MATERIAL SAFETY DATA SHEET

PRODUCT

"W" TEST SOLUTION

NFPA HAZARD RATINGS*

Health  2  [Moderate Health Hazard]
Fire  3  [Highly Combustible]
Reactivity  0  [Non reactive]

SECTION 1. PRODUCT INFORMATION

Manufacturer: ADCO Inc., 900 W. Main, Sedalia, MO 65301 (816) 826-3300
EMERGENCY TELEPHONE NUMBERS: CHEMTREC (800) 424-9300 24 HRS 7 DAYS A WEEK; ADCO (800) 821-7556 (8-5 M-F)
Intended Product Use: Testing for anionic detergent concentration
Synonyms: none

SECTION 2. HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>%</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>LD 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroform</td>
<td>91</td>
<td>67-65-3</td>
<td>10 ppm</td>
<td>Oral 1000-2000 mg/kg (rat)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dermal 4000 mg/kg (rabbit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inhalation 8000 ppm/4 hr. (rat)</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>8</td>
<td>67-63-0</td>
<td>400 ppm</td>
<td>Oral 58 mg/kg (rat)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dermal 13,000 mg/kg (rabbit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inhalation 12,000 ppm (rat)</td>
</tr>
</tbody>
</table>

SECTION 3. PHYSICAL DATA*

Appearance: clear liquid
Odor: slightly sweet - ether like
Specific Gravity (20° C): 1.38 @ 68° F
pH (Water Solution): Not applicable
Boiling Point: 150° F
Solubility in Water: slight
Vapor Pressure (mm Hg): 190 @ 68° F
Vapors are Heavier than Air:

SECTION 4. FIRE AND EXPLOSION HAZARD DATA*

Flash Point (Method Used): 77° F (TCC)
Upper Flammable Limit: No Data
Extinguishing Media: Water fog, foam, dry chemical or carbon dioxide
Lower Flammable Limit: No Data
Special Fire Fighting Procedures: Cool fire exposed containers with water spray. Wear self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Vapors may form flammable or explosive mixture with air. Vapors are intoxicating and toxic.

SECTION 5. REACTIVITY DATA

Stability: Stable
Conditions to Avoid: Use or storage at high temperatures
Incompatibility (materials to avoid): Strong oxidizers, strong bases. Do not store in aluminum containers.
Hazardous Decomposition Products: Burning produces toxic fumes.
Hazardous Polymerization: Will not occur

SECTION 6. HEALTH HAZARD DATA

Toxicity: Low - LD50 less than 1500 mg/kg (Estimated)
Effects of Acute Overexposure: Vapors may cause dizziness, nausea, headache and irritation to the eyes, nose and lungs. Contact with eyes or skin may cause drying and irritation. Exposure may cause central nervous system (CNS) depression and increase myocardial irritability.
Chronic: Prolonged exposure may cause liver and kidney damage, CNS depression, low blood pressure and rapid heartbeat.
Some animal studies at high dose have shown increased toxicity to pregnant rats and rabbits and decreased fetal weight.

*Hazard ratings and other information are based on latest available information from tests on product or ingredients of mixtures. The data and evaluations are accurate to the best of ADCO's knowledge. No guarantee or liability is expressed or implied.
**SECTION 7. PREVENTIVE MEASURES**

**Respiratory Protection:** None required when used as directed with adequate ventilation. When cleaning up large spills in confined area, self-contained breathing apparatus is recommended.

**Ventilation:** Normal industrial ventilation is adequate. Local exhaust at work station recommended.

**Protective Gloves:** Ordinarily not needed. Use chemically resistant gloves when contact is prolonged or frequent.

**Eye Protection:** Use goggles or face mask if splashing is likely.

Other protection equipment ordinarily not needed. Availability of eye washes and adequate ventilation in work areas recommended.

**STORAGE AND HANDLING:**
- Store in closed containers in cool (below 120°F) well-ventilated location. Do NOT store in aluminum containers.
- Leave adequate headspace for thermal expansion (at least 10% of container volume).

**SPILL OR LEAK PROCEDURES:**
- Keep from sources of ignition. Small spills - allow to evaporate with adequate ventilation. Soak up the larger spills on absorbent material and transfer to resealable containers for disposal.

**WASTE DISPOSAL METHOD:**
- Dispose of product on absorbent material containing product, in manner complying with all local, state and federal regulations for combustibles or chlorinated hydrocarbons.

**RECOMMENDED PRECAUTIONARY LABELING:**

**CAUTION:** Flammable. Keep from heat and open flames. Use with adequate ventilation. Avoid prolonged breathing of vapors. May cause dizziness, nausea, headache and/or irritation to eyes, nose & lungs. Contact with eyes or skin may cause drying & irritation. Harmful if swallowed. Contains chloroform, an A-2 carcinogen.

**FIRST AID:**
- Remove person overcome by vapors to fresh air. In case of contact, flush eyes for 15 minutes with water. Wash off of skin. If swallowed, give large amounts of water. Do NOT induce vomiting. Call physician.

**KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.**

This product is intended for professional use only by trained personnel.

**SECTION 8. FIRST AID**

- **Inhalation:** Remove person overcome by vapors to fresh air.
- **Eyes:** Flush eyes for 15 minutes with water.
- **Skin:** Wash skin with water.
- **Ingestion:** If swallowed: give large amounts of water and do NOT induce vomiting. Call physician.

**IF SYMPTOMS PERSIST SEEK MEDICAL ASSISTANCE**

**SECTION 9. SARA TITLE III**

NOTE: This product may contain some components which are under the reporting requirements of SARA Title III, Section 313. If you are required to report discharges using Form R, SARA Title II, Section 313, information is available on amounts of reportable components.

**SECTION 10 - PREPARATION DATE**

This information is provided for guidance only based on information we have compiled. No guarantee of accuracy or completeness is expressed or implied.

**ADCO RESEARCH DEPARTMENT**

Date: March 26, 1998

Prepared by: [Signature]

Replaces MSDS of: February 10, 1992
MATERIAL SAFETY DATA SHEET

PRODUCr — X SoLUTuON For DvAMITE 2000 & Triple PlaY

NFPA - OSHA HAZARD RATINGS*

Health [ ] ( ) Sliht health hazard
Fire [ ] ( ) Non Combustible
Reactivity [ ] ( ) Non Reactive

DOT Class

SECTION 1. PRODUCT INFORMATION

Manufacturer: ADCO Inc., 900 W. Main, Sedalia, MO 65301 (816) 826-3300
EMERGENCY TELEPHONE NUMBERS: CHEMTREC (800) 424-9300; ADCO (800) 821-7556
Intended Product Use: Indicator for testing anionic detergent concentration
Synonyms: None

SECTION 2. HAZARDOUS INGREDIENTS

Chemical Name % CAS # OSHA PEL LD50
—-none—- —- —- —-

*This ingredient is listed on Canadian WHMIS at 1% level.

SECTION 3. PHYSICAL DATA*

Appearance: Blue solution
Odor: None
Specific Gravity (20°C): 1.004
pH (Water Solution): 5.1 - 5.4

Boiling Point: Not applicable
Solubility in Water: Soluble
Vapor Pressure (mm Hg): Not applicable

SECTION 4. FIRE AND EXPLOSION HAZARD DATA*

Flash Point: None
Extinguishing Media: Not combustible
Special Fire Fighting Procedures: None

Unusual Fire and Explosion Hazards: Contains a blue dye. If dissolved in water it may leave a blue stain.

SECTION 5. REACTIVITY DATA

Stability: Stable Conditions to Avoid: No special conditions
Incompatibility (materials to avoid): Alkaliine materials - oxidizing agent
Hazardous Decomposition Products: None
Hazardous Polymerization: Will not occur.

SECTION 6. HEALTH HAZARD DATA

Toxicity: Low Estimated.*
Effects of Overexposure: Acute: May cause very slight irritation to eyes and skin.
Chronic: None known

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**SECTION 7. PREVENTIVE MEASURES**

**SPECIAL PROTECTION INFORMATION**

**Respiratory Protection:** None required when used as directed with adequate ventilation.

**Ventilation:** Normal industrial ventilation is adequate.

**Protective Gloves:** Ordinarily not needed. Use rubber gloves when contact is prolonged or frequent.

**Eye Protection:** Use goggles or face mask if splashing of solution made from powder is likely.

Other protection equipment ordinarily not needed. Availability of eye washes and adequate ventilation in work areas recommended.

**STORAGE AND HANDLING:** Do not expose to light (will fade dye). Avoid contact with clothing and skin, it will leave a blue stain difficult to remove.

**SPILL OR LEAK PROCEDURES:** Not a hazardous waste. If spilled sweep up, or wipe up. Flush to sewer with waste.

**WASTE DISPOSAL METHOD**
Flush to sewer or dispose of in nonhazardous landfill. Empty container should be rinsed with water before disposal.

**RECOMMENDED PRECAUTIONARY LABELING:**

**CAUTION:** Contact with product may cause irritation to eyes or skin. Harmful if swallowed.

**FIRST AID:** In case of contact: flush eyes 15 minutes with water; wash off of skin.

If swallowed: give 2 glasses of water and induce vomiting. Call physician.

**KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.**

This product is intended for professional use only by trained personnel.

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**SECTION 8. FIRST AID**

**IF SYMPTOMS PERSIST SEEK MEDICAL ASSISTANCE**

**Eyes:** Flush with water for 15 minutes.

**Skin:** Wash with soap and water.

**Ingestion:** Give milk of magnesia, or milk to soothe irritation. If large quantity ingested induce vomiting.

**IF SYMPTOMS PERSIST SEEK MEDICAL ASSISTANCE**

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**SECTION 9. SARA TITLE III**

NOTE: This product contains some components which are under the reporting requirements of SARA Title III, Section 313. If you are required to report discharges using Form R, SARA Title III, Section 313, information is available on amounts of reportable components.

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**SECTION 10 - PREPARATION DATE**

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ADCO RESEARCH DEPARTMENT

Date: 5/16/95

Prepared by: __ S. Keith Ennis ___

Replaces MSDS of: ___
MATERIAL SAFETY DATA SHEET

PRODUCT Y SOLUTION

OSHA HAZARD RATINGS*

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2 [Moderate Health Hazard]</td>
</tr>
<tr>
<td>Fire</td>
<td>2 [Moderately Combustible]</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0 [Nonreactive]</td>
</tr>
</tbody>
</table>

SECTION 1. PRODUCT INFORMATION

Manufacturer: ADCO Inc., 900 W. Main, Sedalia, MO 65301 (816) 826-3300
EMERGENCY TELEPHONE NUMBERS: CHEMTREC (800) 424-9300 24 HRS 7 DAYS A WEEK; ADCO (800) 821-7556 (8-5 M-F)
Intended Product Use: Testing of anionic detergents
Synonyms: None
State Registry#: Pending

SECTION 2. HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>%</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>LD 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>10 - 30</td>
<td>67-63-0</td>
<td>TWA=400 ppm</td>
<td>Orally: 5.8 g/kg (rats)</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>15 - 40</td>
<td>107-21-1</td>
<td>TWA=50 ppm</td>
<td>Orally: 8540 mg/kg (rats)</td>
</tr>
</tbody>
</table>

SECTION 3. PHYSICAL DATA

Appearance: Clear liquid
Odor: Like alcohol
Specific Gravity (20° C): 0.893
pH (Water Solution): 8 - 8.5
Boiling Point: 155°F
Solubility in Water: Miscible
Vapor Pressure (mm Hg): 32 mm Hg
Vapors are Heavier than Air: Not applicable

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): 155°F (C.O.C.)
Extinguishing Media: Foam, carbon dioxide, dry chemical, water fog
Special Fire Fighting Procedures: Cool fire exposed containers with water spray
Unusual Fire and Explosion Hazards: Vapors may form combustible or explosive mixtures with air

SECTION 5. REACTIVITY DATA

Stability: Stable
Conditions to Avoid: Storage or use above 110°F
Incompatibility (materials to avoid): Strong oxidizers, strong acids
Hazardous Decomposition Products: Carbon dioxide, carbon monoxide
Hazardous Polymerization: Will not occur.

SECTION 6. HEALTH HAZARD DATA

Toxicity: Slight
Effects of Acute Contact with eyes or skin may cause moderate irritation. Vapors may cause dizziness and irritation to eyes, nose and lungs.
Overexposure: (Estimated)
Chronic: None known.

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SECTION 7. PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

Respiratory Protection: None required when used as directed with adequate ventilation. When cleaning up large spills in confined area, self-contained breathing apparatus is recommended.

Ventilation: Normal industrial ventilation is adequate. Local exhaust at work station recommended.

Protective Gloves: Ordinarily not needed. Use chemically resistant gloves when contact is prolonged or frequent.

Eye Protection: Use goggles or face mask if splashing is likely.

Other protection equipment ordinarily not needed. Availability of eye washes and adequate ventilation in work areas recommended.

STORAGE AND HANDLING:
- Store in well ventilated area. Store in plastic or lined metal containers. Keep away from heat and open flames.
- Store away from strong oxidizers. Protect from moisture.

SPILL OR LEAK PROCEDURES:
- Avoid breathing vapors. Keep open flames and ignition sources away.
- Flush small amounts to drain with water.

WASTE DISPOSAL METHOD
- Liquid product is hazardous waste (combustible). When absorbed on solid material, it is not a hazardous material.
- Flush small spills to sewer.

RECOMMENDED PRECAUTIONARY LABELING:

FIRST AID:

Splash into eyes or prolonged or repeated contact with skin may cause irritation. In case of contact, flush eyes 15 minutes with water. Wash off skin. If swallowed, induce vomiting immediately by giving two glasses of water and pressing finger down throat. Do not give liquids to an unconscious person.

KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.
This product is intended for professional use only by trained personnel.

SECTION 8. FIRST AID

Inhalation: Remove person overcome by vapors to fresh air. Administer oxygen if needed.

Eyes: Flush eyes 15 minutes with water.

Skin: Wash off with soap and water.

Ingestion: Induce vomiting immediately as directed by medical personnel. Do not give liquids to an unconscious person.

IF SYMPTOMS PERSIST SEEK MEDICAL ASSISTANCE

SECTION 9. SARA TITLE III

NOTE: This product contains some components which are under the reporting requirements of SARA Title III, Section 313. If you are required to report discharges using Form R, SARA Title III, Section 313, information is available on amounts of reportable components.

SECTION 10 - PREPARATION DATE

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ADCO RESEARCH DEPARTMENT

Date: 8/16/94

Prepared by: ____________

Replaces MSDS of: 12/10/91