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For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

**MSDS Number:UCN0055J MSDS Version:007**

007 05/04/01 TERGITOL(TM) 15-S-9 SURFACTANT

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PRODUCT IDENTIFICATION

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PRODUCT NAME: TERGITOL(TM) 15-S-9 SURFACTANT  
 MSDS NUMBER: ucn0055j  
 DATE ISSUED: 4/06/2001  
 SUPERCEDES: 9/15/2000  
 ISSUED BY: 009053

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  
 TERGITOL(TM) 15-S-9 SURFACTANT  
 Chemical Name  
 Alkyloxypolyethyleneoxyethanol  
 Chemical Family  
 Polyethylene Glycol Ethers  
 Formula

C12-14H25-29O(CH2CH2O)xH  
Synonym  
Secondary Alcohol Ethoxylate

### 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.

### 2. COMPOSITION INFORMATION

Component  
CAS #  
Amount (%W/W )

Secondary alcohol ethoxylate  
84133-50-6  
> 97 %  
Polyethylene glycol  
25322-68-3  
< 3 %  
Alcohols, C12-14-secondary  
126950-60-5  
< 2 %

### 3. HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

Appearance

Transparent colorless

Physical State

Liquid

Odor

Mild

Hazards of product

DANGER!

CAUSES EYE BURNS.

HARMFUL BY INHALATION OF AEROSOL.

HARMFUL IF ABSORBED THROUGH SKIN.

HARMFUL IF SWALLOWED.

CAUSES SKIN IRRITATION.

ASPIRATION MAY CAUSE LUNG DAMAGE.

### 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. Aerosol can be hazardous if inhaled. See "Significant Data with Possible Relevance to Humans"

**Eye Contact** Causes moderate to severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva. Corneal injury may occur.

**Skin Contact** Causes irritation with discomfort, local redness, and possible swelling. Prolonged contact may cause severe irritation, with local discomfort or pain, and local redness and swelling. Effects may be prolonged.

**Skin Absorption** Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.

**Swallowing** Moderately toxic. May cause irritation of the mouth and throat, abdominal discomfort, nausea, vomiting, and diarrhea. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

#### Chronic, Prolonged or Repeated Overexposure

**Effects of Repeated Overexposure** Repeated skin contact may cause a dermatitis.

Other Effects of Overexposure      None currently known.

#### Medical Conditions Aggravated by Exposure

Skin contact may aggravate an existing dermatitis.

#### 3.3 POTENTIAL ENVIRONMENTAL EFFECTS

See Section 12 for Ecological Information.

#### 4. FIRST AID PROCEDURES

##### 4.1 INHALATION

Remove to fresh air.

##### 4.2 EYE CONTACT

Immediately flush eyes with water and continue washing for at least 15 minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

##### 4.3 SKIN CONTACT

Remove contaminated clothing. Wash skin with soap and water. If irritation persists or if contact has been prolonged, obtain medical attention.

##### 4.4 SWALLOWING

Give two glasses of water. DO NOT INDUCE VOMITING. 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. In case of massive overexposure, victim should be observed for several days for delayed effects.

Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (e.g., gastric lavage after endotracheal intubation).

#### 5. FIRE FIGHTING MEASURES

##### 5.1 FLAMMABLE PROPERTIES

Flash Point - Closed Cup: Pinsky-Martens Closed Cup ASTM D 93      193 C  
380 F

Flash Point - Open Cup: Cleveland Open Cup ASTM D 92      243 C      470 F

Autoignition Temperature: Not currently available.

Flammable Limits In Air:

Lower

Not determined.  
Upper

Not determined.

#### 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 hot, burning pools; this may cause frothing and increase fire intensity.

#### 5.5 SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Use self-contained breathing apparatus and protective clothing.

#### 5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS

See Section 8.3 - Engineering Controls

This material may produce a floating fire hazard.

#### 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:

Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to suitable containers for recovery or disposal. To avoid gelling and foaming problems, do not use water to flush away spills.

Personal Precautions: Wear eye and skin protection. Floor may be slippery; use care to avoid falling. See Section 8.2 - Personal Protection.

Environmental Precautions: Avoid discharge to natural waters.

### 7. HANDLING AND STORAGE

#### 7.1 HANDLING

General Handling

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

Avoid breathing aerosol.

Do not swallow.

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

This product may contain trace amounts of ethylene oxide (CAS No. 75-21-8), a condition which creates the potential for accumulation of ethylene oxide in the head space of shipping and storage containers and in enclosed areas where the product is being handled or used. Ethylene oxide is listed by OSHA as probably carcinogenic to humans, IARC as carcinogenic to humans, and NTP as known to be a human carcinogen. OSHA considers that, at excessive levels, ethylene oxide may present reproductive, mutagenic, genotoxic, neurologic and sensitization hazards. If this product is handled with adequate ventilation, the presence of these trace amounts is not expected to result in any short or long term hazard. This product may not be exempt from OSHA's ethylene oxide standard, 29 CFR 1910.1047. Users should comply with all applicable provisions. Personnel should be monitored to determine levels of exposure to ethylene oxide. If necessary, protective measures should be taken. The OSHA permissible exposure limit for ethylene oxide is 1 ppm TWAS, the action level is 0.5 ppm TWAS, the ACGIH TLV is 1 ppm TWAS and OSHA has established an excursion limit of 5 ppm (15 minute average).

#### 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:

Monogoggles

##### Protective Gloves:

Polyvinyl chloride coated

##### Other Protective Equipment:

Eye Bath, Safety Shower  
Chemical apron

### 8.3 ENGINEERING CONTROLS

Surfactants can cause foaming problems in biological wastewater treatment plants and other high shear operations.

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."

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: Transparent colorless

pH: Not currently available.

Solubility in Water (by weight): Completely soluble but  
some compositions may form gels

Odor: Mild

Flash Point - Closed Cup: Pensky-Martens Closed Cup ASTM D 93 193 C  
380 F

Flash Point - Open Cup: Cleveland Open Cup ASTM D 92 243 C 470 F

Molecular Weight: 596 g/mol

Boiling Point (760 mmHg): > 250 C > 482 F Decomposes

Freezing Point: 6 C 43 F

Specific Gravity (H<sub>2</sub>O = 1): 1.006 60 C / 20 C

Vapor Pressure at 20 C: < 0.001 kPa < 0.01 mmHg

Vapor Density (air = 1): > 1

Evaporation Rate (Butyl Acetate = 1): < 0.01

Melting Point: Not applicable.

## 10. STABILITY AND REACTIVITY

10.1 STABILITY/INSTABILITY Stable

Incompatible Materials: Normally unreactive; however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds.

10.2 HAZARDOUS POLYMERIZATION Will Not Occur.

10.3 INHIBITORS/STABILIZERS Not applicable.

## 11. TOXICOLOGICAL INFORMATION

Acute Toxicity ACUTE TOXICITY

Peroral

Peroral

Rat; male; LD<sub>50</sub> = 1.62 (1.18 - 2.24) ml/kg

Major Signs: sluggishness, prostration

Gross Pathology: lungs, stomach, intestines discolored, stomach and intestines distended, gas- or liquid-filled

Peroral

Rat; female; LD<sub>50</sub> = 0.41 (0.29 - 0.56) ml/kg

Major Signs: sluggishness, prostration

Gross Pathology: lungs, stomach, intestines discolored, stomach and intestines distended, gas- or liquid-filled

Percutaneous

Percutaneous

Rabbit; male; LD<sub>50</sub> = 1.12 (0.52 - 2.41) ml/kg; 24 h occluded.

Major Signs: sluggishness, salivation, prostration, diarrhea, emaciation

Gross Pathology: lungs and trachea discolored

Percutaneous

Percutaneous

Rabbit; female; LD<sub>50</sub> = 2.38 (1.34 - 4.22) ml/kg; 24 h occluded.

Major Signs: sluggishness, salivation, prostration, diarrhea, emaciation

Gross Pathology: lungs and trachea discolored

Inhalation

Inhalation

Aerosol Studies Rat; LC50 = 1.10 (0.85 - 1.42) mg/l

Major Signs: hyperactivity, wetness or encrustation on perinasal and periocular fur, blepharospasm, audible respiration, mouth breathing, unkempt appearance, decreased motor activity, distended abdomen

Gross Pathology: lungs discolored, intestines gas-filled

Irritation IRRITATION

Skin Skin: Rabbit; 4 h occluded

Result Results: mild to moderate erythema, moderate to severe edema with subsequent desquamation; scabbing and fissuring on 2/6

Eye Eye: Rabbit; 0.005 ml

Result Results: mild to severe corneal injury; mild iritis; moderate conjunctival irritation, corneal vascularization in 2/6, ocular discharge in 2/6.

#### SIGNIFICANT DATA WITH POSSIBLE RELEVANCE TO HUMANS

In studies with rabbits sustained occluded skin contact of the undiluted surfactant can cause inflammatory changes in the lung.

This material can cause lung injury if deposited as a liquid directly into the lung.

Some deaths have occurred in rats exposed to high aerosol concentrations for 4

hours. However, there were no histopathological findings in the lungs of rats

that died, suggesting that the deaths were not caused by chemical toxicity, but likely related to some non-specific physical cause such as suffocation.

#### 12. ECOLOGICAL INFORMATION

##### 12.1 ENVIRONMENTAL FATE

BOD (% Oxygen consumption)

Day 5

Day 10

Day 15

Day 20

Day 30

22 %

41 %

71 %

BOD (% Oxygen consumption)

Day 5  
Day 10  
Day 15  
Day 20  
Day 30

33 %  
53 %

82 %

BOD (% Oxygen consumption)

Day 5  
Day 10  
Day 15  
Day 20  
Day 30

25 %  
40 %

59 %

BOD (% Oxygen consumption)

Day 5  
Day 10  
Day 15  
Day 20  
Day 30  
Acclimated  
28 %

44 %  
79 %

## Closed Bottle BOD (% Oxygen consumption)

Day 5  
 Day 10  
 Day 15  
 Day 28

19 %

32 %

41 %

## DOC (% dissolved organic carbon disappearance)

Day 7  
 Day 14  
 Day 21  
 Day 28

48 %

55 %

68 %

71 %

## 12.2 ECOTOXICITY

## Ecotoxicity to Micro-organisms Toxicity to Micro-organisms

Bacterial Inhibition; 16 h; IC50

Result value: > 1000 mg/l

## Ecotoxicity to Aquatic Invertebrates toxicity to Aquatic Invertebrates

Daphnia; 48 h; LC50

Result value: 7.3 mg/l

## Toxicity to Aquatic Invertebrates

Daphnia; 48 h; LC50

Result value: 4.1 (3.2 - 5.2) mg/l

## Ecotoxicity to Aquatic Plants ecotoxicity to Fish toxicity to Fish

Fathead Minnow; 96 h; LC50

Result value: 3.6 mg/l

## Toxicity to Fish

Fathead Minnow; 96 h; LC50

Result value: 3.2 mg/l

## 12.3 FURTHER INFORMATION

Theoretical Oxygen Demand (THOD) - measured: 2.07 mg/mg

Theoretical Oxygen Demand (THOD) - calculated: 2.10 mg/mg

## 13. DISPOSAL CONSIDERATIONS

## 13.1 WASTE DISPOSAL METHOD

FOR DISPOSAL OF AQUEOUS SURFACTANT SOLUTIONS: Aerobic biological wastewater treatment systems are effective in treating aqueous solutions of surfactants. Removal efficiency will depend upon treatment plant conditions. As with any wastewater, consultation with local treatment plant staff is recommended (and may be required by law) before disposal. In typical activated sludge treatment

systems, inlet concentrations below 5 mg/L have been treated without foaming problems. - FOR DISPOSAL OF NEAT, UNUSED SURFACTANT: Incinerate in a furnace where permitted under 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.

## 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 : ENVIRONMENTALLY HAZARDOUS SUBSTANCES LIQUID, NOS

Technical Name : ALCOHOL C6-C17 (SECONDARY) POLY (3-6) ETHOXYLATE

Hazard Class : 9

ID Number : UN3082

Packing Group : PG III

Other Information : MARINE POLLUTANT (ALCOHOL C6-C17 (SECONDARY) POLY (3-6) ETHOXYLATE)

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:

Component	CAS #	Amount
Ethylene oxide	75-21-8	<= 0.0010 %
Acetaldehyde	75-07-0	<= 0.0006 %
1,4-Dioxane	123-91-1	<= 0.0005 %
Formaldehyde	50-00-0	<= 0.0004 %

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

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 (Chronic) Health Hazard : Yes

Fire Hazard : No  
 Immediate (Acute) Health Hazard : Yes  
 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 components of this product are on the EINECS inventory or are exempt from EINECS inventory requirements.

CEPA - DOMESTIC SUBSTANCES LIST (DSL)

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

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:

Component

CAS #

Amount

Ethylene oxide

75-21-8

<= 0.0010 %

Acetaldehyde

75-07-0

<= 0.0006 %

1,4-Dioxane

123-91-1

<= 0.0005 %

Formaldehyde

50-00-0

<= 0.0004 %

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

1986)

This product contains the following chemical(s) known to the State of California to cause cancer:

Component  
CAS #  
Amount

Acetaldehyde

75-07-0

&lt;= 0.0006 %

1,4-Dioxane

123-91-1

&lt;= 0.0005 %

Formaldehyde

50-00-0

&lt;= 0.0004 %

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

This product contains the following chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

Component  
CAS #  
Amount

Ethylene oxide

75-21-8

&lt;= 0.0010 %

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

VOC : Vapor pressure <0.01 mmHg at 20 C  
0 g/L

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

ADDITIONAL INFORMATION: Additional product safety information on this product may be obtained by calling your Union Carbide Corporation Sales or Customer Service contact.

## 16.2 SPECIFIC HAZARD RATING SYSTEM

## HMIS

ratings for this product are:

H - 3

F - 1

R - 0

## NFPA

ratings for this product are:

H - 3

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

Revision: 04/06/2001

## 16.5 LEGEND

Note that below the phrase code prints in Col 1 and the Phrase in Col2.

Symbol

is for MSDS Phrase 2

A

Asphyxiant

Note that below the phrase code prints in Col 1 and the Phrase in Col2.

Symbol

is for MSDS Phrase 2

Bacterial/NA

Non Acclimated Bacteria

Note that below the phrase code prints in Col 1 and the Phrase in Col2.

Symbol

is for MSDS Phrase 2

F

Fire

Note that below the phrase code prints in Col 1 and the Phrase in Col2.

Symbol

is for MSDS Phrase 2

H

Health

Note that below the phrase code prints in Col 1 and the Phrase in Col2.

Symbol

is for MSDS Phrase 2

## HMIS

Hazardous Materials Information System

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

N/A

Not available

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

NFPA

National Fire Protection Association

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

O

Oxidizer

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

P

Peroxide Former

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

R

Reactivity

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

TS

Trade Secret

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

VOL/VOL

Volume/Volume

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

W

Water Reactive

Note that below the phrase code prints in Col 1 and the Phrase in Col2.  
Symbol

is for MSDS Phrase 2

W/W

Weight/Weight

UNION CARBIDE CORPORATION

A Subsidiary of The Dow Chemical Company

MATERIAL SAFETY DATA SHEET

Product Name: TERGITOL(TM) 15-S-9 SURFACTANT

Effective Date: 04/06/2001

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For Additional Information:

Contact: MSDS Coordinator - Univar USA

During business hours, Pacific Time - (425) 889-3400

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**END OF MSDS**