1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

ISSUE DATE: 04-03-02

PRODUCT NAME: OXSOL® 2000

Manufacturer’s Name and Address: MANA
171 Madison Avenue
New York, NY 10016
(212) 896-4935

24 HOUR EMERGENCY TELEPHONE: 1-800-535-5053

TO REQUEST AN MSDS: 1-800-699-8606

CUSTOMER SERVICE: (212) 896-4935

PRODUCT USE: Solvent

CHEMICAL NAME: Benzene, Trifluoromethyl

CHEMICAL FORMULA: C\textsubscript{7}H\textsubscript{5}F\textsubscript{3}

SYNONYMS/COMMON NAMES: Alpha,Alpha,Alpha-Trifluorotoluene, Trifluoromethylbenzene, BTF

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS NUMBER / NAME
98-08-8 Benzene, (trifluoromethyl)-

<table>
<thead>
<tr>
<th>EXPOSURE LIMITS</th>
<th>PERCENTAGE</th>
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<tbody>
<tr>
<td>PEL: Not Established</td>
<td>VOL ND</td>
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<tr>
<td>TLV: Not Established</td>
<td>WT 99.50-100</td>
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</table>

COMMON NAMES: Benzotrifluoride

Listed On (List Legend Below):
00 12 21 36 50 51

LIST LEGEND
00 TSCA Inventory 12 PA Hazardous Substance
21 NJ Special Health Haz Sub 36 Canadian NDSL
50 Philippines Inventory (PICCS) 51 EINECS

OXSOL® is a registered trademark of MILENIA Agro Ciencias S.A., part of Makhteshim Agan Group.
3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Flammable liquid, liquid vapors or mist may be irritating to eyes, skin and respiratory tract.
Water white liquid with aromatic odor.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY:
Eyes, Ingestion, Inhalation, Skin.

TARGET ORGANS:
Central Nervous System, Eyes, Skin, Respiratory Tract.

IRRITANCY:
All routes of exposure.

SENSITIZING CAPABILITY:
None known.

REPRODUCTIVE EFFECTS:
None known.

CANCER INFORMATION:
None known.

SHORT-TERM EXPOSURE (ACUTE)

INHALATION:
May produce symptoms of central nervous system depression including headache, dizziness, nausea, loss of balance and drowsiness.

EYES:
May be irritating.

SKIN:
May be irritating.

INGESTION:
May be irritating.

REPEATED EXPOSURE (CHRONIC)
No known chronic effects

SYNERGISTIC MATERIALS:
None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
None known.

4. FIRST AID MEASURES

EYES:
IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. IF IRRITATION PERSISTS GET MEDICAL ATTENTION.
SKIN:
Wash thoroughly with soap and water. Wash clothing before reuse. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

INHALATION:
Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Have patient drink several glasses of water then induce vomiting by having patient tickle back of throat with finger. Keep airway clear. GET MEDICAL ATTENTION IMMEDIATELY.

NOTES TO PHYSICIAN:
None.

5. FIRE FIGHTING MEASURES
Flash Point: 54°F(12°C)
Method: TAG CC
Autoignition Temperature: Not determined
FLAMMABLE LIMITS IN AIR, BY % VOLUME
Upper: Not determined
Lower: Not determined

EXTINGUISHING MEDIA:
Foam, dry chemical, carbon dioxide, water fog or spray.

FIRE FIGHTING PROCEDURES:
Evacuate all unnecessary personnel. Shut down motors, pumps, electrical service and eliminate all sources of ignition. Use water spray to keep fire exposed containers cool to avoid pressure buildup. Wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus and full protective clothing.

FIRE AND EXPLOSION HAZARD:
Flammable liquid.
Over-heated drums may rupture. Heavy vapors can travel to source of ignition and flash back.

SENSITIVITY TO MECHANICAL IMPACT:
None known.

SENSITIVITY TO STATIC DISCHARGE:
Electrostatic charge may build up during handling. Grounding of equipment is recommended.

6. ACCIDENTAL RELEASE MEASURES
PERSONAL PRECAUTIONS:
Evacuate unnecessary personnel and eliminate all sources of ignition.
Follow protective measures provided under Personal Protection in Section 8.

ENVIRONMENTAL PRECAUTIONS:
Contain liquids and prevent discharges to streams or sewers, control or stop the loss of volatile materials to the atmosphere. Large leaks may require environmental consideration and possible evacuation. Do not apply water to the leak. Spills or releases should be reported, if required, to the appropriate local, state and federal agencies.

METHODS FOR CLEANING UP:
If a significant spill occurs, evacuate area. If exposure conditions warrant, wear a NIOSH/MSHA approved positive pressure self-contained breathing apparatus and full protective clothing. Shut off electrical service
and protect from ignition. Contain spill or release with a dike to prevent flow into sewers or streams. Pump into container for disposal or reclamation. Soak up small spills with absorbent material.

7. HANDLING AND STORAGE

HANDLING:
Avoid breathing vapor, use with adequate ventilation. Wear NIOSH/MSHA approved respiratory protection if there is potential for exposure above the exposure limits.
Do not get in eyes, on skin or clothing.
Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the MSDS.
Wash thoroughly with soap and water after handling.
Keep away from heat, sparks, pilot lights, welding operations and open flame.
Do not eat, drink or smoke in areas where this material is used.
Ground all equipment.
Avoid contact with high temperature sources, pure oxygen, alkali metals, strong UV light (welding arcs) as this can cause decomposition, resulting in toxic and irritant vapors.
Never enter a pit or tank without following safety procedures—never alone, always with a lifeline and positive pressure supplied air.
Vapors are heavier than air and will tend to collect in low areas. Avoid use in confined spaces. Areas of poor ventilation could contain concentrations high enough to cause unconsciousness and death. Use approved supplied air respirator following manufacturer’s recommendations where vapors may be generated.
Do not reuse containers.
SPECIAL MIXING AND HANDLING INSTRUCTIONS:
Do not allow contact with materials as noted in Section 10.
STORAGE:
Keep container tightly closed and properly labeled.
Store containers in a cool, dry, ventilated, fire resistant area away from direct heat and separated from oxidizers.
Dike storage containers to contain 110% of tank volume.
Vent indoor tanks to an outside location so escaping vapors will not contaminate any work areas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
Where engineering controls are not feasible use adequate local exhaust ventilation wherever mist, spray or vapor may be generated.
Provide good room ventilation plus local exhaust at points of emission and low level floor exhaust in immediate handling area.
PERSONAL PROTECTION

RESPIRATORY:
For emergencies and unknown concentrations, use NIOSH/MSHA approved positive pressure self-contained breathing apparatus. Utilize respiratory protective equipment in accordance with 29CFR 1910.134 (Respiratory Protection).

EYE/FACE:
Wear chemical safety goggles plus full face shield to protect against splashing when appropriate (ANSI Z87.1).

SKIN:
Wear chemical resistant gloves such as North Silver Shield® or Viton®. For limited use, PVC or nitrile gloves may be worn. Silver Shield is a registered trademark of Siebe North, Inc. Viton is a registered trademark of E. I. DuPont deNemours and Company, Inc.

OTHER:
Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Water white liquid with aromatic odor.
Odor Threshold: Not available
Specific Gravity (Water=1): 1.185
Vapor Pressure: 31 mm Hg @ 20°C
Vapor Density (Air=1): 5.0
Density: 9.88 lbs/gal @ 20°C
Evaporation Rate: Not available
% Volatiles by Wt: 100%
Boiling Point: 102°C (216°F)
Freezing Point: -29°C (-20°F)
Melting Point: -29°C (-20°F)
Solubility in Water (% by wt.): Negligible
pH: Not available
Octanol/Water Partition Coefficient: log Kow = 3.01
Thermal Decomposition Temperature: Not available
Other: Not available
VOC (g/l. by wt.): 1185

10. STABILITY AND REACTIVITY
CHEMICAL STABILITY:
__X__ STABLE _____ UNSTABLE

REACTS WITH:
_____ AIR _______X__ OXIDIZERS _____ METALS
_____ WATER _______ACIDS _____ OTHER
__X__ HEAT _______ALKALIS _____ NONE
HAZARDOUS POLYMERIZATION:
_____ OCCURS   ___X__ WILL NOT OCCUR

COMMENTS:
Avoid heat, sparks and open flames.

HAZARDOUS DECOMPOSITION PRODUCTS:
Will generate toxic fumes of hydrogen fluoride and other organic fluorides when overheated.

11. TOXICOLOGICAL INFORMATION
98-08-8   Benzene, (trifluoromethyl)-

ACUTE ORAL LD50 : (rat)   15000 mg/kg
ACUTE INHALATION LC50 : (rat, 4hr) 70810 mg/m^3

12. ECOLOGICAL INFORMATION
98-08-8   Benzene, (trifluoromethyl)-

AQUATIC ECOTOX DATA
Fish:     No data available
Invertebrates: No data available
Amphibians:  LDLo  (frog) 870 mg/Kg
Plants:    No data available

TERRESTRIAL ECOTOX DATA
Wildlife:  LD50  (rat as surrogate) 15000 mg/Kg
Plants:    No data available

ENVIRONMENTAL FATE DATA
Biotic:    No data available
Abiotic:   Air (1/2 life) estimated for reaction with OH radicals is 34.9 days

Benzotrifluoride (BTF) has negligible solubility in water and may decompose to form hydrofluoric acid and benzoic acid. Models estimate that BTF would be moderately toxic to aquatic species. There is no available data on the toxicity of BTF to wildlife, but laboratory tests with rats indicate that this material is not likely to be significantly toxic to mammals. There is limited data available concerning the environmental fate of BTF. Due caution should be taken to prevent the accidental release of this material to aquatic or terrestrial environments.

13. DISPOSAL CONSIDERATIONS
Recovered nonusable material is a RCRA Hazardous Waste. Treatment, storage, transportation and disposal must be in accordance with EPA and State regulations under the authority of the Resource Conservation and Recovery Act (RCRA) 40 CFR parts 260-271.

14. TRANSPORT INFORMATION
DOT PROPER SHIPPING NAME: Benzotrifluoride

DOT HAZARD CLASS: 3
DOT IDENTIFICATION NUMBER: UN 2338
DOT PACKING GROUP: II
DOT HAZARDOUS SUBSTANCE(S): Not Applicable
DOT MARINE POLLUTANT(S): Not Applicable
ADDITIONAL DESCRIPTION REQUIREMENT: Not Applicable
15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:
OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

To aid our customers in complying with regulatory requirements, SARA Title III Hazard Categories for this product are indicated below. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40.CFR.370. Please consult those regulations for details.

TSCA:
All components of this product that are required to be on the TSCA inventory are listed on the inventory.

SARA/TITLE III HAZARD CATEGORIES:
Immediate(Acute) Health: _YES_ Reactive Hazard: _NO_
Delayed(Chronic) Health: _NO_ Sudden Release of Pressure _NO_
Fire Hazard: _YES_

HMIS HAZARD RATINGS:
HEALTH HAZARD: _2_ FIRE HAZARD: _3_ REACTIVITY: _1_

STATE REGULATIONS:
See Section 2. COMPOSITION/INFORMATION ON INGREDIENTS list legend for applicable state regulation.

INTERNATIONAL REGULATIONS:
Consult the regulations of the importing country.

CANADA:
WHMIS Hazard Class: B2

16. OTHER INFORMATION

For additional non-emergency health, safety or environmental information telephone 800-699-8606 or write to:

IsleChem, LLC
2801 Long Road
Grand Island, NY  14072

MSDS LEGEND:
ACGIH = American Conference of Governmental Industrial Hygienists
CAS = Chemical Abstracts Service Registry Number
CEILING = Ceiling Limit (15 Minutes)
CEL = Corporate Exposure Limit
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit (OSHA)
STEL = Short Term Exposure Limit (15 Minutes)
TDG = Transportation of Dangerous Goods (Canada)
TLV = Threshold Limit Value (ACGIH)
TWA = Time Weighted Average (8 Hours)
WHMIS = Worker Hazardous Materials Information System (Canada)

* = See Section 3 Hazards Identification - Repeated Exposure (Chronic) Information

IMPORTANT: The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, OR OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, STABILITY OR OTHERWISE. This information is not intended to
be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any federal, state or local laws, rules, regulations or ordinances.

17. WARNING LABEL INFORMATION
SIGNAL WORD:
DANGER

HAZARD WARNINGS:
Flash Point: 54°F (12°C)
FLAMMABLE LIQUID.
LIQUID, VAPORS OR MIST MAY BE IRRITATING TO EYES, SKIN AND RESPIRATORY TRACT.

PRECAUTIONS:
Keep away from heat, sparks, pilot lights, welding operations and open flame.
Avoid breathing dust, vapors or mist.
Avoid contact with eyes, skin and clothing.
Do not swallow.
Do not eat, drink or smoke in areas where this material is used.
Wash thoroughly with soap and water after handling.
Do not reuse container. Product residues may remain. All labeled precautions MUST be observed.
Ground all equipment before use.
Never enter a pit or tank without following safety procedures - never alone, always with a lifeline, and always with a positive pressure supply of fresh air. Avoid use in confined spaces.
Before using, read Material Safety Data Sheet (MSDS) for this material.

FIRST AID
EYES:
IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. IF IRRITATION PERSISTS GET MEDICAL ATTENTION.

SKIN:
Wash thoroughly with soap and water. Wash clothing before reuse. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

INHALATION:
Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Have patient drink several glasses of water then induce vomiting by having patient tickle back of throat with finger. Keep airway clear. GET MEDICAL ATTENTION IMMEDIATELY.
IN CASE OF SPILL OR LEAK:
Avoid discharges to sewers and streams.
Contain spill and pump into marked container for reclamation or disposal.
Small spills may be soaked up with compatible absorbent material and then placed in closed containers to await proper disposal.

FIRE:
Use dry chemicals, foam, carbon dioxide.
Use water to keep fire-exposed containers cool.
Wear full protective clothing.

HANDLING AND STORAGE:
Wear safety glasses with side shields or chemical safety goggles.
Wear chemical resistant gloves such as North Silver Shield® or Viton®. For limited use, PVC or nitrile gloves may be worn. Silver Shield is a registered trademark of Siebe North, Inc. Viton is a registered trademark of E. I. DuPont deNemours and Company, Inc.
Store in a cool, dry, well ventilated area away from incompatible materials.
Keep container tightly closed and properly labeled.
Dike storage tanks separately to contain 110% of tank volume.

DISPOSAL:
Recovered nonusable material is a RCRA Hazardous Waste. Treatment, storage, transportation and disposal must be in accordance with EPA and State regulations under the authority of the Resource Conservation and Recovery Act (RCRA) 40 CFR parts 260-271.

INFORMATION REQUIRED BY FEDERAL, STATE OR LOCAL REGULATIONS:
This Product Contains:
CAS#  NAME
98-08-8  Benzene, (trifluoromethyl)-
VOC (g/l. by wt.): 1185
Contains no photochemically reactive material in accordance with Rule 443 of the South Coast Air Quality Management District.

HMIS RATING: HEALTH  _2__  FLAMMABILITY  _3__  REACTIVITY  _1__

For Industrial Use Only

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