MATERIAL SAFETY DATA SHEET: SAF-SOL 20/20 AERO

DATE OF ISSUE: 08/19/2003
SUPERCEDES: 08/18/1998

SECTION I - GENERAL INFORMATION

Chemical Name & Synonyms: N/A
Trade Name & Synonyms: SAF-SOL 20/20 AERO
Chemical Family: CHLORINATED HYDROCARBON BLEND
Manufacturers Name: CERTIFIED LABS, DIV. OF NCH CORP.
Address: BOX 152170
IRVING, TEXAS 75015
Prepared By: L Boynton/Chemist
Product Code Number: 0688
Emergency Phone Number: 800-424-9300

SECTION II - HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

<table>
<thead>
<tr>
<th>Chemical Name (Ingredients)</th>
<th>Hazard</th>
<th>TLV</th>
<th>PEL</th>
<th>STEL</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYLENE CHLORIDE</td>
<td>IRR/CARC</td>
<td>50 PPM 1. 25 PPM 2.</td>
<td>125 PPM 2.</td>
<td>75-09-2</td>
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<tr>
<td>PERCHLOROETHYLENE</td>
<td>IRR/CARC</td>
<td>25 PPM 1. 100 PPM 2.</td>
<td>100 PPM 1.</td>
<td>127-18-4</td>
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<tr>
<td>ALIPHATIC PETROLEUM HYDROCARBONS</td>
<td>IRRITANT</td>
<td>100 PPM$1. 500 PPM$2.</td>
<td>N/E</td>
<td>64742-88-7</td>
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$ STODDARD SOLVENT VALUES

SECTION III - PHYSICAL DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Boiling Point (f):</td>
<td>154°</td>
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<tr>
<td>Specific Gravity (H2O=1):</td>
<td>1.053</td>
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<tr>
<td>Vapor Pressure (MM HG):</td>
<td>118.26</td>
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<tr>
<td>Color:</td>
<td>COLORLESS</td>
</tr>
<tr>
<td>Odor:</td>
<td>ETHER-LIKE</td>
</tr>
<tr>
<td>Clarity:</td>
<td>TRANSPARENT</td>
</tr>
<tr>
<td>Evaporation Rate (BU A/C=1):</td>
<td>6.34</td>
</tr>
</tbody>
</table>

SECTION IV - FIRE AND EXPLOSION HAZARD

Flammable Limits: PRODUCT MIXTURE
LEL: 0.7%  UEL: 19%

Extinguishing Media:
Foam: X  Alcohol Foam: X  CO2: X  Dry Chemical: X  Water Spray: X  Other:

Special Fire Fighting Procedures:
FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. EXTINGUISHING MEDIA SHOULD BE CHOSEN BASED ON THE NATURE OF THE SURROUNDING FIRE. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY TO PREVENT BURSTING.

Unusual Fire and Explosion Hazards:
VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO DISTANT LOW LYING AREAS AND SOURCES OF IGNITION AND FLASHBACK WHEN IN THE FLAMMABLE LIMITS. VIOLENT STEAM GENERATION OR ERUPTION MAY OCCUR UPON APPLICATION OF DIRECT WATER STREAM. CONTAIN FIRE RUN-OFF IF POSSIBLE. USE CARE AS SPILLS MAY BE SLIPPERY.

NFPA Hazard Rating:  
(0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value:
NOT ESTABLISHED FOR MIXTURE. SEE SECTION II.

Effects of Overexposure:

-Acute (Short Term Exposure)

EYE CONTACT: CAUSES SEVERE IRRITATION SEEN AS TEARING, STINGING, AND REDNESS. PROLONGED CONTACT MAY CAUSE CORNEAL DAMAGE. SKIN CONTACT: CAUSES IRRITATION SEEN AS ITCHING AND REDNESS. PROLONGED CONTACT MAY CAUSE A BURNING SENSATION, FLAKING, DRYNESS, AND DEFATTING OF THE SKIN. PRODUCT MAY BE ABSORBED THROUGH THE SKIN IN HARMFUL AMOUNTS. INHALATION: CAUSES RESPIRATORY IRRITATION SEEN AS COUGHING AND SNEEZING. AT HIGH VAPOR CONCENTRATIONS, INHALATION MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS HEADACHE, DIZZINESS, DROWSINESS, WEAKNESS, UNCONSCIOUSNESS, DRUNKENNESS, LOSS OF COORDINATION AND CONCENTRATION, METALLIC TASTE, SALIVATION, CARDIAC ARRHYTHMIAS (IRREGULAR HEARTBEAT), POSSIBLE ANESTHETIC EFFECTS FROM CENTRAL NERVOUS SYSTEM DEPRESSION AND MAY BE FATAL. EXCESSIVE EXPOSURE MAY POTENTIALLY INCREASE SENSITIVITY TO EPINEPHRINE AND INCREASE MYOCARDIAL IRRITABILITY. ALCOHOL CONSUMED BEFORE OR AFTER EXPOSURE MAY INCREASE ADVERSE EFFECTS. INGESTION: MAY CAUSE IRRITATION WITH POSSIBLE NAUSEA, VOMITING, AND DIARRHEA. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SIMILAR TO INHALATION. INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. ALCOHOL MAY EXACERBATE THE EFFECTS OF OVEREXPOSURE. AVOID ALCOHOL CONSUMPTION.

-Chronic (Long Term Exposure)

ON RARE OCCASIONS, PROLONGED AND REPEATED EXPOSURE TO OIL MIST POSES A RISK OF CHRONIC LUNG INFLAMMATION. THIS CONDITION IS USUALLY ASYMPTOMATIC AS A RESULT OF REPEATED SMALL ASPIRATIONS. SHORTNESS OF BREATH AND COUGHING ARE THE MOST COMMON SYMPTOMS. ASPIRATION MAY LEAD TO PULMONARY EDEMA AND HEMORRHAGE AND MAY BE FATAL. SIGNS OF LUNG INVOLVEMENT INCLUDE INCREASED RESPIRATION AND HEART RATES AS WELL AS A BLUISH DISCOLORATION OF THE SKIN. EXCESSIVE EXPOSURE MAY CAUSE CARBOXYHEMOGLOBINEMIA, THEREBY IMPAIRING THE BLOOD'S ABILITY TO
TRANSPORT SUFFICIENT OXYGEN. CARDIAC SENSITIZATION TO CIRCULATING EPINEPHRINE-LIKE COMPOUNDS CAN RESULT IN SUDDEN, FATAL CARDIAC ARRHYTHMIAS. HIGH CONCENTRATIONS CAN INDUCE LIVER INJURY. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA, AND DERMATITIS; PRE-EXISTING KIDNEY, LUNG, CORONARY, AND BLOOD DISEASES AND RHYTHM DISORDERS OF THE HEART. TARGET ORGANS: BLOOD-FORMING ORGANS, CENTRAL NERVOUS SYSTEM, HEART, LIVER, LUNGS, AND KIDNEYS.

Primary Routes of Entry: Inhalation: X Ingestion: Absorption: X

Emergency and First Aid Procedures:

- **Inhalation:**
  REMOVE FROM THE AREA TO FRESH AIR. IF NOT BREATHING, CLEAR THE AIRWAY AND START MOUTH TO MOUTH ARTIFICIAL RESPIRATION. GET IMMEDIATE MEDICAL ATTENTION.

- **Eye Contact:**
  IMMEDIATELY RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING FOR AT LEAST 15 MINUTES. HOLD THE EYELIDS APART TO ENSURE RINSING OF THE ENTIRE SURFACE OF THE EYES AND LIDS WITH WATER. GET IMMEDIATE MEDICAL ATTENTION.

- **Skin Contact:**
  WASH AFFECTED AREAS WITH LARGE AMOUNTS OF SOAP AND WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION IF IRRITATION PERSISTS. WASH CLOTHING AND CLEAN SHOES BEFORE REUSE.

- **Ingestion:**
  GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

- **Notes to Physician:**
  INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. DEPENDING ON THE AMOUNT INGESTED AND RETAINED AS WELL AS THE TOXICITY OF THE PRODUCT, GASTRIC LAVAGE SHOULD BE CONSIDERED. KEEP PATIENT'S HEAD BELOW HIPS TO PREVENT PULMONARY ASPIRATION. IF COMATOSE, A CUFFED ENDOTRACHAEL TUBE WILL PREVENT ASPIRATION.

SECTION VI - TOXICITY INFORMATION

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:

IARC: Yes NTP: Yes OSHA: Yes ACGIH: Yes OTHER: Yes

VOC CONTENT: 45% BY WEIGHT; 61.4% BY VOLUME; 473.9 G/L

METHYLENE CHLORIDE
ORL-HMN LDLO: 357 MG/KG 3.
ORL-RAT LD50: 1600 MG/KG 3.
SKN-RBT SDT: 100 MG/24H MODERATE 3.
METHYLENE CHLORIDE HAS BEEN EVALUATED FOR POSSIBLE CANCER CAUSING EFFECTS IN LABORATORY ANIMALS. INHALATION STUDIES AT CONCENTRATIONS OF 2000 AND 4000 PPM INCREASED THE INCIDENCE OF MALIGNANT LIVER AND LUNG TUMORS IN MICE. THREE INHALATION STUDIES OF RATS HAVE SHOWN INCREASED INCIDENCE OF BENIGN MAMMARY GLAND TUMORS IN FEMALE RATS AT CONCENTRATIONS OF 500 PPM AND ABOVE AND INCREASES IN BENIGN MAMMARY GLAND TUMORS IN MALES AT CONCENTRATIONS OF 1500 PPM AND ABOVE. RATS EXPOSED TO 50 AND 200 PPM VIA INHALATION SHOWED NO INCREASED INCIDENCE OF TUMORS. MICE AND RATS EXPOSED BY INGESTION AT LEVELS UP TO 250 MG/KG/DAY LIFETIME AND HAMSTERS EXPOSED VIA INHALATION TO CONCENTRATIONS UP TO 3500 PPM LIFETIME DID NOT SHOW AN INCREASED INCIDENCE OF TUMORS. 4.

EPIDEMIOLOGY STUDIES OF 751 HUMANS CHRONICALLY EXPOSED IN THE WORKPLACE OF WHICH 252 WERE EXPOSED FOR A MINIMUM OF 20 YEARS DIDN'T DEMONSTRATE ANY INCREASE IN DEATHS CAUSED BY CANCER OR CARDIAC PROBLEMS. A SECOND STUDY OF 2227 WORKERS CONFIRMED THESE RESULTS. 4.

MUTAGENICITY - METHYLENE CHLORIDE HAS BEEN EVALUATED FOR ITS POTENTIAL TO INDUCE GENOTOXIC EFFECTS BOTH IN VIVO AND IN VITRO SYSTEMS, WITH MIXED RESULTS. BASED ON THIS EVIDENCE, METHYLENE CHLORIDE MAY BE CONSIDERED A WEAK MUTAGEN IN MAMMALIAN SYSTEMS. 4.

REPRODUCTIVE TOXICITY - LABORATORY ANIMAL STUDIES ON MICE, RATS AND RABBITS HAVE BEEN CONDUCTED TO EVALUATE THE POTENTIAL REPRODUCTIVE AND DEVELOPMENTAL EFFECTS OF METHYLENE CHLORIDE EXPOSURES. METHYLENE CHLORIDE EXPOSURE HAS NOT BEEN SHOWN TO CAUSE TERATOGENIC EFFECTS (BIRTH DEFECTS) IN EXPERIMENTAL ANIMALS. 4.

PERCHLOROETHYLENE
IHL-RAT LC50: 34,200 MG/M3/8H 3.
ORL-RAT LD50: 2629 MG/KG 3.
SKN-RBT LD50: >3228 MG/KG 3.
SKN-RBT SDT: 500 MG/24H MILD 3.
EYE-RBT SDT: 500 MG/24H MILD 3.
EYE-RBT: SEVERE 4.

ACGIH GROUP A3
IARC GROUP 2A AND 2B
NTP: A LIFETIME RAT AND MOUSE EXPERIMENT SHOWED CLEAR EVIDENCE OF POTENTIAL FOR LIVER CANCER IN MALE AND FEMALE MICE, KIDNEY CANCER IN
MALE RATS, AND LEUKEMIA IN MALE AND FEMALE RATS. REASONABLY
ANTICIPATED TO BE HUMAN CARCINOGEN.

ALIPHATIC PETROLEUM HYDROCARBONS
IHL-RAT LC50: >710 PPM/4HR 4.
SKN-RBT LD50: 5 ML/KG 4.
EYE-RBT: NEGLIGIBLE IRRITATION 4.

AT VERY HIGH ORAL DOSES, THIS PRODUCT CAUSED REVERSIBLE DAMAGE TO
THE STOMACH, LIVER AND KIDNEY OF MALE RATS. 4.

MALE RATS EXPOSED FOR 90 DAYS BY INHALATION TO VAPORS OF SIMILAR
SOLVENTS SHOWED EVIDENCE OF KIDNEY DAMAGE. IN ONE OF THE STUDIES, A
LOW GRADE ANEMIA WAS ALSO OBSERVED. 4.

THIS PRODUCT IS FORMULATED WITH PETROLEUM DISTILLATES WHICH ARE
CONSIDERED TO BE SEVERELY REFINED AND NOT CARCINOGENIC UNDER IARC. 4.

SECTION VII - REACTIVITY DATA

Stability:
Stable: X Unstable:

Conditions to Avoid: NONE KNOWN.

Incompatibility (Materials to Avoid):
STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH AND CONCENTRATED
HYDROGEN PEROXIDE; AMINES, BASES, WATER, AND REACTIVE POWDERED METALS
SUCH AS ZINC, SODIUM, POTASSIUM, MAGNESIUM, LITHIUM, BARIUM, AND
ALUMINUM.

Hazardous Decomposition Products:
OXIDES OF CARBON; CHLORINE, HYDROGEN CHLORIDE, AND PHOSGENE.

Hazardous Polymerization:
May Occur: X Will Not Occur:

Conditions to Avoid: N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled:
WEAR APPROPRIATE PROTECTIVE CLOTHING. VENTILATE THE AREA. USE CARE AS
SPILLS MAY BE SLIPPERY. DIKE AND CONTAIN SPILL. ABSORB WITH AN INERT
MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER
FOR DISPOSAL. PREVENT PRODUCT FROM CONTAMINATING SOIL OR FROM ENTERING
SEWAGE AND DRAINAGE SYSTEMS AND BODIES OF WATER.

Waste Disposal Method(s):
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

Neutralizing Agent:

N/A
SECTION IX - SPECIAL PROTECTION INFORMATION

Required Ventilation:
LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE EXCESSIVE LEVELS OF VAPORS OR MISTS. LOCAL VENTILATION IS PREFERRED, BECAUSE IT PREVENTS DISPERSION INTO WORK AREAS BY CONTROLLING IT AT ITS SOURCE.

Respiratory Protection:

Glove Protection:
NEOPRENE OR NITRILE RUBBER GLOVES IF REPEATED OR PROLONGED SKIN CONTACT IS LIKELY. ENSURE COMPLIANCE WITH OSHA'S PERSONAL PROTECTIVE EQUIPMENT (PPE) STANDARD FOR HAND PROTECTION, 29 CFR 1910.138.

Eye Protection:
CHEMICAL GOGGLES SHOULD BE WORN. ENSURE COMPLIANCE WITH OSHA'S PERSONAL PROTECTIVE EQUIPMENT (PPE) STANDARD FOR EYE AND FACE PROTECTION, 29 CFR 1910.133.

Other Protection:
WEAR PROTECTIVE CLOTHING WHEN HANDLING. A SAFETY SHOWER AND AN EYEWASH STATION SHOULD BE AVAILABLE.

SECTION X - STORAGE AND HANDLING INFORMATION

Storage Temperature:
Minimum Temperature: 35°F  Maximum Temperature: 120°F

Precautions to be taken in Handling and Storing:
ALWAYS STORE MATERIAL IN ITS ORIGINAL CONTAINER. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUES WHICH MAY EXHIBIT THE HAZARDS OF THE PRODUCT. TO AVOID POSSIBLE EXPLOSION DO NOT PRESSURIZE, CUT, WELD, SOLDER, DRILL, GRIND OR EXPOSE EMPTY CONTAINERS TO HEAT, HOT SURFACES, SPARKS OR OPEN FLAMES.

Other Precautions:
KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT. FOLLOW THE LABEL DIRECTIONS.

SECTION XI - REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Upper % Limit</th>
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<tbody>
<tr>
<td>METHYLENE CHLORIDE</td>
<td>75-09-2</td>
<td>25</td>
</tr>
<tr>
<td>TETRACHLOROETHYLENE</td>
<td>127-18-4</td>
<td>35</td>
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</table>
Those Ingredients listed above are subject to the reporting requirements of 313 of Title III& of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.
PLEASE CALL 1-800-527-9919 FOR ADDITIONAL INFORMATION IF YOU ARE A CALIFORNIA CUSTOMER.
THIS MSDS IS NOT INTENDED FOR USERS IN THE STATE OF CALIFORNIA

SECTION XII - REFERENCES

2. OSHA PEL.
4. VENDOR'S MSDS. ALL THE COMPONENTS OF THIS PRODUCT ARE IN COMPLIANCE WITH THE TOXIC SUBSTANCES CONTROL ACT (TSCA) AND ARE EITHER LISTED ON THE TSCA INVENTORY OR OTHERWISE EXEMPTED FROM LISTING. IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE, COMB:COMBUSTIBLE, CORR:CORROSIVE

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