MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- **Product name: VERSENE 100**

Product Description: Chelating Agent

Synonyms: EDTA TETRASODIUM

- **Manufacturer:** Deep South Chemical, Inc.
  229 Millstone Road
  Broussard, LA 70518 (337) 837-9931
- **For Emergency: Call CHEMTREC 1-800-424-9300 Outside the U.S.A. (703)-527-3887**
- **Contact Person:** Glenn Ray
- **MSDS Revised:** January 1, 2014

SECTION 2. HAZARDS IDENTIFICATION

Emergency overview
CORROSIVE LIQUID.
Corrosive to the skin, eyes and respiratory system.
State of matter: liquid
Colour: yellow
Odour: odourless
Potential health effects
Acute toxicity:
Virtually nontoxic after a single ingestion.
Irritation / corrosion:
Irritating to eyes.
Medical conditions aggravated by overexposure:
Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product.

SECTION 3. Composition / Information on Ingredients

CAS Number	Content (W/W)	Hazardous ingredients
64-02-8	30.0 - 60.0 %	tetrasodium ethylenediaminetetraacetate
5064-31-3	0.1 - 1.0 %	trisodium nitrilotriacetate

SECTION 4. FIRST AID MEASURES

Eyes: Move victim away from exposure and into fresh air. If irritation persists, seek medical attention. For direct exposure, flush with clean water for 15 minutes. Hold eyelids apart to ensure flushing of the entire eye surface.

Inhalation: Move victim away from source of exposure and into fresh air. If irritation persists, seek medical attention. If victim is not breathing, artificial respiration should be administered.

Skin: Remove contaminated clothes. Cleanse affected area thoroughly with soap and water. If irritation persists, seek medical attention. Wash contaminated clothing.

Ingestion: Drink plenty water. Seek medical attention.

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

SECTION 5. FIRE FIGHTING MEASURES

Fire fighting measures

Extinguishing Media: Water fog, alcohol foam, carbon dioxide, & dry chemical.

Decomposition/Combustion Products: Ammonia, nitrogen oxides.

Special Fire Fighting Procedures: Water spray to cool drums.

Explosive Properties:

LEL: N/D

UEL: N/D

Flash point: > 100 °C (closed cup)

Autoignition: No data available.

Hazards during fire-fighting: harmful vapours

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.
carbon oxides

Protective equipment for fire-fighting:

Wear a self-contained breathing apparatus in confined areas or when exposed to combustion products.

Further information:

Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Use proper personal protective equipment. Stay upwind from spill. For small dry spills, carefully scoop material into suitable containers for later disposal. Vacuuming (with appropriate filter) or wet mopping may minimize dust dispersion. For small solution spills, take up with earth, sand, vermiculite, or other absorbent, noncombustible material. For large spills, dike far ahead of liquid spills for later disposal.

Waste disposal method: Dispose of according to local, state and federal regulations in an approved disposal facility or recycling facility.

Environmental precautions:

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

SECTION 7. HANDLING AND STORAGE

Storage: Store in a well-ventilated area. Keep container tightly closed when not in use. Store in cool, dry area.

Handling: Use proper personal protective equipment. Avoid contact with skin or eyes. Handle in well-ventilated workspace.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Keep work area well ventilated.

Protective clothing: Impermeable gloves and impervious clothing as appropriate.

Eye protection: Chemical goggles where splashing may occur.

Respiratory Protection: Use appropriate respiratory protection when handling or in case of insufficient ventilation.

Special Protection: Safety shower, eye bath, and washing facilities should be available.

Hand protection: Chemical resistant protective gloves

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. Wear protective clothing as necessary to minimize contact. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity @ 77°F(H_2O = 1): 1.29-1.32
Flash Point (PMCC Method) (°F): N/D
Vapor density (Air = 1): Same as water
Solubility: Completely miscible
Vapor pressure @ 75°F: Same as water, < 0.35 mmHg (20 °C)
Evaporation Rate: N/D
Appearance: Light straw colored liquid
Odor: Very slight amine
Boiling Point (°F): 223
pH: 11-11.8
Auto-ignition: N/D
Form: liquid
Boiling point: > 100 °C (1,013 hPa)
Vapour pressure: Density: 1.29 - 1.32 g/cm3 (20 - 25 °C)
Molar mass: 380.2 g/mol

SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity: Stable in normal conditions.
Incompatible Materials: Oxidizing materials; hydrogen is formed in the presence of aluminum.
Hazardous Polymerization: None described.
Hazardous reactions:
No hazardous reactions when stored and handled according to instructions.
Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.
Thermal decomposition:
No data available.
Corrosion to metals:
Corrosive effect on metals. Corrosive effect on: brass zinc aluminum

SECTION 11. TOXICOLOGICAL INFORMATION

Skin: The LD50 for skin absorprion in rabbits is >2000mg/kg.
Ingestion: The oral LD50 for male rats is 3030mg/kg.
Mutagenicity: Most data indicate that EDTA and its salts are not mutagenic. Minimal effects reported are likely due to trace metal deficiencies resulting from chelation by EDTA.

Chronic Overexposure Effects:
Nitrilotriacetic acid was found to be carcinogenic to rats and mice in a National Cancer Institute (NCI) feeding study inducing tumors of the urinary tract and kidneys. In a drinking water study with rats, NTA was found to be carcinogenic to the kidneys. It is included in the NTP Annual Report on Carcinogens. IARC has classified NTA and its salts in Group 2A. Pregnant rats receiving up to 0.5% NTA in their diet did not show evidence of teratogenicity.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Fate:
Movement and Partitioning: Based largely or completely on information for similar materials (EDTA). Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3).

Degradation and Persistence: Biodegradation under aerobic static laboratory conditions is below detectable limits in 20 days. Chemical or physical degradation is expected in the environment. Degradation is expected in the soil environment. Theoretical oxygen demand (ThOD) is calculated to be 1.31p/p/

Ecotoxicity: Material is practically non-toxic to fish on an acute basis (LC50 greater then 100mg/L). Acute LC50 for fathead minnow (Pimephales promelas) is >100mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 1030 mg/L.
Acute:
Leuciscus idus/LC50 (96 h): > 500 mg/l
Aquatic invertebrates
Acute: EC50 (48 h): > 100 mg/l
Microorganisms
Toxicity to microorganisms: DEV-L2 : > 100 mg/l
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.
Degradability / Persistence
Biological / Abiological Degradation
Evaluation: Experience has shown that the product is difficult to eliminate in effluent treatment plants.
Was found to be potentially biodegradeable.
Bioaccumulation
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
Other adverse effects:
Do not release untreated into natural waters.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal: If spilled, dispose according to local, state, and federal regulations. Recycle waste containers and clean out residues.

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

SECTION 14. TRANSPORT INFORMATION

Land transport TDG
Hazard class: 8
Packing group: III
ID number: UN 3267
Hazard label: 8
Proper shipping name: **CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains ETHYLENEDIAMINETETRAACETIC ACID NA4-SALT) SOLUTION CORROSIVE ON ALUMINIUM**
Sea transport
IMDG
Hazard class: 8
Packing group: III
ID number: UN 3267
Hazard label: 8
Marine pollutant: NO
Proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains ETHYLENEDIAMINETETRAACETIC ACID NA4-SALT) SOLUTION CORROSIVE ON ALUMINIUM

Air transport
IATA/ICAO
Hazard class: 8
Packing group: III
ID number: UN 3267
Hazard label: 8
Proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains ETHYLENEDIAMINETETRAACETIC ACID NA4-SALT) SOLUTION
CORROSIVE ON ALUMINIUM

SECTION 15. REGULATORY INFORMATION

Toxic Substances Control Act (TCSA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

CERCLA RQ-40 CFR 302.4(a)

Component	CERCLA RQ
None	

SARA 302 Components-40 CFR 355 Appendix A
None

Section 311/312 Hazard Class-40 CFR 370.2
Immediate (X**)**
Delayed (X)
Fire ( )
Reactive ( )
Sudden Release of Pressure ( )

SARA 313-40 CFR 372.65

Component	CAS Number	%
None		

Federal Regulations
Registration status:
Chemical DSL, CA released / listed
WHMIS classification: D2A: Materials Causing Other Toxic Effects - Very toxic material
D2B: Materials Causing Other Toxic Effects – Toxic material
E: Corrosive material
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.

SECTION 16. OTHER INFORMATION

NFPA RATING: Health (3) Fire (0) Reactivity (0)

N/D= No data; N/A = Not available; N/E= Not established