Tony!

MATERIAL SAFETY DATA SHEET

RHO-CHEM CORP.
425 ISIS AVE.
INGLEWOOD, CA 90301
(213)776-6233

RHO CLENE 681

SECTION 1 IDENTIFICATION

PRODUCT: RHO CLENE 681
CHEMICAL FAMILY: CHLORINATED SOLVENT BLEND
SYNONYM: N/A
STOCK NUMBERS:
TECHNICAL GRADE: 7681 RECONSTITUTED GRADE: N/A
ELECTRONIC/SEMI GRADE: N/A A.C.S. REAGENT GRADE: N/A

DEPARTMENT OF TRANSPORTATION (DOT) IDENTIFICATION:

REPORTABLE QUANTITY (RQ): 1000 POUNDS (454 KILOGRAMS) PER 49 CFR 172.101 LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES OF 07/01/87

DOT PROPER SHIPPING NAME: ORM-A, NOS.
DOT HAZARD CLASS: ORM-A DOT IDENTIFICATION NUMBER: NA1693

HAZARDOUS WASTE IDENTIFICATION:
U.S. EPA WASTE NUMBER: F002 CALIFORNIA: 211

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT:
THIS CHEMICAL IS NOT PHOTOCHEMICALLY REACTIVE
VOLATILE ORGANIC CONTENT (VOC) = 99 grams/Liter

SECTION 2 PRODUCT/COMPOSITION DATA

COMPONENT #	COMPONENT	CAS NUMBER	PERCENT
1	1,1,1 TRICHLOROETHANE	71-55-6	95.0
2	PARAFFINS AND NAPHTHENES	64742-89-8	5.0
			100.0

*SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT OF 1986 ("PROPOSITION 65") WARNING:

UTM 000081

DETECTABLE AMOUNTS OF 1,4 DIOXANE AND 1,2 DICHLOROETHANE ARE PRESENT IN COMPONENT #1. THESE TWO CHEMICALS ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER. THE CONCENTRATION LEVEL FOR 1,4 DIOXANE IS APPROXIMATELY 2.3 %. THE CONCENTRATION LEVEL FOR 1,2 DICHLOROETHANE IS APPROXIMATELY 200 PARTS PER MILLION. THE DETECTION LIMITS FOR THESE TWO CHEMICALS ARE VARIABLE, AND DEPEND UPON THE DETECTION INSTRUMENT'S SPECIFICITY, SENSITIVITY, THE ANALYTICAL METHOD UTILIZED, AND VARIOUS OTHER PARAMETERS.

SECTION 3 PHYSICAL DATA

BOILING POINT OR RANGE (DEG. F)	SPECIFIC GRAVITY (25/25C)	SOLUBILITY IN WATER @25C (WT %)
165-388F	1.26	NEGLIGIBLE

VAPOR PRESSURE (mm Hg)	VAPOR DENSITY IN AIR (AIR=1)	% VOLATILE BY VOLUME	EVAPORATION RATE n-BUTYL ACETATE = 1
119	4.6	100	0.4

APPEARANCE: CLEAR COLORLESS LIQUID
ODOR: CHLOROFORM LIKE ODOR

SECTION 4A HEALTH INFORMATION-HEALTH RATING

HAZARDOUS MATERIALS IDENTIFICATION SYSTEMS (HMIS)

HEALTH (3) FIRE (2)

REACTIVITY (0) PERSONAL PROTECTION (C) SAFETY GLASSES
GLOVES / APRON

SECTION 4B HEALTH INFORMATION-ACUTE TOXICITY DATA

COMPONENT #	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
1	RAT: 10.0 G/KG	RABBIT: 15.0 G/KG	
2	RAT: >25 ML/KG	RABBIT: >4 ML/KG	RAT: >700 PPM/4HR

SECTION 4C HEALTH INFORMATION-OCCUPATIONAL EXPOSURE LIMITS

COMPONENT	(OSHA) PEL/TWA	PEL CEILING	(ACGIH) TLV/TWA	TLV/STEL
1	350 PPM	800 PPM	350 PPM	450 PPM
2	500 PPM	----	100 PPM	200 PPM

SECTION 4D HEALTH INFORMATION - EFFECTS OF EXPOSURE

EFFECTS DESCRIBED IN THIS SECTION ARE BELIEVED NOT TO OCCUR IF EXPOSURES TO THE PRODUCT ARE MAINTAINED AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C. PREEXISTING SKIN, EYE, AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE.

POTENTIAL ROUTE OF ENTRY:
INHALATION _X_ SKIN ___ INGESTION ___

INHALATION:

VAPORS MAY BE IRRITATING TO THE NOSE THROAT AND RESPIRATORY TRACT. HIGH VAPOR CONCENTRATIONS MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

SKIN:

LIQUID IS IRRITATING TO THE SKIN. PROLONGED OR REPEATED CONTACT MAY CAUSE SKIN TO BECOME REDDENED, ROUGH, AND DRY DUE TO THE REMOVAL OF NATURAL OILS, AND MAY RESULT IN DERMATITIS.

CONTACT WITH TENDER SKIN AREAS MAY RESULT IN A TEMPORARY BURNING SENSATION.

EYES:

LIQUID IS SEVERELY IRRITATING TO THE EYES.
LIQUID CAUSES TEMPORARY PAINFUL BURNING SENSATION, TEARING, GENERAL INFLAMMATION, AND BLURRED VISION.
HIGH VAPOR CONCENTRATION MAY ALSO CAUSE IRRITATION.

INGESTION:

LIQUID IS TOXIC AND MAY BE HARMFUL IF SWALLOWED.

SWALLOWING PRODUCT MAY RESULT IN GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA.

ASPIRATION (BREATHING) OF VOMITUS INTO THE LUNGS MUST BE AVOIDED AS EVEN SMALL QUANTITIES MAY RESULT IN ASPIRATION PNEUMONITUS AND SYSTEMIC EFFECTS.

SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE:

INTENTIONAL ABUSE, MISUSE, OR OTHER MASSIVE EXPOSURE MAY RESULT IN DIFFICULT BREATHING, NAUSEA, VOMITING AND HEADACHE. COMA AND/OR DEATH ARE POSSIBLE.

CENTRAL NERVOUS SYSTEM DEPRESSION RANGES FROM LIGHT HEADEDNESS TO UNCONSCIOUSNESS AND DEATH. CNS DEPRESSION IS EVIDENCED BY GIDDINESS, DIZZINESS, AND NAUSEA.

ASPIRATION PNEUMONITUS MAY BE EVIDENCED BY COUGHING, LABORED BREATHING AND CYANOSIS (BLUISH SKIN). IN SEVERE CASES DEATH MAY OCCUR.

SECTION 4E SUPPLEMENTAL HEALTH INFORMATION

IS THE PRODUCT OR A COMPONENT OF THE PRODUCT LISTED AS A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM (NTP), INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) OR IS IT THE SUBJECT OF A HAZARD EVALUATION SYSTEM AND INFORMATION SERVICE (HESIS) HAZARD ALERT?

COMPONENT NUMBER	NTP CARCINOGEN	OSHA CARCINOGEN	IARC CARCINOGEN	HESIS HAZARD ALERT
1	NO	NO	NO	NO
2	NO	NO	NO	NO

COMPONENT INFORMATION

PARAFFINS AND NAPHTHENES

MALE RATS EXPOSED FOR 90 DAYS BY INHALTION TO VAPORS OF SIMILAR SOLVENTS SHOWED EVIDENCE OF KIDNEY DAMAGE. THE RELEVANCE OF THIS EFFECT TO MAN IS UNKNOWN. IN ONE OF THE STUDIES A LOW GRADE ANEMIA WAS ALSO OBSERVED.

1,1,1 TRICHLOROETHANE

BASED ON AVAILABLE DATA, REPEATED EXPOSURES ARE NOT ANTICIPATED TO CAUSE ANY SIGNIFICANT ADVERSE EFFECTS. SIMILAR FORMULATIONS DID NOT CAUSE CANCER ON LONG-TERM ANIMAL STUDIES. BIRTH DEFECTS ARE UNLIKELY. EXPOSURE HAVING NO ADVERSE EFFECTS ON THE MOTHER SHOULD HAVE NO EFFECT ON THE FETUS. IN ANIMAL STUDIES, HAS BEEN SHOWN NOT TO INTERFERE WITH REPRODUCTION. RESULTS ON IN VITRO (TEST TUBE) MUTAGENICITY TESTS HAVE BEEN INCONCLUSIVE. RESULTS OF MUTAGENICITY TESTS IN ANIMALS HAVE BEEN NEGATIVE.

SECTION 5 EMPLOYEE PROTECTION

VENTILATION:

MAINTAIN WORKPLACE VAPOR CONCENTRATIONS AT OR BELOW THE OCCUPATIONAL EXPOSURE LIMITS LISTED IN SECTION 4C.

PROTECTIVE MEASURES FOR MAINTENANCE:

EXERCISE REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. STORE IN A COOL PLACE. CONCENTRATED VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN LOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE. DO NOT PRESSURE PRODUCT OUT OF VESSEL OR TRANSPORT CONTAINER WITH AIR.

RESPIRATORY PROTECTION:

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SECTION 4C) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVER EXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

SKIN PROTECTION:

FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN CLEAN BODY-COVERING CLOTHING SHOULD BE NEEDED. WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR FULL-BODY SUIT WILL DEPEND ON OPERATION.

EYE PROTECTION:

USE SAFETY GLASSES. WHERE CONTACT WITH LIQUID IS LIKELY, CHEMICAL GOGGLES ARE RECOMMENDED BECAUSE EYE CONTACT WITH THIS MATERIAL MAY CAUSE PAIN, EVEN THOUGH IT IS UNLIKELY TO CAUSE INJURY. CONTACT LENSES SHOULD NOT BE WORN.

HYGIENE:

AVOID CONTACT WITH SKIN AND AVOID BREATHING VAPORS. DO NOT EAT, DRINK OR SMOKE IN WORK AREA. WASH HANDS PRIOR TO EATING, DRINKING, OR USING RESTROOM.

SECTION 6 EMERGENCY AND FIRST AID

EYE CONTACT:

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN CONTACT:

REMOVE CONTAMINATED CLOTHING/SHOES AND WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION. SEE NOTE TO PHYSICIAN.

NOTE TO PHYSICIAN:

BECAUSE RAPID ABSORPTION MAY OCCUR THROUGH LUNGS IF ASPIRATED AND CAUSE SYSTEMIC EFFECTS, THE DECISION OF PHYSICIAN. IF LAVAGE IS PERFORMED, SUGGEST ENDOTRACHEAL AND/OR ESOPHAGEAL CONTROL. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. IF BURN IS PRESENT, TREAT AS ANY THERMAL BURN, AFTER DECONTAMINATION. EXPOSURE MAY INCREASE "MYOCARDIAL IRRITABILITY". DO NOT ADMINISTER SYMPATHOMIMETIC DRUGS UNLESS ABSOLUTELY NECESSARY. NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGEMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

SECTION 7 FIRE AND EXPLOSION HAZARDS

FLASH POINT: NONE

FLAMMABLE LIMITS: VOLUME IN AIR UPPER LIMITS: 15.0%
LOWER LIMITS: 1.0%

EXTINGUISHING MEDIA:

USE WATER FOG, FOAM, DRY CHEMCIAL OR CARBON DIOXIDE. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS:

CAUTION. COMBUSTIBLE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD. BUNKER COATS. GLOVES

CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILD UP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

THIS PRODUCT IS NONFLAMMABLE AND NONEXPLOSIVE UNDER NORMAL CONDITIONS OF USE. AT HIGH TEMPERATURES, THIS PRODUCT DECOMPOSES TO GIVE OFF HYDROCHLORIC ACID GAS PLUS OTHER TOXIC AND IRRITATING GASSES SUCH AS PHOSGENE. IF STORAGE CONTAINERS ARE EXPOSED TO EXCESSIVE HEAT, OVER- PRESSURIZATION OF CONTAINERS CAN RESULT IN POSSSIBLE RUPTURE OF THE CONTAINER.

SECTION 8 REACTIVITY

STABILITY: THIS PRODUCT IS STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS SUCH AS LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM HYPOCHLORITE OR CALCIUM HYPOCHLORITE.

AVOID CONTACT WITH STRONG ALKALIES SUCH AS SODIUM HYDROXIDE AND CONTACT WITH STRONG MINERAL ACIDS SUCH AS SULFURIC, HYDROCHLORIC AND NITRIC ACIDS.

AVOID CONTACT WITH BARIUM, LITHIUM, MAGNESIUM, AND TITANIUM.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

AT HIGH TEMPERATURES THIS PRODUCT DECOMPOSES TO GIVE OFF HYDROGEN CHLORIDE GAS AND SMALL QUANTITIES OF OTHER TOXIC AND IRRITATING VAPORS, SUCH AS PHOSGENE.

SECTION 9 SPILL AND DISPOSAL PRACTICES

SPILL:

EVACUATE THE AREA, VENTILATE, AND AVOID BREATHING VAPORS. DIKE AREA TO CONTAIN SPILL. CLEAN UP AREA (WEAR PROTECTIVE EQUIPMENT) BY MOPPING OR WITH ABSORBENT MATERIAL AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. AVOID CONTAMINATION OF GROUND AND SURFACE WATERS. DO NOT FLUSH TO SEWER.

WASTE DISPOSAL:

RECOVERED LIQUIDS MAY BE SENT TO A LICENSED RECLAIMER OR INCINERATION FACILITY. CONTAMINATED MATERIAL MUST BE DISPOSED OF IN A PERMITTED HAZARDOUS WASTE MANAGEMENT FACILITY. CONSULT FEDERAL, STATE OR LOCAL DISPOSAL AUTHORITIES FOR APPROVED PROCEDURES.

SECTION 10 SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHT, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE: FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. WITH ADEQUATE VENTILATION.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS.

STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

HANDLING AND STORAGE:

HANDLE WITH REASONABLE CARE AND CAUTION. AVOID BREATHING VAPORS. VAPORS OF THIS PRODUCT ARE HEAVIER THAN AIR AND WILL COLLECT IN SHALLOW AREAS SUCH AS PITS, DEGREASERS, STORAGE TANKS, AND OTHER CONFINED AREAS. DO NOT ENTER THESE AREAS WHERE VAPORS OF THIS PRODUCT ARE SUSPECTED UNLESS SPECIAL BREATHING APPARATUS IS USED AND AN OBSERVER IS PRESENT FOR ASSISTANCE.

STORE DRUMS IN A COOL PLACE, BUNG UP AND TIGHTLY CLOSED. STORAGE TANKS SHOULD BE ADEQUATELY VENTED FOR FILLING AND PRESSURE EQUALIZATION. VENTS FROM INDOOR TANKS SHOULD TERMINATE OUTDOORS.

AVOID USE WITH ALUMINUM: THIS PRODUCT SHOULD NOT BE PACKAGED IN ALUMINUM AEROSOL CANS OR WITH FINELY DIVIDED ALUMINUM OR ITS ALLOYS IN AN AEROSOL CAN. ALUMINUM IS NOT ACCEPTABLE MATERIAL OF CONSTRUCTION FOR PUMPS, MIXERS, FITTINGS, STORAGE TANKS FOR THIS PRODUCT OR FORMULATIONS.

PRODUCT IS FOR USE AS A COLD CLEANING SOLVENT AT ROOM TEMPERATURE. DO NOT HEAT PRODUCT ABOVE ROOM TEMPERATURE WITH AN EXTERNAL HEAT SOURCE. FIRE OR EXPLOSION MAY OCCUR. DO NOT USE PRODUCT IN A VAPOR DEGREASING MACHINE, SOLVENT DECOMPOSITION AND/OR FIRE MAY OCCUR. USE OF THIS PRODUCT AS AN ATOMIZED SPRAY IS NOT RECOMMENDED. PRODUCT AEROSOLS MAY BE FLAMMABLE OR EXPLOSIVE.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESS OR IMPLIED IS MADE. SINCE THE ACTUAL USE OF THIS PRODUCT BY OTHERS IS BEYOND THE CONTROL OF RHO-CHEM CORPORATION, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS OWN USE OF THIS PRODUCT.

5/25/88 @ approx 10 AM

John Reynolds observed someone on the LA Water property near the Maint. Dept / Oil Drum storage area taking a picture(s) of the drain line going directly into ground. We then got into a White Station Wagon (no markings) and drove away

I went out later but didn't see anyone. Took about 3 Pictures of the area.

<u>Note</u>: Drain comes from Drinking Water and the 55 Gallon drums that is used for washing hands with soap.

Tony Consault