Appendix A
Material Safety Data Sheets for High VOC and Low-VOC Cleaners
High VOC Cleaner Used at DRS Sensors & Targeting Systems
VAN WATER & ROGER -- ISOPROPYL ALCOHOL -- 6505-00-261-7256

-----------------------------  Product Identification  -----------------------------

Product ID: ISOPROPYL ALCOHOL
MSDS Date: 05/01/1993
FSC: 6505
NIIN: 00-261-7256
MSDS Number: BVGJL

--- Responsible Party ---
Company Name: VAN WATER & ROGER
Address: 2600 CAMPUS DR
Box: 5932
City: SAN MATEO
State: CA
ZIP: 94403-2522
Country: US
Info Phone Num: 714-864-2310
Emergency Phone Num: 800-424-9300
Preparer's Name: C.A. EISENHARD
CAGE: 09N91

--- Contractor Identification ---
Company Name: CHEMICAL COMMODITIES AGENCY, INC.
Address: 27447 PACIFIC STREET
Box: 5932
City: HIGHLAND
State: CA
ZIP: 92346-2640
Country: US
Phone: 909-864-2310
CAGE: 60777
Company Name: VAN WATER & ROGERS INC., SUB OF UNIVAR
Address: 6100 CARILLON POINT
Box: 5932
City: KIRKLAND
State: WA
ZIP: 98033
Country: US
Phone: 206-889-3400
CAGE: 09N91
Company Name: VAN WATERS AND ROGERS
Address: 2256 JUNCTION AVE
City: SAN JOSE
State: CA
ZIP: 95131
Country: US
Phone: 408-435-8700/800-424-9300 (CHEMTREC)
CAGE: 09N91

-----------------------------  Composition/Information on Ingredients  -----------------------------

Ingredient: ISOPROPYL ALCOHOL (SARA III) (PER SPEC, MATERIAL IS "ISOPROPYL ALCOHOL, N.F." FORMULATION COULD NOT BE FOUND.)
CAS: 67-63-0
RTECS #: NT8050000
Fraction by Wt: PER NF
Other REC Limits: NONE DETERMINED
OSHA PEL: 400 PPM/500 STEL
ACGIH TLV: 400 PPM/500 STEL; 9192
Hazard Identification

Routes of Entry: Inhalation: YES  Skin: YES  Ingestion: YES
Reports of Carcinogenicity: NTP: NO  IARC: NO  OSHA: NO
Health Hazards Acute and Chronic: INHALATION-IRRITATION OF NOSE & THROAT. EYES-IRRITATION, CORNEAL BURNS. Prolonged exposure to high concentrations may cause severe or fatal CNS depression.
Explanation of Carcinogenicity: NOT CARCINOGENIC.
Effects of Overexposure: INHALATION-HIGHER CONCENTRATIONS MAY CAUSE HEADACHE, VOMITING, COMA. EVEN HIGHER CONCENTRATIONS MAY CAUSE COMA OR DEATH. SKIN-DRYNESS, POSSIBLE DERMATITIS. INGESTION-LARGE AMOUNTS CAUSES HEADACHE, NAUSEA, VOMITING, STOMACH CRAMPS, UNCONSCIOUSNESS OR DEATH.
Medical Cond Aggravated by Exposure: PRE-EXISTING SKIN DISORDERS, EYE PROBLEMS, OR IMPAIRED RESPIRATORY FUNCTION MAY BE SUSCEPTIBLE.

First Aid Measures

First Aid: INHALATION: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NEEDED. SEEK MEDICAL ATTENTION. EYES: FLUSH WITH WATER FOR 15 MINUTES, GET MEDICAL ATTENTION. SKIN: WASH AREA WITH SOAP & WATER. IF IRITATION PERSISTS, SEEK MEDICAL ATTENTION. INGESTION: INDUCE VOMITING BY GIVING WATER, PREVENT ASPIRATION, GET IMMEDIATE MEDICAL ATTENTION.

Fire Fighting Measures

Flash Point Method: TCC
Flash Point: 53.0°F, 11.7°C
Lower Limits: 2.0
Upper Limits: 12.7
Extinguishing Media: WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, ALCOHOL FOAM; DO NOT USE DIRECT WATER SPRAY.
Fire Fighting Procedures: FIREFIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS & FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS & STRUCTURES THAT ARE EXPOSED.
Unusual Fire/Explosion Hazard: EXTINGUISH ALL NEARBY SOURCES OF IGNITION BECAUSE VAPORS MAY BE MOVED BY AIR CURRENTS TO IGNITION SOURCES DISTANT FROM THE HANDLING POINT.

Accidental Release Measures

Spill Release Procedures: EXTINGUISH ALL IGNITION SOURCES. MAKE SURE ALL HANDLING EQUIPMENT IS ELECTRICALLY GROUNDED. FOR SMALL SPILLS MOP UP & PLACE IN O.I.T. APPROVED CONTAINERS.

Handling and Storage

Handling and Storage Precautions: KEEP AWAY FROM HEAT, SPARKS & OPEN FLAMES. STORE IN COOL, DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. VENT CONTAINERS FREQUENTLY.
Other Precautions: MORE OFTEN IN WARM WEATHER, USE ONLY ON NON-SparkING TOOLS AND ELECTRICALLY GROUND ALL EQUIPMENT WHEN HANDLING THIS PRODUCT. DO NOT USE PRESSURE TO EMPTY CONTAINERS. EMPTY CONTAINERS CAN HAVE RESIDUES, GASES & MISTS.

Exposure Controls/Personal Protection

Respiratory Protection: BASED UPON CONTAMINATION LEVELS IN THE WORK PLACE. FOR EXAMPLE: HALF MASK AIR-FURIFYING CARTRIDGE RESPIRATORS

OR SUPPLIED AIR RESPIRATORS.
Ventilation: LOCAL—MECHANICAL EXHAUST.
Protective Gloves: RUBBER GLOVES.
Eye Protection: SAFETY GOOGLES.
Other Protective Equipment: RUBBER APRON, RUBBER BOOTS, IMPERVIOUS CLOTHING.
Work Hygienic Practices: EYE WASH FOUNTAIN, QUICK DRENCH SHOWER.
Supplemental Safety and Health
AN MSDS WAS REQUESTED. CHEM COMMODITIES INFORMED US 12OCT94 THAT THEY
HAD SUPPLIED VAN WATERS & ROGERS MATERIAL TO DSC. MSDS COPIED FOR
ANOTHER VWR WHICH HAD BEEN SUPPLIED BY CHEM COMMODITIES. -- MA
TERIAL PER SPEC IS "ISOPROPYL ALCOHOL, N.F.". FORMULATION COULD
NOT BE FOUND. FORMULA IS THOUGHT TO BE 70%/30% WATER.

-------------------------- Physical/Chemical Properties --------------------------

HCC:F2
NRC/State Lic Num: NONE
Boiling Pt: B.P. Text: 181F, 83C
Melt/Freeze Pt: M.P./F.P. Text: -127F, -88C
Vapor Press: 33
Vapor Density: 2.07
Spec Gravity: 0.79
Evaporation Rate & Reference: 3.0 (BUTYL ACETATE=1)
Solubility in Water: 100%
Appearance and Odor: MEDICINAL ALCOHOLIC ODOR.

-------------------------- Stability and Reactivity Data --------------------------

Stability Indicator/Materials to Avoid: YES
STRONG OXIDIZERS, ALUMINUM, ACETALDEHYDE, CHLORINE, ETHYLENE OXIDE,
HYPOCHLOROUS ACID, ALDEHYDES.
Stability Condition to Avoid: HEAT, SPARKS AND OPEN FLAMES.
Hazardous Decomposition Products: MAY LIBERATE CARBON MONOXIDE AND
CARBON DIOXIDE.

-------------------------- Disposal Considerations --------------------------

Waste Disposal Methods: CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL
REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.

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information is formulated for use by elements of the Department
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document should seek competent professional advice to verify and
assume responsibility for the suitability of this information to their
particular situation.

High VOC Cleaner Used at Huhtamaki
MATERIAL SAFETY DATA SHEET

PRODUCT NAME: WASH EB
PRODUCT CODE: B111

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: PRINTERS' SERVICE
ADDRESS: 26 Blanchard Street
Newark, New Jersey 07105

EMERGENCY PHONE: 1-973-589-7800
INFORMATION PHONE: 1-973-589-7800

LAST REVISION: 06/25/97
DATE REVISED: 03/17/99
PREPARER: ENVIRONMENTAL DEPT.

SECTION II - HAZARDOUS INGREDIENTS/ARA III INFORMATION

REPORTABLE COMPONENTS

<table>
<thead>
<tr>
<th>NAME OF MATERIAL</th>
<th>CAS NUMBER</th>
<th>VAPOR PRESSURE</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-BUTANONE</td>
<td>108-23-8</td>
<td>2.0 mmHg</td>
<td>90 - 94</td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>71-23-4</td>
<td>10.9 mmHg</td>
<td>90 - 94</td>
</tr>
</tbody>
</table>

* Indicates chemical(s) subject to the reporting requirements of section 113 of Title III and 49 CFR 372.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 254 F
SPECIFIC GRAVITY (20/4): 1.08

VAPOR DENSITY: 3.7 (air = 1)
VAPOR PRESSURE: 4.1 mmHg

DENSITY: 0.80 (25/4°C)
VOC: 7.36 (heptane)

PHOTOCHEMICAL: NO
ADOX SOLUBILITY: 0.048

VOLATILES: 10.0%
APPEARANCE: CLEAR

PHYSICAL STATE: LIQUID
ODOR: ALCOHOL ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 105 F
METHOD USED: FOG
FLASHPOINTS IN AIR BY VOLUME: LOWER: 1.1
UPPER: 13.5

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM OR DRY POWDER (WATER MAY BE INEFFECTIVE)

SPECIAL FIRE-FIGHTING PROCEDURES: KEEP CONTAINER COOL. COOLING WATER MAY BE INVOLVED IN SPREAD OF BURNING MATERIAL.

UNUSUAL FIRE AND EXPLOSION HAZARDS: IF ROLLING POINT OF SOLVENT IS REACHED, THE CONTAINER MAY Rupture EXPLODINGLY AND IF LIQUID GENERATE A FIREBALL

SECTION V - REACTIVITY DATA

STABILITY: YES
IF NO CONDITIONS: NO

INCOMPATIBILITY (MATERIALS TO AVOID): NO
IF THIS MATERIAL CONTACTS: STRONG ACID OR BASE

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: CARBON DIOXIDE, CARBON MONOXIDE OR IONIZATION

HAZARDOUS POLYMERIZATION: NO

SECTION VI - HEALTH HAZARD DATA

INDICATIONS OF EXPOSURE: INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: HEADACHE, DIZZINESS, NAUSEA. VERY HIGH LEVELS OF VAPORS CAN CAUSE UNCONSCIOUSNESS. SLIGHT IRRITATION OF THE NOSE/MOUTH MEMBRANE.

EYE CONTACT AND SYMPTOMS OF EXPOSURE: REDNESS OR BURNING. SENSATION.

SKIN HEALTH RISKS AND SYMPTOMS OF EXPOSURE: NOIVE SENSITIVITY OR IRRITATION ON OVEREXPOSURE.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: SEVERE GASTROINTESTINAL IRRITATION. NAUSEA, VOMITING AND DIARRHEA.

EMERGENCY AND FIRST AID PROCEDURES: IF IN EYES: FLUSH WITH WATER FOR 15 MIN. LIFT UPPER AND LOWER EYE LIDS. SEE A DOCTOR.

IF ON SKIN: WASH WITH SOAP AND WATER.

IF INHALED: REMOVE TO FRESH AIR. IF UNCONSCIOUS, USE ARTIFICIAL RESPIRATION.

IF IRRITATED: DO NOT DISCHARGE. SEE DOCTOR IMMEDIATELY TO PUMP STOMACH.

RECOVERED HAZARD (ACUTE AND CHRONIC):
MATERIAL SAFETY DATA SHEET

EFFECT OF ORGANIC EXPOSURE: NONE
EFFECT OF INORGANIC EXPOSURE: NONE

IN ALL CASES OF EMERGENCY AND FIRST AID, WE STRONGLY RECOMMEND A DOCTOR BE SEEN.

CANCER/HUMANITY: MTF CANCEROGEN; NO IARC MONOGRAPH; NO OSHA REGULATIONS; NO MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE; DERMATICALLY, MAY AGGRAVATE EXISTING LIVER AND KIDNEY ALKALI.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STORAGE TO BE TAKEN IN CASE MATERIAL IS ENCOUNTERED OR SPILLED: VENTILATE AREA. KEEP AWAY FROM STRONG DETERGENTS, HEAT, SPARKS OR OPEN FLAMES. PREVENT SPILL FROM SPREADING BY USING AN INERT MATERIAL, SUCH AS SAWD, AS A BARRIER. KEEP OUT OF ALL WATERS OR WATER DRAINS. DO NOT Flush AREA WITH WATER. FOR SMALL SPILLS USE ABSORBENT PADS. FOR LARGE SPILLS, CALL A SPILL RESPONSE TEAM. IF RELEASED, CONTACT STATE/LOCAL AGENCIES.

WASTE DISPOSAL: PRODUCT MISSED AMOUNT SHOULD BE PLACED IN SEALLED METAL DRUM FOR DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: KEEP AWAY FROM STRONG DETERGENTS, HEAT, SPARKS AND OPEN FLAMES. DO NOT CUT OR DRILL INTO AN EMPTY CONTAINER IN ANY WAY THAT MIGHT GENERATE A SPARK. SOLVENT RESIDUE IN THE CONTAINER COULD DETE and CAUSE AN EXPLOSION. KEEP CONTAINER TIGHTLY CLOSED AND OUT OF THE WEATHER.

OTHER PRECAUTIONS: WE RECOMMEND THAT CONTAINERS BE EITHER PROFESSIONALLY RECONDITIONED FOR REUSE OR PROPERLY DISPOSED OF BY CERTIFIED FIRMS TO HELP REDUCE THE POSSIBILITIES OF AN ACCIDENT. DESTRUCTION OF CONTAINERS SHOULD BE IN ACCORDANCE WITH APPLICABLE LAW AND REGULATIONS. "EMPTY" DRUMS SHOULD NOT BE GIVEN TO INDIVIDUALS.

SECTION VIII - CONTROL MEASURES

EXPOSURE CONTROL AND PERSONAL PROTECTION:

RESPIRATION PROTECTION: IF EXCEEDS LIMIT USE A GAS MASK WITH APPROPRIATE CANISTERS. CANISTER OR SUPPLIED AIR EQUIPMENT.

VENTILATION: IF NORMAL VENTILATION IS INADEQUATE USE ADDITIONAL SOURCES, ESPECIALLY LOCAL VENTILATION. IF THE VAPOR OF THE LIQUID EXCEEDS THE LIMIT. USE EXHAUST SYSTEMS.

PROTECTIVE GLOVES: USE SOLVENT RESISTANT GLOVES.

EYE PROTECTION: USE SAFETY GLASSES OR EYE GOGGLES.

OTHER PROTECTIVE EQUIPMENT OR CLOTHING: NONE.

HYGIENIC PRACTICE: WASH HANDS AND CLOTHES IF THEY COME IN CONTACT WITH THE PRODUCT. DO NOT TAKE CLOTHING OUTSIDE WITH THE PRODUCT.

SECTION IX - SHIPPING INFORMATION

UN NO: 1A 1993

SECTION X - DISCLAIMER

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MATERIAL SAFETY DATA SHEET

PRODUCT NAME: 2-CHLOROCLASSIC A
PRODUCT CODE: M349
CHEMICAL NAME: 2-CHLORONAPHTHALEIN

MANUFACTURER’S NAME: PETERSY’S SERVICE
ADDRESS: 36 Manchester Street
Newark, New Jersey 07105

EMERGENCY PHONE: 702 345 4320
INFORMATION PHONE: 702 345 1234

SECTION I - MANUFACTURER IDENTIFICATION

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SECTION II - HAZARDOUS INGREDIENTS/BARC III: INFORMATION

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SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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SECTION V - REACTIVITY DATA

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SECTION VI - HEALTH HAZARD DATA

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INFORMATION ON DISPOSAL:

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EMERGENCY AND FIRST AID PROCEDURES

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OTHER INFORMATION:

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MATERIAL SAFETY DATA SHEET

S-CURE CLASSIC CA

Page: 2

HEALTH HAZARDS (ACUTE AND CHRONIC):

EFFECT OF CHRONIC EXPOSURE: PREVIOUS HIGH VAPOR CONCENTRATION MAY CAUSE LIVER AND KIDNEY PROBLEMS.

EFFECT OF ACUTE EXPOSURE: NONE

IN ALL CASES OF EMERGENCY AND FIRST AID, WE STRONGLY RECOMMEND A DOCTOR BE SEEN.

CANCER/Oncogenicity: NOT CARCINOGENIC; IN IARC MONOGRAPHS: NO

CHRONIC EXPOSURE: NONE

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: LIVER AND KIDNEY

----------- SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE -----------

STORAGE TO BE TAKEN IN Cение MATERIAL TO BE REPAITED OR STORED: REPAITED MATERIALS

KEEP AWAY FROM OPEN FLAMES. OPEN FLAMES ON OPEN FLAMES. KEEP AWAY FROM KEEP OUT OF REACH OF CHILDREN. NO OPEN FLAMES OR OPEN FLAMES. DO NOT USE HEAT OR USE HEAT OR USE HEAT. FOR DUST, USE A DUST MASK. FOR LARGE VENTS, USE A DUST MASK.

WASTE DISPOSAL METHOD: PRODUCT USED EQUIPMENT SHOULD BE PLACED IN SEALED METAL BINS FOR DISPOSAL OR ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: KEEP AWAY FROM OPEN FLAMES. KEEP AWAY FROM OPEN FLAMES. DO NOT DISPOSE OF IN CLOSED CONTAINERS IN ANY WAY THAT MAY CAUSE SPILLS. A CLOSED SYSTEM USED IN THE CONTAINER.

OTHER PRECAUTIONS: USE CLOTHING THAT COMPLIES WITH FEDERAL PROFESSIONAL RECOMMENDATIONS FOR SAFE OR PROFESSIONAL USE OF MATERIALS.

EXPOSURE CONTROL AND PERSONAL PROTECTION:

WORK PRACTICES: WHEN SUBLIMATING, USE GOGGLES, FACE SHIELD, AND RUBBER GLOVES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: USE A DUST MASK. NON-REUSABLE DUST MASKS.

GLOBE AND LENS: USE REUSABLE DUST MASKS WITH GOGGLES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: USE A DUST MASK. NON-REUSABLE DUST MASKS.

GROUND SHIELDING:

--- DISCLARATION ---

D.O.T. HAZARD CLASSIFICATION: COMBUSTIBLE LIQUID: 3.0

--- DISCLAIMER ---

This material was developed to provide a safe working environment for those involved in the handling and use of this product. It is not intended to be a substitute for professional advice. The user is responsible for determining the suitability and effectiveness of this material for their specific needs. The manufacturer disclaims any responsibility for the use of this material in a manner other than that specified. Users are encouraged to consult their local authorities for guidance in the proper handling and use of this material.
Low-VOC Cleaner Used at Sandberg Furniture and Tested at DRS Sensors & Targeting Systems
ACETONE

MSDS Number: A0446 — Effective Date: 06/18/91

1. Product Identification

   Synonyms: Dimethylketone; 2-propanone; dimethylacetone
   CAS No: 67-64-1
   Molecular Weight: 88.08
   Chemical Formula: (CHO)CO
   Product Code:
   J.T. Baker: 1556, 5580, 5603, 5604, 5902, 5903, 5904, 5905, 5906, 5907, 5908, 5909, 5910, 5915, 5926, 5927, 11254, 11255, 11256
   Aldrich: 132-12-7, 6655
   Mallinckrodt: 0018, 2432, 2435, 2437, 2438, 2440, 2443, 2445, 2450, 14531, 15580, 1991

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>99 - 100%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Hazards Identification

   Emergency Overview

   DANGER: EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

   J.T. Baker SAF-T-DATA(sm) Ratings (Provided here for your convenience)

   Health Rating: 1 - Slight
Flammability Rating: 4 - Extreme (Flammable)
Reactivity Rating: 2 - Moderate
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:
Inhalation of vapors irritates the respiratory tract. May cause coughing, dizziness, dizziness, and headache. Higher concentrations can produce central nervous system depression, nausea, and unconsciousness.

Ingestion:
Swallowing small amounts is not likely to produce harmful effects. Ingestion of larger amounts may produce abdominal pain, nausea and vomiting. Aspiration into lungs can produce severe lung damage and is a medical emergency. Other symptoms are expected to parallel inhalation.

Skin Contact:
Irritating due to defatting action on skin. Causes redness, pain, drying and cracking of the skin.

Eye Contact:
Vapors are irritating to the eyes. Splashes may cause severe irritation, with stinging, tearing, redness and pain.

Chronic Exposure:
Prolonged or repeated skin contact may produce severe irritation or dermatitis.

Aggravation of Pre-existing Conditions:
Use of alcohols of hydrocarbons enhances toxic effects. Exposure may increase the toxic potential of chlorinated hydrocarbons, such as chloroform, trichloroethane.

4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:
Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

5. Fire Fighting Measures

Fire:
Flash point: -20°C (-4°F) CC
Autoignition temperature: 465°C (869°F)
Flammable limits in air % by volume:
let: 2.5; uct: 12.8
Extremely Flammable Liquid and Vapor! Vapor may cause flash fire.

Explosion:
Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition sources and flash back. Contact with strong oxidizers may cause fire. Sealed containers may rupture when heated. This material may produce a floating fire hazard. Sensitive to static discharge.
6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 5. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth) and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer. If a leak or spill has not ignited, use water spray to disperse the vapor, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to sell, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

J. T. Baker SOLOSORB(R) solvent adsorbent is recommended for spills of this product.

7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or enclosed storage is preferred. Separate from incompatible materials. Containers should be sealed and grounded to prevent static sparks. Storage and use areas should be Non-Smoking areas. Use non-sparking type tools and equipment, including explosion-proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapor, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

Acute:
-OSHA Permissible Exposure Limit (PEL):
1000 ppm (TWA)

-ACGIH Threshold Limit Value (TLV):
500 ppm (TWA), 750 ppm (STEL) A4 - not classifiable as a human carcinogen

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposure below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded, a half-face organic vapor respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the applicable regulatory agency or respiratory supplier, whichever is lowest.

A full-face piece organic vapor respirator may be worn up to 30 times the exposure limit or the maximum use concentration specified by the applicable regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are unknown, use a full-face piece positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin
9. Physical and Chemical Properties

Appearance:
Clear, colorless, volatile liquid.

Odor:
Fragrant, mint-like

Solubility:
Miscible in all proportions in water.

Specific Gravity:
0.79 @ 20°C/4°C

pH:
No information found.

% Volatiles by volume @ 21°C (78°F):
100

Boiling Point:
56.3°C (133°F) @ 760 mm Hg

Melting Point:
-95°C (-139°F)

Vapor Density (Air=1): 2.0

Vapor Pressure (mm Hg):
400 @ 39.5°C (104°F)

Evaporation Rate (BaAe=1):
ca. 7.7

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:
Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:
Will not occur.

Incompatibilities:
Concentrated nitric and sulfuric acid mixtures, oxidizing materials, chlorine, sulfur, chlorine compounds, acids, potassium bromide.

Conditions to Avoid:
Heat, flames, ignition sources and incompatible.

11. Toxicological Information

Oral rat LD50: 5400 mg/kg; (inhalation rat LC50: 50, 50, 50 mg/m3); Irritation eye rabbit, Standard Draize, 20 mg severe; investigated as a mutagen, mutagen, reproductive effects.

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Cancer List---
12. Ecological Information

Environmental Fate:
When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is expected to readily biodegrade. When released to water, this material is expected to quickly evaporate. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be moderately degraded by photolysis. When released into the air, this material is not expected to be readily removed from the atmosphere by wet deposition.

Environmental Toxicity:
This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/L.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: ACETONE
Hazard Class: 3
UN/NA: UN1090
Packing Group: II
Information reported for product/sizes: 350LB

International (Water, I.M.O.)

Proper Shipping Name: ACETONE
Hazard Class: 3
UN/NA: UN1090
Packing Group: II
Information reported for product/sizes: 150LB

15. Regulatory Information

Chemical Inventory Status - Part 1

Ingredient

TSCA EC Japan Australia
Acetone (67-64-1)  Yes  Yes  Yes  Yes

--- Chemical Inventory Status - Part 2 ---

- **Canada**
  Ingredients  Korea  DSL  NDSL  Phil.
  Acetone (67-64-1)  Yes  Yes  No  Yes

--- Federal, State & International Regulations - Part 1 ---

- **SARA 302**
  Ingredients  NA  FPQ  1st Chemical Catg.
  Acetone (67-64-1)  No  No  Yes  No

--- Federal, State & International Regulations - Part 2 ---

- **RCRA**  - **TSCA**
  Ingredients  CERCLA  246.23  B(1)
  Acetone (67-64-1)  5000  0000  No

Chemical Weapons Convention: No  TSCA 12(b): Yes  CERCLA: Yes
SARA 311/312: Acute: Yes  Chronic: No  Fire: Yes  Pressure: No
Reactivity: No  1.Pure / Liquid

**Australian Hazards Code: 2VJE**

**Furtron Schedule: No information found.**

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the
MSDS contains all of the information required by the CPR.

16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 3 Reactivity: 0

Label Hazard Warning:

DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL
IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS
CENTRAL NERVOUS SYSTEM.

Label Precautions:

Keep away from heat, sparks and flame.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Avoid breathing vapor.
Avoid contact with eyes, skin and clothing.
Label First Aid:

Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep
head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician
immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give
oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove
contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

Product Use:

**Laboratory Reagent.**

Revision Information:

No changes.

**Disclaimers:**

******************************************************************************************
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Prepared by: Environmental Health & Safety Phone Number: (314) 654-1600 (U.S.A.)
Low-VOC Cleaner Tested at Medtronic Diabetes and DRS Sensors & Targeting Systems
Material Safety Data Sheet

MIRACHEM. Pressroom Cleaner
(Formulation No. 2501)

Section I - General
Manufacturer Name: The Mirachem Corporation
P.O. Box 27608
Tempe, Arizona 85286-7608
Date Prepared: 7/3/98
Emergency Phone: 1 (800) 847-3527
Revision Date: 

Section II - Hazardous Ingredients/Identity Information
Hazardous Component (CAS #) | OSHA PEL | ACGIH TLV | Other Limits | % (Optional)
--- | --- | --- | --- | ---
None | | | | 
N.E. = None Established

Section III - Physical/Chemical Characteristics
Boiling Point: >210°F
Vapor Pressure (mm Hg.): Composite 0.008
@ 20°C
Vapor Density (AIR = 1): > 1
Solubility in Water: Complete
Appearance and Odor: Clear liquid with a mild citrus odor
N/A = Not Applicable
N.E. = Not Established

Section IV - Fire and Explosion Hazard
Flash Point (Method Used): >212°F (PMCC ASTM D63)
Extinguishing Media: N/A
Special Fire Fighting Procedures: N/A
Unusual Fire Fighting and Explosion Hazards: N/A
N/A

Section V - Reactivity
Stability: Unstable Stable
Incompatibility (Materials to Avoid): Strong Acids and Alkalis.
Hazardous Decomposition or By-products: Thermal decomposition may produce CO₂
Hazardous Polymerization: May Occur
Strongly exothermic product.
Strongly exothermic product.
Will Not Occur


Section VI - Health Hazard Data

Eye Contact: May cause mild temporary irritation.
Skin Contact: Prolonged or repeated exposure may cause mild irritation.
Inhalation: No adverse effects expected.
Ingestion: No adverse health effects are anticipated to occur as a result of acute ingestion. Chronic effects are not known.
Carcinogenicity: None of the components in this material are listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.
Signs/Symptoms of Overexposure: Prolonged contact may cause mild irritation or dryness to sensitive skin.
Medical Conditions Generally Aggravated by Exposure: None known.

Section VII - Emergency and First Aid Procedures

Eyes: Immediately flush with clean water. Consult physician if necessary.
Skin: Rinse with water.
Ingestion: If swallowed, treat symptomatically and supportively. Do not induce vomiting. If victim conscious and alert, give two glasses of water or milk to drink. If vomiting occurs, keep head below hips to prevent aspiration. Contact Physician.
Inhalation: No adverse effects anticipated.

Section VIII - Procedures for Safe Handling and Use

In Case of Spill: Flush with water into containing area.
Waste Disposal: Flush to sewer where applicable within Federal, State or Local disposal requirements.
Handling & Storage Precautions: Wear protective goggles or face shield if splashing or spraying liquid. Protect from freezing.
Other Precautions: Keep container tightly closed. Keep out of reach of children.

Section IX - Control Measures

Respiratory Protection: No respiratory protection is necessary.
Ventilation: Good general ventilation is sufficient.
Protective Clothing: When prolonged skin contact is expected, wear protective gloves.
Eye Protection: Wear safety glasses.
Work/Hygienic Practices: Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities.
Low-VOC Cleaners Tested at DRS Sensors & Targeting Systems
SECTION I -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identity (As Used on Label and List)
SOYGOLD 2500 RINSEABLE SOLVENT - EXPERIMENTAL

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Chemical Name:
C8-C9 Unsaturated Fatty Acid Ester/Surfactant Blend

Synonym Name:
Rinseable Solvent, Soy Methyl Ester/Surfactant Cleaner Concentrate

Another Exclusive Product of:
AG Environmental Products, L.L.C.

Emergency Telephone Number
402-496-6685
Chemtrec: 800-424-9300

Address (Number, Street, City, State, and ZIP Code)
12700 West Dodge Road
Omaha, NE 68154

Date Prepared
February 4, 2005

SECTION II -- COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components (Specific Chemical Identity, Common Name(s))
CAS No. OSHA PEL ACGIH-TLV Other Limits Recommended % (Opt.)

In accordance with 29 CFR 1910.1200, this product does not contain sufficient concentrations of any substances defined as hazardous by this standard.

There are no exposure limits established for this product.

SECTION III -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW – Caution: May Cause Eye Irritation. A light yellow liquid that may cause eye and skin irritation. No hazard if spilled and no unusual hazard if involved in a fire. Slippery, can cause fall if spilled and walked on.

POTENTIAL HEALTH EFFECTS –
EYES – May cause eye irritation.
SKIN – May cause skin irritation.
INHALATION – Exposure through inhalation not likely. No hazard in normal industrial use.
INGESTION – No significant adverse effects are expected upon ingestion of the products.

SECTION IV -- FIRST AID MEASURES

EYES – In case of contact, immediately flush eyes with plenty of water for at least 15 min. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.
SKIN – In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. If irritation persists, get medical attention. Wash clothing before reuse.
INHALATION – No need for first aid is anticipated not likely exposure route.
INGESTION – No need for first aid is anticipated if material is swallowed.

SECTION V -- FIRE FIGHTING MEASURES

Flash Point (Method Used):
>160°F (D93 Flash Point – Pensky Martens Closed Cup)
Flammable Limits
No Data
LEL
No Data
UEL
No Data

Extinguishing Media –
Not usually necessary as this product does not readily support combustion. Use media appropriate for fire’s fuel source. CO₂, dry chemical, foam.

Special Fire Fighting Procedures – Cool exposed equipment with water spray until well after fire is out. Do not scatter spilled material with high pressure water streams. Dike fire control water for later disposal. Self-contained breathing apparatus and structural firefighter’s clothing will provide limited protection.

Unusual Fire and Explosion Hazards – None Expected.

SECTION VI -- ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Caution, slip hazard. Wipe up small spills promptly. Use a cloth or other absorbent material.


SECTION VII -- HANDLING AND STORAGE

HANDLING: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

STORAGE: Store indoors in a dry area. Follow label directions carefully. Keep out of reach of children. Keep container tightly sealed when not in use. Do not contaminate water or feed by use or storage. Use from original container only. Do not store with fertilizers, seeds, insecticides or fungicides.

SECTION VIII -- EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Type) – Use with adequate ventilation. Use NIOSH/MSHA approved respirator if PELs or TLVs are exceeded.

Engineering Controls
Local Exhaust
Not usually needed
Special
None

Mechanical (General)
Yes
Other
None

Protective Gloves – Impervious
Eye Protection – Safety glasses or goggles

Other Protective Clothing or Equipment –
Not usually necessary. If direct contact is possible, wear aprons, boots, face shield, etc. as needed.

Work/Hygienic Practices –
Follow label instructions. Wash hands after use and before eating, drinking, smoking, using restrooms, etc.
SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point, No Data  Specific Gravity (H₂O = 1) @77ºF / 25ºC 0.93
Vapor Pressure (mm-Hg @ 68º F) No Data  Melting Point No Data
Vapor Density (AIR = 1) Greater than one (1)  Evaporation Rate (Butyl Acetate = 1) No Data
Solubility in Water Partially Soluble  pH NA
Appearance and Odor - A yellow liquid with a faint sweet odor. VOC's - No Data

10 g/mL

SECTION X - STABILITY AND REACTIVITY

Chemical Stability Stable  Conditions to Avoid - None known

Incompatibility (Materials to Avoid) - Strong oxidizing and reducing agents, strong alkalis and strong acids

Hazardous Decomposition or Byproducts - Carbon dioxide, carbon monoxide, smoke, soot and various organic oxidation by-products.

Hazardous Polymerization Will Not Occur  Conditions to Avoid - NA

SECTION XI - TOXICOLOGICAL INFORMATION

Ingestion LD₅₀ No Data  Acute Dermal LD₅₀ No Data
Acute Oral LD₅₀ No Data  Acute Inhalation LC₅₀ No Data

No Data

SECTION XII - ECOLOGICAL INFORMATION

No Data

SECTION XIII - DISPOSAL CONSIDERATIONS

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

SECTION XIV - TRANSPORT INFORMATION (Not meant to be all inclusive)

Domestic Highway  Domestic Air Shipments

Proper Shipping Name: Environmentally hazardous substance, liquid, e.g., (Fatty Methyl Esters C₁₄-₁₆ Ethoxylate)  Proper Shipping Name: Unknown

Hazard Class/Subsidiary Hazard: Class 9  Hazard Class/Subsidiary Hazard: Unknown

UN/NA No.: 3082  UN/NA No.: Unknown

Label Required: None  Label Required: Unknown

SECTION XV - REGULATORY INFORMATION (Not meant to be all inclusive. Selected regulations represented)

NFPA Rating  Health 2  Fire 0  Reactivity 0

HMIS Rating  Health 2  Flammability 0  Reactivity 0

U.S. FEDERAL REGULATIONS:


CERCLA/SARA TITLE III SECTION 301/302 HAZARD CLASSES:

Fire  None Noted
Acute Health  None Noted
Reactive  None Noted
Chronic Health  None Noted

Release of Pressure  None Noted

SARA TITLE III SECTION 313:

This product is not known to contain any compound listed and in quantities requiring reporting under SARA Title III Section 313.

TSCA: NA
SNAP: NA
HAP: Not listed

INTERNATIONAL REGULATIONS:

Canadian WHMIS:

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): All components of this product are on the Domestic Substances List (DSL), and acceptable for use under the provisions of CEPA.

FINENC: All components of this product are on the European Inventory of Existing Commercial Chemical Substances.

STATE REGULATIONS:

STATE RIGHT-TO-KNOW REGULATIONS: Any substance listed as hazardous under labor statutes by the States of California, Florida, Illinois, Michigan, New Jersey, Ohio, Pennsylvania or Texas is described in Section II above if known present in regulated concentrations.

CALIFORNIA PROPOSITION 65: This product is not known to contain any material listed under California’s Proposition 65.

SECTION XVI - OTHER INFORMATION

MSDS Status: Revised Section(s):

WARNING: The use of this product is beyond the control of the manufacturer and distributor, therefore, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The user must assume all responsibilities, including injury or damage, resulting from its misuse, as such, or in combination with other materials. The manufacturer and distribute warrant only that this product meets the specifications for each product. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, PRODUCTIVENESS, OR ANY OTHER MATTER OF THIS PRODUCT. THE MANUFACTURER AND DISTRIBUTOR SHALL BE IN NO WAY RESPONSIBLE FOR THE PROPER USE OF THIS PRODUCT. THE WIDE AND EXCLUSIVE RANGE AGAINST THE MANUFACTURER AND DISTRIBUTOR FOR INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSSES SHALL BE AVAILABLE.
SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 09/05/2002
Date Updated: 11/14/2000
Version 1.0

Section 1 - Product and Company Information

Product Name: METHYL ACETATE, ANHYDROUS, 99.5%
Product Number: 296566
Brand: Aldrich Chemical
Company: Sigma-Aldrich
Street Address: 3050 S. Bruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 538 9052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
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<tbody>
<tr>
<td>METHYL ACETATE</td>
<td>79-20-9</td>
<td>No</td>
</tr>
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</table>

Formula: C3H6O2
Synonyms: Acetate de methyle (French), Devoton, Ethyl ester of acetic acid, Methylacetate (Dutch), Methylacetat (German), Methyl acetate (ACS=CSHA), Methyl acetate (French), Methyl ester
Acidity metric (Czech), Methyl ethanoate, Methyl acetate (Italian), Octan methyl (Polish),

Section 3 - Hazards Identification

Emergency Overview
Flammable (USA) Highly Flammable (EU), Irritant.
Inhaled: Inhalation of vapors may cause dizziness, headache, nausea, drowsiness, and dizziness. Exposure to eyes may cause irritation.
Ingested: Ingestion of small amounts may cause nausea, vomiting, and abdominal pain. Ingestion of large amounts may cause permanent injury to the liver and kidneys.
Skin Contact: May cause irritation and dermatitis. May cause permanent injury to the skin and eyes.

HMIS Rating
Health: 2
Flammability: 3
Reactivity: 1

NFPA Rating
Health: 1
Flammability: 3
Reactivity: 1

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.
Eye Exposure
In case of contact immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Flammable Hazards: Yes
Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.
Flash Point: -60.8 °F -16 °C
Explosion Limits: Lower: 3.1 % Upper: 16 %
Autoignition Temp: 502 °C
Flammability: Yes

Extinguishing Media
Suitable: Water spray. Carbon dioxide, dry chemical, powder, or appropriate foam.

Firefighting
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.
Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill: Evacuate area. Shut off all sources of ignition.

Procedure(s) of Personal Precaution(s): Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up: Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable: Keep container closed. Keep away from heat, sparks, and open flame. Handle and store under nitrogen.

Special Requirements: Protect from moisture.

Section 8 - Exposure Controls / PPE

Engineering Controls: Safety shower and eye bath. Use non-sparking tools. Mechanical exhaust required.

Personal Protective Equipment:
Respiratory
NIOSH/MSHA-approved respirator
Hand
Compatible chemical-resistant gloves
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling. Wash contaminated clothing before reuse.

Exposure Limits, RTECS

<table>
<thead>
<tr>
<th>Locality</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>US</td>
<td>ACGIH</td>
<td>STEL</td>
<td>757 mg/m³ (250 ppm)</td>
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<tr>
<td>US</td>
<td>ACGIH</td>
<td>TWA</td>
<td>606 mg/m³ (200 ppm)</td>
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<tr>
<td>US</td>
<td>MSHA Standard</td>
<td>TWA</td>
<td>200 ppm (613 mg/m³)</td>
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<tr>
<td>US</td>
<td>OSHA</td>
<td>PEL</td>
<td>8H TWA 200 ppm (610 mg/m³)</td>
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<tr>
<td>NZ</td>
<td>OEL</td>
<td>TWA STEL</td>
<td>200 ppm 250 ppm</td>
<td>check ACGIH TLV</td>
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Section 9 - Physical/Chemical Properties

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<th>Property</th>
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<th>At Temperature or Pressure</th>
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<td>Molecular Weight</td>
<td>74.08 AMU</td>
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<td>Color</td>
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<tr>
<td>pH</td>
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<tr>
<td>BP/SP Range</td>
<td>56 - 58 °C</td>
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<td>MP/MP Range</td>
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<tr>
<td>Freezing Point</td>
<td>N/A</td>
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<tr>
<td>Vapor Pressure</td>
<td>0.005 mmHg</td>
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<tr>
<td>Vapor Density</td>
<td>2.55 g/l</td>
<td>20 °C</td>
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<tr>
<td>Saturated Vapor Conc.</td>
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<td>90% Density</td>
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<td>Bulk Density</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>VOC Content</td>
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<td></td>
</tr>
<tr>
<td>Water Content</td>
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<td>Solvent Content</td>
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<tr>
<td>Evaporation Rate</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Viscosity</td>
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</tr>
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<td>Partition Coefficient</td>
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<td>Decomposition Temp.</td>
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<tr>
<td>Flash Point °F</td>
<td>-40.8 °F</td>
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<tr>
<td>Flash Point °C</td>
<td>18 °C</td>
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<tr>
<td>Explosion Limits</td>
<td>Lower: 31 %</td>
<td>Upper: 16 %</td>
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<tr>
<td>Autoignition Temp</td>
<td>502 °C</td>
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<td>Refractive Index</td>
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<tr>
<td>Solubility</td>
<td>N/A</td>
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</table>

Section 10 - Stability and Reactivity

Stability
Stable

Conditions to Avoid
Protect from moisture.
Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products
Carbon monoxide. Carbon dioxide.

Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
Causes skin irritation.

Skin Absorption
May be harmful if absorbed through the skin

Eye Contact
Causes eye irritation.

Inhalation
May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion
May be harmful if swallowed.

Target Organ(s) or System(s)
Eyes. Kidneys. Central nervous system.

Signs and Symptoms of Exposure
Exposure can cause: Narcolepsy. This product is metabolized into formic acid. Humans and other primates metabolize formic acid more slowly than do rodents. Formic acid can build up in the body producing toxic effects possibly leading to death; therefore, data from studies in rodents may have limited relevance for human risk assessment.

RTECS Number: AI91-00000

Toxicity Data
Oral - Rat: > 5,000 mg/kg (LD50)
Oral - Rabbit: 3,705 mg/kg (LD50)
Skin - Rabbit: > 6,000 mg/kg (LD50)
Intradermal - Rabbit: 3700 MGA/KG (LD50)

Irritation Data
Skin - Rabbit: 500 mg 24H
Remarks: Mild irritation effect
Skin - Rabbit: 20 mg 24H
Remarks: Moderate irritation effect
Eye - Rabbit: 100 mg 24H
Remarks: Moderate irritation effect

Section 12 - Ecological Information

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.

Burn in a chemical incinerator equipped with an afterburner and scrubber but exercise care in handling as this material is highly flammable.
Section 14 - Transport Information

DOT
Proper Shipping Name: Methyl acetae
UNNo.: 123
Class: 3
Packing Group: Packing Group II
PIH: Not PIH

IATA
Proper Shipping Name: Methyl acetae
IATA Number: 1231
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU Directive Classification
Symbol of Danger: F Xi
Indication of Danger
Highly Flammable, Irant.
Risk Statements
R: 11 36 66 67
Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
Safety Statements
S: 16 26 29 33
Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not empty into drains. Take precautionary measures against static discharges.

US Classification and Label Test
Indication of Danger
Flammable (USA) Highly Flammable (EU) Irritant.
Risk Statements
Highly flammable. Irritating to eyes and skin. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
Safety Statements
Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Do not empty into drains. Take precautionary measures against static discharges. Wear suitable protective clothing, gloves, and eyewash protection.

US Statements
Target organs: Eyes, Kidneys.

United States Regulatory Information
Listed: No

TSCA Inventory Item: Yes

Section 16 - Other Information

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of mailing or packing slip for additional terms and conditions of sale. Copyright 2002 Sigma-Aldrich Co. License granted to make
unlimited paper copies for internal use only.
Low-VOC Cleaner Tested at Huhtamaki
PRODUCT NAME: FORMULA 815 MX
PRODUCT NUMBER: 111005

MATERIAL SAFETY DATA SHEET
Per 29 CFR 1910.1200

SECTION I.

BRULIN & COMPANY, INC.  P.O. BOX 270, INDIANAPOLIS, IN 46206-0270  (317) 923-3211

WEST COAST FACTORY
Richmond, California

24 HOUR EMERGENCY NUMBER
CHEMTREC  1-800-424-9300

IDENTITY (As listed on label):  FORMULA 815 MX
HMIS HAZARD RATINGS:
  Flammability: 0
  Reactivity: 0

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV-TWA</th>
<th>Other Limits Recommended</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Ethanolamine, 2-Aminopropanol, Monoethanolamine</td>
<td>141-43-5</td>
<td>3 PPM</td>
<td>3 PPM</td>
<td>STEL 6 PPM</td>
<td>1-5</td>
</tr>
</tbody>
</table>

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>212 F</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg)</td>
<td>Ethanolamine 0.2@68F</td>
</tr>
<tr>
<td>Vapor Density (A=1)</td>
<td>Ethanolamine 2.1</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Complete</td>
</tr>
<tr>
<td>Appearance and Odor</td>
<td>Blue green liquid, citrus odor.</td>
</tr>
<tr>
<td>Specific Gravity (water=1)</td>
<td>1.076</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Approx. 30 F</td>
</tr>
<tr>
<td>Evaporation Rate (water=1)</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point (Method Used)</td>
<td>None</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>LEL NA  UEL NA</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Special Fire Fighting Procedures</td>
<td>None</td>
</tr>
<tr>
<td>Unusual Fire and Explosion Hazards</td>
<td>None</td>
</tr>
</tbody>
</table>
SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid:

Incompatibility (Materials to Avoid): Strong oxidizers and acids.
Hazardous Decomposition or Byproducts: Thermal decomposition can produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization: May Occur __ May Not Occur __

Conditions to Avoid: None

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:

Ingestion? Yes
Skin? Yes
Inhalation? Yes
Eyes?

Health Hazards (Acute and Chronic):

Eye: Direct contact may cause irritation. Ingestion: May cause gastrointestinal irritation and irritation of mouth and throat. Skin: Prolonged or repeated contact may cause irritation. Inhalation: Excessive exposure may cause respiratory irritation.

Carcinogenicity: NTP? No
IARC Monographs? No
OSHA Regulated? No

Signs and Symptoms of Exposure:

Eye: Contact may cause irritation, seen as redness and swelling. Prolonged skin contact may cause irritation, seen as redness. Excessive inhalation of mists may be irritating and cause coughing and discomfort in the nose, throat and chest. Ingestion may cause pain or discomfort in the mouth, throat, and stomach.

Medical Conditions Generally Aggravated by Exposure: Ethanolamine may aggravate asthma and inflammatory or fibrotic pulmonary disease. May also aggravate an existing dermatitis.

Emergency & First Aid Procedures:

Eye Contact: Flush with large amounts of water for at least 15 minutes lifting upper & lower lids occasionally. Get medical attention.

Inhalation: If affected, remove to fresh air.

Skin Contact: Wash with mild soap and water. Remove contaminated clothing and launder before reuse.

Ingestion: If conscious, dilute by giving at least two glasses of water. Call a physician or local poison control center immediately.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Absorb on solid absorbent and shovel into containers for disposal.

Waste Disposal Method: Dispose of according to Federal, State and Local Laws and 40 CFR.

Precautions to be Taken in Handling and Storing: Store between 40 and 120 F.

SECTION VIII - CONTROL MEASURES

Respiratory Protection (Specify Type): Not normally required. Use NIOSH-MSHA approved respirator if TLV of Ethanolamine is exceeded.

Ventilation: Mechanical (General): Normally Sufficient

Protective Gloves: Neoprene or butyl rubber on prolonged contact.

Eye Protection: Goggles or safety glasses when handling concentrate

Other Protective Clothing or Equipment: None

Work/Hygienic Practices: Avoid breathing spray mist.