

MATERIAL SAFETY DATA SHEET

Date Printed: 09/20/2006

Date Updated: 02/06/2006

Version 1.4

Section 1 - Product and Company Information

Product Name NITRILOTRIACETIC ACID, 98+%, A.C.S.
REAGENT
Product Number 398144
Brand SIAL
Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
NITRILOTRIACETIC ACID	139-13-9	Yes

Formula C6H9NO6
Synonyms Aminotriacetic acid *
N,N-Bis(carboxymethyl)glycine * CHEL 300 *
Complexon I * Glycine, N,N-bis(carboxymethyl)-
(9CI) * Hampshire NTA acid * Komplexon I *
Kyselina nitrilotrioctova (Czech) * NCI-C02766 *
Nitrilotriacetic acid *
Nitrilotris(methylenecarboxylic acid) * NTA *
Titriplex I * Triglycine * Triglycollamic acid *
Trilon A *
alpha,alpha',alpha''-Trimethylaminetricarboxylic
acid * Versene NTA acid
RTECS Number: AJ0175000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful.

Harmful if swallowed. Limited evidence of a carcinogenic effect.
Calif. Prop. 65 carcinogen. Target organ(s): Kidneys. Bladder.

HMIS RATING

HEALTH: 1*

FLAMMABILITY: 1

REACTIVITY: 0

NFPA RATING

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

212 °F 100 °C Method: closed cup

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid Color: White Form: Powder Odor: Odorless	
Property	Value	At Temperature or Pressure
Molecular Weight	191.14 AMU	
pH	1.7 - 2.7	23 °C Concentration: 10 g/l
BP/BP Range	N/A	
MP/MP Range	245 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	212 °F 100 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solvent: complete, colorless 0.1M in NaOH 1M, 20°C	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: Harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Bladder. Kidneys.

SIGNS AND SYMPTOMS OF EXPOSURE

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

TOXICITY DATA

Oral

Rat

1100 mg/kg

LD50

Oral

Mouse

3160 mg/kg

LD50

Intraperitoneal

Mouse

325 MG/KG

LD50

IRRITATION DATA

Eyes

Rabbit

Remarks: Moderate irritation effect

Skin

Rabbit

Remarks: No irritation effect

CHRONIC EXPOSURE - CARCINOGEN

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

Species: Rat

Route of Application: Oral

Dose: 430 GM/KG

Exposure Time: 75W
Frequency: C
Result: Tumorigenic: Carcinogenic by RTECS criteria. Kidney,
Ureter, Bladder: Tumors.

Species: Mouse
Route of Application: Oral
Dose: 832 GM/KG
Exposure Time: 66W
Frequency: C
Result: Tumorigenic: Neoplastic by RTECS criteria. Kidney,
Ureter, Bladder: Tumors.

IARC CARCINOGEN LIST

Rating: Group 2B

NTP CARCINOGEN LIST

Rating: Clear evidence.
Species: Mouse/rat
Route: Feed

CHRONIC EXPOSURE - MUTAGEN

Species: Hamster
Dose: 2 GM/L
Cell Type: Embryo
Mutation test: Morphological transformation.

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: > 100 mg/l

Test Type: LC50 Fish
Species: other fish
Time: 96 h
Value: > 100 mg/l

ELIMINATION

Elimination: > 90 %
Classification: Substantially biodegradable.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

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. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22-36-40
Risk Statements: Harmful if swallowed. Irritating to eyes. Limited evidence of a carcinogenic effect.
S: 26-36/37
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.
Risk Statements: Harmful if swallowed. Limited evidence of a carcinogenic effect.
Safety Statements: Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.
US Statements: Calif. Prop. 65 carcinogen. Target organ(s): Kidneys. Bladder.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
DEMINIMIS: 0.1 %
NOTES: This product is subject to SARA section 313 reporting requirements.
TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer. This product is or contains chemical(s) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our

knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.