Material Safety Data Sheet
Nitrilotriacetic Acid

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Nitrilotriacetic Acid  
**Synonyms:** Aminotriacetic Acid; N,N-Bis (Carboxymethyl)Glycine; Triglycine; Triglycollamic Acid; Chel NTA.

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>139-13-9</td>
<td>Nitriloacetic Acid</td>
<td>100</td>
<td>205-355-7</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: white solid.  
**Caution!** May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May be harmful if swallowed. May cause cancer based on animal studies. Potential cancer hazard. May cause kidney damage.  
**Target Organs:** Kidneys, bladder.

**Potential Health Effects**

**Eye:** Dust may cause mechanical irritation.  
**Skin:** Dust may cause mechanical irritation.  
**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May be harmful if swallowed.  
**Inhalation:** Dust is irritating to the respiratory tract.  
**Chronic:** Possible cancer hazard based on tests with laboratory animals. May cause kidney injury.

Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.  
**Skin:** Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.  
**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls
of milk or water. Never give anything by mouth to an unconscious person. Get medical aid. **Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. Do NOT use mouth-to-mouth resuscitation. **Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

**Flash Point:** Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 0

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes. Avoid ingestion and inhalation.

**Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitriloacetic Acid</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>
**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

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**Section 9 - Physical and Chemical Properties**

**Physical State:** Solid

**Appearance:** white

**Odor:** none reported

**pH:** 2.3 (saturated)

**Vapor Pressure:** Negligible.

**Vapor Density:** Not available.

**Evaporation Rate:** Negligible

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 241 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Very slightly soluble in water

**Specific Gravity/Density:** >1.000

**Molecular Formula:** N(CH2COOH)3

**Molecular Weight:** 191.0661

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**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide.

**Hazardous Polymerization:** Has not been reported

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**Section 11 - Toxicological Information**

**RTECS#:**

**CAS#** 139-13-9: AJ0175000

**LD50/LC50:**

**CAS#** 139-13-9:
- Oral, mouse: LD50 = 3160 mg/kg;
- Oral, rat: LD50 = 1100 mg/kg;

**Carcinogenicity:**

**CAS#** 139-13-9:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 1/1/88
- **NTP:** Suspect carcinogen
• **IARC:** Group 2B carcinogen

**Epidemiology:** IARC Group 2B: Proven animal carcinogenic substance of potential relevance to humans. IARC Group 2B: No data available on human carcinogenicity, however sufficient evidence of carcinogenicity in animals.

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** Mutagenic effects have occurred in experimental animals.

**Neurotoxicity:** No information found

**Other Studies:**

### Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** Terrestrial: Biodegradation is expected to be the dominant degradation process in soil. Aquatic: Expected to biodegrade in aquatic ecosystems; under optimal conditions (moderate ambient temperatures, low loading concns, aerobic systems), it will biodegrade readily. Atmospheric: Can exist in both the vapor and particulate-phases in the ambient atmosphere. It will degrade rapidly in the vapor-phase by reaction with photochemically produced hydroxyl radicals with a half-life of 5 days.

**Physical:** No information available.

**Other:** For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

### Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

### Section 14 - Transport Information

<table>
<thead>
<tr>
<th>IATA</th>
<th>Shipping Name:</th>
<th>Hazard Class:</th>
<th>UN Number:</th>
<th>Packing Group:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not regulated as a hazardous material</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section 15 - Regulatory Information

**Hazard Symbols:**

XN

**Risk Phrases:**

- R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R 40 Limited evidence of a carcinogenic effect.
Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 28 After contact with skin, wash immediately with...

Section 16 - Additional Information

MSDS Creation Date: 5/08/1998
Revision #5 Date: 10/03/2005
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall INDO GULF GROUP be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if INDO GULF GROUP has been advised of the possibility of such damages.