmental compartments:*
  *The substance will not evaporate into the atmosphere from the water surface.*
  *Adsorption to solid soil phase is not expected.*

Other adverse effects:

*Do not release untreated into natural waters. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.*

13. Disposal considerations

**Waste disposal of substance:**
Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

**Container disposal:**
Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

**RCRA:** D002

14. Transport Information

**Land transport**
USDOT

May be transported as non hazardous under USDOT in approved packaging.

**Sea transport**
IMDG

<table>
<thead>
<tr>
<th>Hazard class:</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group:</td>
<td>III</td>
</tr>
<tr>
<td>ID number:</td>
<td>UN 3267</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>8</td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>NO</td>
</tr>
<tr>
<td>Proper shipping name:</td>
<td>CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains NITRILOTRIACETIC ACID NA3-SALT) CORROSIVE ON ALUMINIUM</td>
</tr>
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**Air transport**
IATA/ICAO

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</table>
15. Regulatory Information

**Federal Regulations**

**Registration status:**
- Chemical TSCA, US released / listed

**OSHA hazard category:**
- IARC 1, 2A or 2B carcinogen; Chronic target organ effects reported; Acute target organ effects reported; Skin and/or eye irritant

**EPCRA 311/312 (Hazard categories):**
- Acute; Chronic

**State regulations**

<table>
<thead>
<tr>
<th>State RTK</th>
<th>CAS Number</th>
<th>Chemical name</th>
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<tr>
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**CA Prop. 65:**

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

16. Other Information

**NFPA Hazard codes:**
- Health: 2
- Fire: 1
- Reactivity: 0
- Special:

**HMIS III rating**
- Health: 2
- Flammability: 1
- Physical hazard: 0

NFPA and HMIS use a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates extreme danger. Although similar, the two rating systems are intended for different purposes, and use different criteria. The NFPA system was developed to provide an on-the-spot alert to the hazards of a material, and their severity, to emergency responders. The HMIS system was designed to communicate workplace hazard information to employees who handle hazardous chemicals.

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

**MSDS Prepared by:**
BASF NA Product Regulations
msds@basf.com
MSDS Prepared on: 2012/04/02

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