



UNION CARBIDE CORPORATION
A Subsidiary of The Dow Chemical Company
MATERIAL SAFETY DATA SHEET



Product Name: TONE(TM) POLYOL 0230
MSDS#: 1615

Effective Date: 09/22/2000
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Union Carbide urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors and others whom it knows or believes will use this material of the information in this MSDS and any other information regarding hazards or safety; 2) Furnish this same information to each of its customers for the product; and 3) Request its customers to notify their employees, customers, and other users of the product of this information.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 IDENTIFICATION

Product Name	TONE(TM) POLYOL 0230
Chemical Name	Polycaprolactone Diol
Chemical Family	Polyester Polyol
Formula	$H\{O(CH_2)_{50}C\}_mO-R-O\{CO(CH_2)_{50}\}_mH$
Synonym	Caprolactone Polyols, Caprolactone diols, PCP Polyols, Polylactone Polyols

1.2 COMPANY IDENTIFICATION

Union Carbide Corporation
A Subsidiary of The Dow Chemical Company
39 Old Ridgebury Road
Danbury, CT 06817-0001

1.3 EMERGENCY TELEPHONE NUMBER

24 hours a day: CHEMTREC 1-800-424-9300.

Number for non-emergency questions concerning MSDS (732) 563-5522
Additional information on this product may be obtained by calling the Union Carbide Corporation Customer Service Center at 1-800-568-4000.

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2. COMPOSITION INFORMATION

Component	CAS #	Amount (%W/W)
2-Oxepanone, polymer with 2,2'-oxybis[ethanol]	36890-68-3	100 %

3. HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Appearance White

Physical State Solid

Odor Mild

Hazards of product

FOR LIQUID STATE:
DANGER!
HOT LIQUID MATERIAL CAUSES THERMAL BURNS.

FOR SOLID STATE:
NORMAL PRECAUTIONS SHOULD BE FOLLOWED IN HANDLING, STORAGE AND USE.

3.2 POTENTIAL HEALTH EFFECTS

Effects of Single Acute Overexposure

Inhalation Short-term harmful health effects are not expected from vapor generated at ambient temperature.

Eye Contact May cause mild discomfort. Molten material causes thermal burns.

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Skin Contact Brief contact may cause slight irritation with itching and local redness. Molten material causes thermal burns.

Skin Absorption No evidence of harmful effects from available information.

Swallowing Slightly toxic. May cause abdominal discomfort, nausea, and vomiting.

Chronic, Prolonged or Repeated Overexposure

Effects of Repeated Overexposure No adverse effects anticipated from available information.

Other Effects of Overexposure None currently known.

Medical Conditions Aggravated by Exposure

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

See Section 12 for Ecological Information.

4. FIRST AID PROCEDURES

4.1 INHALATION

No emergency care anticipated.

4.2 EYE CONTACT

Flush eyes thoroughly with water for several minutes. Remove contact lenses, if worn. For thermal burns: Immediately flush eyes with water and continue washing for several minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

4.3 SKIN CONTACT

Wash skin with soap and water. For thermal burns: Remove clothing, any jewelry, and gross debris from the burned area. Leave any blisters intact. Wash the area thoroughly with room temperature tap water. Do not use ice. Cover the wounded area with gauze dressing moistened with cool water; keep the dressing moist. Seek medical attention.

4.4 SWALLOWING

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If a large quantity (several ounces) has been swallowed, and if patient is fully conscious, give two glasses of water. Induce vomiting. This should be done only by medical or experienced first-aid personnel. Obtain medical attention.

4.5 NOTES TO PHYSICIAN

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Flash Point - Closed Cup: 161 - 248 °C 321 - 479 °F

Flash Point - Open Cup: 274 - 302 °C 525 - 575 °F

Autoignition Temperature: *Not currently available.*

Flammable Limits In Air:

Lower	<i>Not determined.</i>
Upper	<i>Not determined.</i>

5.2 EXTINGUISHING MEDIA

Extinguish fires with water spray or apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

5.3 EXTINGUISHING MEDIA TO AVOID

No information currently available.

5.4 SPECIAL FIRE FIGHTING PROCEDURES

Do not direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.

5.5 SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Use self-contained breathing apparatus when fighting fires in enclosed areas.

5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS

See Section 8.3 - Engineering Controls

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5.7 HAZARDOUS COMBUSTION PRODUCTS

Burning can produce the following products: Carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled. Carbon dioxide in sufficient concentrations can act as an asphyxiant.

6. ACCIDENTAL RELEASE MEASURES

Steps to be Taken if Material is Released or Spilled:

Soak up small spills with absorbent material. Larger spills should be collected for disposal.

Personal Precautions: Wear suitable protective equipment. See Section 8.2 - Personal Protection.

7. HANDLING AND STORAGE

7.1 HANDLING

General Handling

FOR LIQUID STATE:

Do not get hot liquid in eyes, on skin, on clothing.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

FOR SOLID STATE:

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

FOR INDUSTRY USE ONLY.

Ventilation

General (mechanical) room ventilation is expected to be satisfactory.

Other Precautions

Melt and thoroughly mix before using. Do not heat above 121°C (250°F).

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7.2 STORAGE

Store in accordance with good industrial practices. Storage information may be obtained from product-specific Union Carbide Storage and Handling Guides, or by calling a Union Carbide Customer Service Representative.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 EXPOSURE LIMITS

None established by OSHA, ACGIH or UCC.

8.2 PERSONAL PROTECTION

Respiratory Protection: None expected to be needed.

Ventilation: General (mechanical) room ventilation is expected to be satisfactory.

Eye Protection: Safety glasses or monogoggles

Protective Gloves: Butyl Rubber

Other Protective Equipment: Eye Bath, Safety Shower

8.3 ENGINEERING CONTROLS

PROCESS HAZARD: Sudden release of hot organic chemical vapor or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under a vacuum, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapor."

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Appearance: White

pH: 7.47

Solubility in Water (by weight): *Not determined.*

Odor: Mild

Flash Point - Closed Cup: 161 - 248 °C 321 - 479 °F

Flash Point - Open Cup: 274 - 302 °C 525 - 575 °F

Percent Volatiles: ~ 0.00000 Wt%

Molecular Weight: 530 - 3000 g/mol

Boiling Point (760 mmHg): *Not determined.*

Freezing Point: *Not determined.*

Specific Gravity (H₂O = 1): *Not applicable.*

Vapor Pressure at 20°C: *Not applicable.*

Vapor Density (air = 1): *Not applicable.*

Melting Point: 20 - 60 °C 68 - 140 °F

Bulk Density: 37.78 °C 1.08 g/cm³ 67.4 lb/ft³

10. STABILITY AND REACTIVITY

10.1 STABILITY/INSTABILITY Stable

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10.2 HAZARDOUS POLYMERIZATION Will Not Occur.

10.3 INHIBITORS/STABILIZERS Not applicable.

11. TOXICOLOGICAL INFORMATION

None known from currently available information.

12. ECOLOGICAL INFORMATION

12.1 ENVIRONMENTAL FATE

Information may be available, call Union Carbide.

12.2 ECOTOXICITY

Information may be available, call Union Carbide.

12.3 FURTHER INFORMATION

None.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE DISPOSAL METHOD

Dilute with an inert solvent and incinerate in a furnace where permitted under appropriate Federal, State, and local regulations. Dispose in accordance with all applicable Federal, State, and local environmental regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

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13.2 DISPOSAL CONSIDERATIONS

See Section 13.1

Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permissible under applicable rules, regulations and/or laws governing your location.

14. TRANSPORT INFORMATION

14.1 U.S. D.O.T.

NON-BULK

Proper Shipping Name : NOT REGULATED

BULK

Proper Shipping Name : NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

15.1 FEDERAL/NATIONAL

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 SECTION 103 (CERCLA)

The following components of this product are specifically listed as hazardous substances in 40 CFR 302.4 (unlisted hazardous substances are not identified) and are present at levels which could require reporting:

None.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 TITLE III (EPCRA) SECTIONS 302 AND 304

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The following components of this product are listed as extremely hazardous substances in 40 CFR Part 355 and are present at levels which could require reporting and emergency planning:

None.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 TITLE III (EPCRA) SECTION 313

The following components of this product are listed as toxic chemicals in 40 CFR 372.65 and are present at levels which could require reporting and customer notification under Section 313 and 40 CFR Part 372:

This product does not contain toxic chemicals at levels which require reporting under the statute.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 TITLE III (EPCRA) SECTIONS 311 AND 312

Delayed Hazard : No
Fire Hazard : No
Immediate Health Hazard : No
Reactive Hazard : No
Sudden Release of Pressure Hazard : No

TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS)

The component of this product is on the EINECS inventory.

CEPA - DOMESTIC SUBSTANCES LIST (DSL)

The component of this product is on the DSL or is exempt from reporting under the New Substances Notification Regulations.

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15.2 STATE/LOCAL

PENNSYLVANIA (WORKER AND COMMUNITY RIGHT-TO-KNOW ACT)

This product is subject to the Worker and Community Right-to-Know Act. The following components of this product are at levels which could require identification in the MSDS:
None.

MASSACHUSETTS (HAZARDOUS SUBSTANCES DISCLOSURE BY EMPLOYERS)

The following components of this product appear on the Massachusetts Substance List and are present at levels which could require identification in the MSDS:
None.

CALIFORNIA PROPOSITION 65 (SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

CALIFORNIA SCAQMD RULE 443.1 (SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 443.1, LABELING OF MATERIALS CONTAINING ORGANIC SOLVENTS)

VOC: None.

This section provides selected regulatory information on this product including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.

16. OTHER INFORMATION

16.1 AVAILABLE LITERATURE AND BROCHURES

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Additional information on this product may be obtained by calling the Union Carbide Corporation Customer Service Center at 1-800-568-4000.

16.2 SPECIFIC HAZARD RATING SYSTEM

HMIS ratings for this product are: H - 1 F - 1 R - 0

NFPA ratings for this product are: H - 1 F - 1 R - 0

These ratings are part of specific hazard communications program(s) and should be disregarded where individuals are not trained in the use of these hazard rating systems. You should be familiar with the hazard communication applicable to your workplace.

16.3 RECOMMENDED USES AND RESTRICTIONS

FOR INDUSTRY USE ONLY

16.4 REVISION

Version: 2.1

Revision: 09/22/2000

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

16.5 LEGEND

A	Asphyxiant
Bacterial/NA	Non Acclimated Bacteria
F	Fire
H	Health
HMIS	Hazardous Materials Information System
N/A	Not available
NFPA	National Fire Protection Association
O	Oxidizer
P	Peroxide Former
R	Reactivity
TS	Trade Secret
VOL/VOL	Volume/Volume
W	Water Reactive

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W/W

Weight/Weight

The opinions expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of the use of the product are not under the control of Union Carbide, it is the user's obligation to determine conditions of safe use of the product.