

# MATERIAL SAFETY DATA SHEET



ADEKA CARPOL

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DATE PREPARED: August/10/2006

DATE REVISED :

PRODUCT NAME

MD-100

MSDS No. : AS-18352

## 1. CHEMICAL PRODUCTS AND COMPANY IDENTIFICATION

PRODUCT IDENTIFIER : ADEKA CARPOL MD-100

GENERAL USE : Surfactant

FORMULA : N,N,N',N'- Tetrakis ( 2-hydroxypropyl ) ethylenediamine

MANUFACTURER :

ADEKA CORPORATION

2-35, HIGASHI-OGU 7-CHOME,

ARAKAWA-KU, TOKYO 116-8554, JAPAN

TEL: 81-3-4455-2823 FAX: 81-3-3809-8222

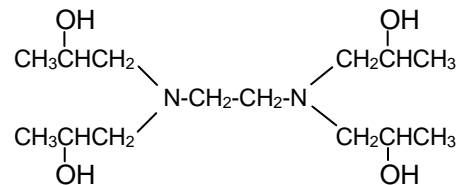
CHEMICAL NAME & STRUCTURE:

N,N,N',N'- Tetrakis ( 2-hydroxypropyl )  
ethylenediamine

EMERGENCY TELEPHONE NUMBERS :

ADEKA CORPORATION

TEL: 81-3-4455-2833 FAX: 81-3-3809-8232



DISTRIBUTOR :

TEL: \_\_\_\_\_ FAX: \_\_\_\_\_

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

| <u>COMPONENT</u>   | <u>%</u> | <u>CAS No.</u> | <u>NOTE</u> |
|--|----------|----------------|-------------|
| N,N,N',N'- Tetrakis ( 2-hydroxypropyl )<br>ethylenediamine | >99      | 102-60-3       | None        |

### EXPOSURE GUIDELINE

| <u>OSHA HAZARDS</u> | <u>OSHA</u> |                   | <u>ACGIH TLV</u> |                   |             |                   |
|---------------------|-------------|-------------------|------------------|-------------------|-------------|-------------------|
|                     | <u>PEL</u>  |                   | <u>TWA</u>       |                   | <u>STEL</u> |                   |
|                     | ppm         | mg/m <sup>3</sup> | ppm              | mg/m <sup>3</sup> | ppm         | mg/m <sup>3</sup> |
| Not applicable      | -           | -                 | -                | -                 | -           | -                 |

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## 3. HAZARDS IDENTIFICATION

\*\*\*\*\* EMERGENCY OVERVIEW \*\*\*\*\*

- \* \*
- \* Clear liquid. \*
- \* May cause irritation to eyes and skin. \*
- \* \*
- \* \*
- \* \*

\*\*\*\*\*

### POTENTIAL HEALTH EFFECTS

- SKIN CONTACT : May cause skin irritation.
  
- EYE CONTACT : May cause eye irritation.
  
- INHALATION : No significant health hazards identified.
  
- INGESTION : Expected to be low toxic.
  
- CHRONIC EFFECTS : No data exist regarding potential chronic health hazards.

## 4. FIRST AID MEASURES

- SKIN CONTACT : Remove contaminated clothing immediately. Wash skin with soap and water. If irritation occurs, get medical attention.
- EYE CONTACT : Immediately flush with large quantities of clean water for at least 15 minutes and call a physician.
- INHALATION : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
- INGESTION : Consult a physician for first aid. In case of unconsciousness, don't induce vomiting.

NOTE TO PHYSICIAN : None.

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## 5. FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES :

Flash point and Method °F (°C) : 410 ( 210 ) by C.O.C. <sup>1)</sup>

Flammable Limits (% by volume) : No data available.

Autoignition Temperature °F (°C) : No data available.

EXTINGUISHING MEDIA : Alcohol foam, carbon dioxide, dry chemical powder or water spray.

SPECIAL FIRE-FIGHTING PROCEDURES : Abundant water spray can be used to dilute spills and render them incombustible to extinguish fires.

FIRE-FIGHTING INSTRUCTIONS : Water can be used to cool fire-exposed containers to protect personnel and to disperse vapor and spills.

HAZARDOUS DECOMPOSITION PRODUCTS : Smoke, fumes, oxides of carbon and oxides of nitrogen.

TO FIREMEN : Firemen should wear normal protective equipment ( full bunker gear ) and positive-pressure self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

LARGE SPILL : Prevent the spilt liquid from spreading by the use of sand or earth. Transfer the liquid to a salvage tank if possible. Incinerate or place in a suitable container for disposal by a licensed contractor. (Follow all Federal, State and local regulations in your country.)

SMALL SPILL : Sweep up or vacuum and place into sealable container for disposal with wearing protective equipment. (See section 8.)

## 7. HANDLING AND STORAGE

HANDLING : Remove all sources of ignition. Utilize recommended protective equipment.

STORAGE : Keep away from heat, sparks and open flame.  
Keep container closed and store in a cool place.

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS : Provide mechanical ventilation of confined spaces.

### PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION : If vapors, mists, or aerosols are generated, wear a NIOSH/OSHA approved respirator.

EYE PROTECTION : Chemical safety glasses.

SKIN PROTECTION : Chemical resistant gloves.

BODY PROTECTION : Anti-static electrical work clothes.

SPECIAL PROTECTION INFORMATION : Avoid a prolonged or repeated contact.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Clear liquid

ODOR : Mild odor

BOILING POINT °F (°C) : 464 ( 240 ) at 1.3 kPa

MELTING POINT / FREEZING POINT : No data available

VAPOR PRESSURE : No data available.

SOLUBILITY IN WATER : Complete

SPECIFIC GRAVITY : 1.03 at 77°F (25 )<sup>1)</sup>

pH : 10.5 (1%aq.)

VISCOSITY : 3000 mPa·s at 122°F (50 )<sup>1)</sup>

VAPOR DENSITY (air=1) : No data available.

EVAPORATION RATE : No data available.  
(n-Butylacetate=1)

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## 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY : Stable under normal conditions.

SUBSTANCES TO AVOID CONTAMINATION : Strong oxidizing agents.

HAZARDOUS REACTION AND FIRE DANGER : No risk of specific hazardous reactions or fire under normal conditions.

PRODUCTS CAUSING HAZARDOUS DECOMPOSITION : Aldehydes, carbon monoxide or carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

EYE EFFECTS : No data available, but may cause eye irritation.

SKIN EFFECTS : No data available, but may cause skin irritation.

ACUTE ORAL EFFECTS : . LD<sub>50</sub> = 3.9 g/kg<sup>2</sup>)

ACUTE INHALATION EFFECTS : No data available.

CHRONIC EFFECTS / CARCINOGENICITY : This product is not known or reported to be chronic and carcinogenic properties by any reference sources including EU, IARC, OSHA, NTP or EPA.

MUTAGENICITY : This product is not known or reported to be mutagenic properties by any reference sources including EU, IARC, OSHA, NTP or EPA.

OTHERS : No relevant information found.

## 12. ECOLOGICAL INFORMATION

BIODEGRADABILITY : No data available.

BIOACCUMULATION : No data available.

FISH TOXICITY : No data available.

OTHERS : None

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## 13. DISPOSAL CONSIDERATION

DISPOSAL INFORMATION : Should be in accordance with local, state or national legislation.

## 14. TRANSPORTATION INFORMATION

UN No. : Free

IMDG CODE : Free

MARINE POLLUTANT : Free

## 15. REGULATORY INFORMATION

U.S.FEDERAL REGULATION

TSCA : TSCA INVENTORY  registered  not registered

| SARA TITLE                    | COMPONENT | CAS No. | WT% |
|-------------------------------|-----------|---------|-----|
| SECTION 313 TOXIC CHEMICALS : | None      |         |     |
|                               |           |         |     |
|                               |           |         |     |

INTERNATIONAL INFORMATION

CEPA : DSL  registered  not registered

EINECS :  registered  not registered

EINECS No. : COMPONENT EINECS No.

N,N,N',N'- Tetrakis

( 2-hydroxypropyl ) ethylenediamine 203-041-4

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## 16. OTHER INFORMATION

### RATING

#### HMIS :

HEALTH ; 1

FLAMMABILITY ; 1

REACTIVITY ; 1

PERSONAL PROTECTIVE

EQUIPMENT ; C

#### NFPA :

HEALTH HAZARD ; 1

FLAMMABILITY ; 1

REACTIVITY ; 1

SPECIFIC HAZARD ; None

### REFERENCE :

- 1) Our testing data
- 2) Registry of Toxic Effects of Chemical Substances (2005)

### OTHERS

DATE REVISED : None

OTHERS : None

To the best of our knowledge, the information contained herein is accurate. However, neither ADEKA CORPORATION nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.